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Increasing Women's Access to Information about Safe Abortion Methods through Local and Global Hotlines

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Increasing Women's Access to Information about Safe Abortion Methods through Local and Global Hotlines

By

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Committee in charge:

Professor Malcolm Potts
Professor Hector Rodriguez
Professor Ann Swidler

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Abstract

Increasing Women's Access to Information about
Safe Abortion Methods through Local and Global Hotlines

By

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Doctor of Philosophy in Health Policy

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The World Health Organization estimates that 56 million abortions take place each year, approximately 25 million (or 45%) of which are considered unsafe. Unsafe abortions mainly occur in countries with restrictive laws or policies and carry significant risk of injury, disability, and death, accounting for 8-18% of maternal deaths worldwide. Misoprostol offers a high-quality, safe alternative to unsafe methods of clandestine abortion and is associated with decreased abortion-related morbidity and mortality in countries where abortion is legally restricted, however a large percentage of women do not know that this option exists, or where to access it. There is also a lack of information on the correct dosage of misoprostol, its side effects, and when to seek emergency care. To mitigate these barriers, a number of organizations have set hotlines to connect women with unwanted pregnancies to information on misoprostol and other safe methods of abortion. This dissertation analyses the factors that have impeded and facilitated the implementation of these local hotlines, as well as an international hotline that attempted to reach women in Nicaragua, a country with some of the most restrictive abortion laws.

Chapter 1 investigates the three main challenges that face local hotlines: 1) ensuring that women who call in have access to safe abortion medicines and services, 2) promoting their hotlines in a way that prevents them from getting shut down by the government, and 3) procuring the resources necessary to make their hotlines sustainable. It also investigates the strategies that local hotlines have used to overcome these challenges. Examples include training pharmacists to disseminate correct information, setting up a rotating fund to subsidize costs for low-income women, using volunteers to staff the hotlines, and finding inexpensive loopholes in telecommunication services. It concludes by discussing the main challenge that remains: reaching women on a large scale, and suggests several strategies that could be used to overcome it.

Chapter 2 investigates public experiences of abortion in Nicaragua, a country where restrictive abortion and freedom of information laws have prevented even the most active feminist groups from starting up a hotline. A study of 1,200 men and women from across the country investigates the demographic, knowledge and geographic factors associated with knowing a women who terminated her pregnancy, and the factors associated with the use of safe abortion methods. The population most likely to carry out an abortion are adolescent females that have a secondary education or higher. The only factor significantly associated with knowing a woman who terminated her pregnancy safely was exposure to at least one of three safe abortion campaigns/programs. These findings that suggest that public information plays a central role in promoting safe abortion.

Chapter 3 analyzes an innovative intervention that attempted to apply the lessons learned from local hotlines to the Nicaraguan context. The Global Hotline for Women's Health is a project that was supposed to connect women in countries with restrictive abortion policies to a hotline in Mexico City, providing information about the safe abortion options available without putting hotline operators at risk. This study identifies both factors that facilitated and impeded the implementation of the Global Hotline guided by the Consolidated Framework for Implementation Research. While full implementation was never realized, many lessons emerged that may be useful to future efforts to implement a global hotline for safe abortion or to implement another harm reduction strategy carried out in low and middle income countries with restrictive abortion policies. The dissertation concludes by delineating a set of policy recommendations for improving access to safe abortion and avenues for future research.

Dedication

To my remarkable husband, who I met the year I started my Ph.D. and who has remained a constant source of unconditional support, encouragement and inspiration over the last five years.

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Introduction

In the developing world, approximately 36 out of 1000 women will choose to terminate their pregnancies (Singh, Remez, Sedgh, Kwokand, & Onda, 2018). Some of these women fell pregnant as a result of rape and don't want suffer the emotional trauma of carrying the baby to term. Some women are adolescents who feel they lack the knowledge, income and/or relationship stability to bring a new baby into the world. There are also women who can't afford to have a baby, who are terminating for medical purposes, whose contraceptive method failed, or who simply don't feel ready physically and/or mentally to adequately support another human life. Regardless of the reason, these women will find a way to terminate their pregnancies. The more important question is, will the means they use be safe, or will they choose a method that puts their lives and health at risk? Unfortunately, the answer to this question often depends almost entirely on a woman's economic status and where she lives.

Approximately 42% of reproductive age women live in one of 125 countries identified as places where abortion is highly restricted, mostly in Latin America, Africa and Asia. Here, abortion is either prohibited all together, is allowed only to save the life of the mother, or to protect her health (Singh et al., 2018). Of all abortions, an estimated 55% are considered *safe* (carried out by a trained provider using a recommended method), 31% *less safe* (are either carried out by a trained provider or use a recommended method) and 14% the *least safe* (meeting neither criteria). (Singh et al., 2018). According to a recent study carried out by Singh et al. (2018), "The more restrictive the legal setting, the higher proportion of abortions that are least safe—ranging from less that 1% in the least restrictive countries to 31% in the most restrictive countries".

What many women in these restrictive settings don't know is that there are safe methods for terminating pregnancies in almost every country. Women can obtain a surgical abortion through clandestine providers or a medical abortion using misoprostol, a medicine that is on the WHO's Essential Medicines List and widely available in most countries for the prevention of postpartum hemorrhage. The problem is that information on how to access these medicines and services is very limited in countries where abortion is illegal. A woman often has to have connections to providers and the money to pay for such a legally risky procedure. While there is a great deal of information on the Internet about how to use misoprostol to terminate pregnancy, many women do not have access to a computer or smartphone, and those who do also find false information.

In response to this lack of information, local women's groups throughout the world have set up hotlines with the goal of reducing the harm and risks associated with unsafe abortion. This dissertation looks closely at the factors that impede and facilitate the implementation of these local hotlines, as well as an international hotline that attempted to reach women in Nicaragua, a country with some of the most restrictive abortion policies. It is my hope that identifying the lessons learned from these different approaches and the challenges that remain will help NGOs working in this space to reach women on the scale necessary to reduce unnecessary maternal mortality and morbidity due to unsafe abortion.

This dissertation is divided into 3 chapters. Chapter 1 investigates the three main challenges that face local hotlines: 1) ensuring that women who call in have access to safe

abortion medicines and services, 2) promoting their hotlines in a way that prevents them from getting shut down by the government, and 3) procuring the resources necessary to make their hotlines sustainable. It also investigates the strategies that local hotlines have used to overcome these challenges. Examples include training pharmacists to disseminate correct information, setting up a rotating fund to subsidize costs for low-income women, using volunteers to staff the hotlines, and finding inexpensive loopholes in telecommunication services. It concludes by discussing the main challenge that remains: reaching women on a large scale, and suggests several strategies that could be used to overcome it.

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Chapter 1: Challenges and Strategies used by Local Hotlines to Increase Women's Access to Safe Abortion Services

Introduction

Options for safe abortion exist in almost every country, even those with more restrictive laws and policies. Whether through doctors providing clandestine surgical abortions, pharmacies selling misoprostol for postpartum hemorrhage, an international organization sending the pills by mail, or a combination of these options, women can generally access a safe method of abortion within the first trimester. The major challenge in most countries where abortion is legally restricted is that a large percentage of women either do not know that these options exist, are unsure where to find them, or do not know whether the information they have is accurate.

Local hotlines play an important role in helping women overcome these barriers by connecting women to safe abortion medicines and services, improving the services themselves, and giving women information about how to use medications like misoprostol safely and correctly. They also describe the circumstances under which abortion is legal to prepare women for fielding uncomfortable questions, should they end up in a hospital. Finally, hotlines provide emotional and/or actual accompaniment throughout the process. Some hotlines help women cross provincial or country borders, assisting them with translation, booking appointments, and/or transportation. In some cases, they even provide financial assistance for the abortion itself, making it possible for women of lower economic status to obtain the same safe services as someone who can afford to pay. These efforts can be characterized as harm reduction, a public health and human rights framework that, in the context of abortion, refers to strategies that aim to reduce harm and risks associated with unsafe abortion for women with no access to safe, legal methods of pregnancy termination (Hyman, Blanchard, Coeytaux, Grossman, & Teixeira, 2013).

Provision of these services does, however, come with its own set of challenges. Connecting women to abortion services in countries where it is illegal is often a very risky endeavor, even in environments where freedom of information laws should technically protect hotline staff members against criminal indictment. This qualitative study examines the implementation strategies developed by ten local hotlines in Asia, Africa, Europe, and Latin America, identifying the main challenges they face and the strategies they have developed to overcome these barriers. By identifying the factors that impede and facilitate the implementation of these hotlines, we hope to develop an evidence base for successful strategies that can be used by hotlines working in a variety of contexts.

Context

The World Health Organization (WHO) estimates that 56 million abortions take place each year, approximately 25 million (or 45%) of which are considered unsafe (WHO, 2018). The WHO defines unsafe abortion as a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to

minimal medical standards, or both (World Health Organization, 2011). Unsafe abortions mainly occur in countries with restrictive laws or policies; 90% of abortions in countries with broadly legal access are performed safely, compared to a mere 25% in countries with total bans or exceptions only to save the mother's life (Ganatra et al., 2017).

Unsafe abortions carry significant risk of injury, disability, and death (WHO, 2018), accounting for 8-18% of maternal deaths worldwide ("Induced Abortion Worldwide," 2016). However, deaths from unsafe abortion are also one of the most preventable causes of maternal mortality, according to the WHO (Haddad & Nour, 2009). Over the past decade, international organizations have increased the availability of misoprostol, a drug that is safe and effective at terminating pregnancy when used correctly(Winikoff & Sheldon, 2012). While misoprostol is more effective when used in conjunction with the drug mifepristone to terminate pregnancy (Tang, Kapp, Dragoman, & de Souza, 2013), it is considered to be safe and effective when used alone (Tang et al., 2013; Winikoff & Sheldon, 2012). It is also more widely available. Unlike mifepristone, misoprostol has reproductive health indications unrelated to pregnancy termination, including induction of labor, prevention and treatment of postpartum hemorrhage, and management of incomplete abortion (Tang et al., 2013). It is included in the WHO's Model List of Essential Medicines and is available in around 80 countries (Tang et al., 2013) through public clinics, pharmacies, and informal drug shops (Gomperts, Jelinska, Davies, Gemzell-Danielsson, & Kleiverda, 2008).

Misoprostol offers a high-quality, safe alternative to unsafe methods of clandestine abortion and is associated with decreased abortion-related morbidity and mortality in countries where abortion is legally restricted (Faundes, 2011; Hyman et al., 2013). A challenge is that a large percentage of women do not know that this option exists, or where to access it (Erdman, 2012).There is also a lack of information on the correct dosage of misoprostol, its side effects, and when to seek emergency care (Ramos, Romero, & Aizenberg, 2015). To mitigate these barriers, a number of organizations have set up informal channels to connect women with unwanted pregnancies to information on misoprostol and other safe methods of abortion (Drovetta, 2015; Gerdts, Hudaya, & Belusa, 2014).

In some low and middle income countries, particularly Uruguay and Bangladesh, harm reduction strategies have led to policy change and formal adoption and implementation by the governments in each of these countries. In Uruguay, formal, clinic-based counseling programs offered relevant and accurate medical information to women seeking abortions outside of legal channels. While they did not provide abortion services directly, they provided follow-up care for the women who chose to have an abortion on their own, confirming that the pregnancy was terminated successfully and addressing any complications (Labandera, Gorgoroso, & Briozzo, 2016). Uruguay witnessed a rapid decline in abortion-related mortality as a result of the program, which led to the eventual legalization of abortion nationwide (Briozzo, 2016). The Uruguayan model has inspired programs in other countries with restrictive abortion laws, including Peru and Tanzania (Grossman et al., 2018; Kahabuka, Pembe, & Meglioli, 2017).

In Bangladesh, right after the War of Liberation in 1972, female ObGyns began systematically training low level health care providers to use manual vacuum aspiration techniques to terminate the pregnancies of women who had been raped. In 1978, the Pathfinder Fund began a "menstrual regulation" training program, where medical providers in seven medical colleges and two government hospitals were taught how to use vacuum

aspiration to evacuate the uterus within 6-10 weeks of a missed period. Calling an abortion "menstrual regulation" (MR) allowed the program to circumvent Bangladesh's restrictive policy, which, in accordance with Queen Victoria's law, made even the intent to carry out an abortion a felony since 1861 (Chowdhury & Moni, 2004). MR is considered to be an "interim method to establish a state of non-pregnancy in a woman who is at risk of being pregnant." Hence, it is almost always done without a pregnancy test (Chowdhury & Moni, 2004). MR was adopted into Bangladesh's national family planning program in 1979 and made widely available within the public sector (Chowdhury & Moni, 2004).

Increased access to cell phones throughout the developing world has made abortion hotlines are another effective harm reduction strategy in countries where, for most indications, abortion is illegal (Drovetta, 2015; Messinger et al., 2017). The mobile carrier industry alliance (GMSA) estimates that there are now 7.2 billion mobile connections and 3.7 billion unique subscribers (Dobush, 2015). In sub-Saharan Africa, 80% of people own a cell phone, 15% of which are smart phones. Of the 17% who don't own a phone, more than half have access to one at least some of the time (Pew Research Center, 2015).

Numerous studies have demonstrated that remote advice or care can improve women's experiences and produce the same health outcomes as in-person abortion care (Hyman et al., 2013). Two studies of a telemedicine service for women seeking abortions in a rural part of the United States found that giving women the option to exercise a medical instead of a surgical abortion led to greater patient satisfaction without any significant differences in health outcomes (Grindlay & Grossman, 2017). In South Africa, a randomized controlled trial found that a text message program for women undergoing medical abortion at home significantly reduced women's stress and anxiety (Constant, de Tolly, Harries, & Myer, 2014).

Methods

Ten qualitative key informant interviews with the directors of abortion hotlines from Latin America, Africa, Europe, and Southeast Asia were used in this study. Because all of the names, identifying information, and countries of the interviewees were not attached to the transcripts, the data analysis was considered exempt from ethical review by the University of California, Berkeley Institutional Review Board. Figure 1 includes a description of each hotline's background. Hotlines were purposely recruited from countries with a variety of different abortion policies and contexts. The third column of Figure 1 lists the indications for which abortions are legal in each country as defined by the Center for Reproductive Rights. Countries that fall under Category I have the most restrictive laws, prohibiting abortion all together or permitting it only if the mother's life is in danger. Category II countries allow abortion to preserve the health of the mother (mental or physical) and Category III countries take factors such as age, marital status and/or socio-economic status into consideration. Countries that fall under Category IV allow women to terminate their pregnancy without restriction (Center for Reproductive Rights, 2013). The forth column lists the services that each hotline provides, which range from providing information via text, email or person-to-person phone calls to actually accompanying women to a clinic that will perform the procedure.

Figure 1: Hotlines interviewed

Region	Interview #	Abortion Law in Country	Services Offered
Asia	1	Category II	Provide information about safe abortion options via email, blog, and person-to-person phone calls
	2	Category II	Provide information about safe abortion options via person-to-person phone calls
	3	Category I	Provide information about safe abortion options mostly via text messages and occasionally via person-to-person phone calls
	4	Category I	Provide information about safe abortion options via person-to-person phone calls
Africa	5	Category II	Provide information about safe abortion options via person-to-person phone calls and pre-recorded messages
	6	Category II	Provide information about safe abortion options via person-to-person phone calls, text messages, and pre-recorded messages
	7	Category I	Provide information about safe abortion options via person-to-person phone calls
Europe	8	Category II	Provide information about safe abortion options via person-to-person phone calls, Facebook, and email. Also offers physical accompaniment to abortion clinics
Latin America	9	Category I	Provide information about safe abortion options via person-to-person phone calls
	10	Category II	Provide information about safe abortion options via person-to-person phone calls. Also offer physical accompaniment to abortion clinics

To recruit interviewees, the hotlines were contacted via phone, email, and/or social media outlets. The recruitment script described the project, the reason the research was being conducted, and the importance of the hotline's participation. Out of the 18 hotlines that were recruited, 10 were interviewed by researchers at Vrije Universiteit and Venture Strategies for Health and Development between 2015 and 2017. The interview guides were translated to the language of the participants. Interviews were conducted over Skype, each lasting approximately 45 minutes. The director of each hotline provided verbal consent for participating in the interview, and for the conversation to be audio-recorded. Each interview was then transcribed and, when necessary, translated back into English.

The interviews were open-ended and semi-structured, encouraging participants to respond spontaneously and to expand on answers they felt were important. Topics included

the rationale behind starting the hotline, collaboration with other organizations, availability of abortion services and medications in their country, how they have overcome barriers to access, the extent to which the hotlines collect data on callers and evaluate their services, enabling resources (promotion techniques, cost and mobile phone access), hotline characteristics, and efficacy. We concluded each interview by discussing additional challenges with implementation, methods used to overcome these barriers, and whether or not respondents considered their hotline to be sustainable.

The data were analyzed for content and themes using both pre-determined and emergent codes. The transcripts were analyzed using MAXQDA qualitative data analysis software. Eight categories and thirty-four parent codes were identified and reviewed by two researchers to ensure consistency. To achieve inter-coder reliability, both researchers coded all the interviews and discussed and resolved all inconsistencies that arose. The results were organized around key themes that emerged. Given the legal gray area that most of these hotlines work in, and the sensitivity surrounding this type of work, all of the identifiable information has been generalized or removed. We also replaced all country names with their larger geographical regions.

Results

Interviews highlighted that the main goal of each hotline is to provide accurate information to women on safe abortion options. Depending on the context, these options include surgical abortion via illegal but trusted providers, or medical abortion via misoprostol or the abortion pill (a combination of misoprostol and mifepristone). For women who choose the medical abortion option, the hotline staff provide information on the timeframe in which the pills can be used, the brand name that is available in their country, the average price, and where to buy it. They also tell women the dosage and route of administration. In most countries, misoprostol is available for reproductive indications through off-label use only (Fernandez, Coeytaux, Gomez Ponce de León, & Harrison, 2009), so the hotlines also give women the proper language to use when buying medicines from a pharmacy.

The hotline staff also provide information on what to expect with regard to side effects (i.e. cramps, bleeding, etc.), how to know if the pregnancy is fully terminated, and when to seek medical assistance. They also tell the callers what to tell hospital personnel if they have to seek emergency care for complications or an incomplete abortion. A hotline director from Latin America said, “Now there are many more women thrown in jail, so we tell them what to say if they end up going to the hospital for whatever reason. An abortion done with misoprostol just looks like an incomplete miscarriage, so women avoid problems if they call it this.”

Most hotlines offer information about other reproductive health issues in addition to abortion. One hotline staff member from East Africa said, “We realized that contraception, gender misbalance and the need for women to understand their rights when it comes to women's health are all very important when talking about abortion, so we included these other aspects in the hotline.” Other topics covered by the hotlines include domestic violence, rape, and information on how to prevent postpartum hemorrhage. An informant from Southeast Asia said, “Sex education and early child marriage also contribute [to the number of abortions we

see] and need to be addressed. I think all of this is important if we want to reduce maternal mortality."

Two out of the ten hotlines interviewed, one in Latin America and one in Europe, provide accompaniment services to women from countries or provinces where abortion is illegal. For example, one of these hotlines provides callers with clinic contacts and appointments, helps with translation, and even assists women in crossing state or country borders when necessary to access services. The Latin American hotline also gives women from outside provinces money to help with transportation and a separate 24-hour line that they can text or call in case they run into any obstacles or are in need of emotional support throughout the process.

The main challenges that local abortion hotlines face include helping women access safe abortion services, promoting their hotlines without getting shut down, and procuring and stretching their resources so that they can continue to provide these services for women. The approach taken by each hotline to overcome these barriers is significantly influenced by the national legal status of abortion and by the resources and collaborations available to them. This section highlights the most effective strategies that hotlines use to address implementation challenges in a variety of contexts.

Helping women access safe abortion services

One of the greatest challenges hotlines face is establishing trust with the women callers by ensuring that the abortion services they refer women to are accessible, safe and affordable. This trust is established from the first point of contact. Each hotline staff member's goal is to establish an emotional connection with the caller. They establish this relationship by making the conversation as natural as possible. One hotline director purposely wrote an intake questionnaire with flexibility in question order, so that hotline staff could jump between topics without sounding like a call center operator. They also make an effort to speak the caller's native language. One hotline director said, "We have two women from Spain working with us, and at first women were a little unsure about talking to them when they heard the accent." Small factors, like a staff member's accent or demeanor, can make a big difference in whether or not the caller trusts the information she is given.

In countries where abortion is prohibited under most conditions, it can be a challenge to ensure that women have access to good quality misoprostol without a prescription. For example, it is not uncommon for women to receive low-quality or expired drugs (Hyman et al., 2013), or for drugs to be unavailable for months or even years. Studies in various parts of the world have shown that pharmacists, who often serve as the first point of contact for women seeking access to medical abortion, tend to offer clients inaccurate information due to insufficient training and knowledge related to misoprostol (Sneeringer, Billings, Ganatra, & Baird, 2012).

A hotline in Africa overcame this challenge by training select pharmacists to ensure that these facilities are selling misoprostol to women at a reasonable price and without a prescription. A hotline in Southeast Asia, where the abortion pill is legal, regularly travels to pharmacies around the country, providing them with correct information about what to tell the women who buy it. Other hotlines that work in more restrictive settings avoid working with

pharmacists. Instead, they work with informal drug shops that do not have the same government oversight. These local drug shops also have the added benefit of being more widely available, which improves access for women in rural areas. They also refer women to underground clinics or sellers from the black market, as long as they know that the pills that are being sold are of good quality.

Hotlines also collaborate with international partners to send abortion pills by mail. Women on Waves and Safe to Choose are two organizations that will send abortion pills to countries in Southeast Asia and Africa (they are unable to send pills to Latin America due to strict postal service policies. This method has been very effective, although it is only an option for women up to 9 weeks pregnant who can afford to wait for the pills to arrive. There is a chance that the drugs will be intercepted by the post office, so these organizations try to provide ample time for women to find other options before entering their second trimester.

One of the main responsibilities hotlines have is to ensure that women know how to use the misoprostol they acquire on their own safely and correctly. "In the beginning [of setting up the hotline], we thought that [we would hear] only extreme stories or extreme cases. You know, women with a violent husband, etc. And then we realized that most of the callers were women who found information on the Internet and were already going to [take misoprostol]," said the director of a hotline in Latin America. A staff member from another hotline in Latin America said, "Women rarely call if they are trying to decide whether or not to have an abortion. They always know that they want one, they just don't know how to do it safely."

In countries where women have access to legal or illegal surgical abortions, the stigma of being seen at the clinic is often enough to prevent women from going. Even if no one sees them go in, they often have to deal with hospital staff who make them feel guilty. A hotline director from Southeast Asia said that even in cases of legal abortion, there are many doctors who will either refuse to perform the procedure or will charge women exorbitant fees for the service. To get around this barrier, each hotline has established its own local and international referral network. This network generally includes gynecologists, pharmacies, lawyers, small drug shops, and international organizations that provide abortion pills by mail. A few hotlines also have connections to safe houses, counseling services, and adoption agencies. One hotline in Southeast Asia sent a social worker around the country to find all of the doctors who provide abortion services (100 total). They held a workshop with 20 of these doctors to help them combat the negative stigma generated by clinic staff and to establish a referral network.

Another hotline in Africa works consistently with two of three doctors in the capital city. The director of this hotline said:

> *The thing that has helped us attain a level of success with our hotline is our partnership with health care providers. In our country, if a woman has an abortion on her own, it can be classified as an illegal abortion, whereas if they go to a doctor, they can classify it as a legal abortion. I think that maybe this has helped us stayed off of the radar of the government's watchful eye, because they know we refer to healthcare providers, which [perform abortions that are] allowed by law. Also, some women are afraid to use the medicine alone and they would like to have help from a doctor. And then there are also the issues of*

second trimester abortion. Some healthcare providers are able to help women with that, or they offer post abortion care. - Hotline staff member from Africa

Apart from accessing safe abortion services or medicines, financial constraints serve as another barrier for women of lower socioeconomic status. Wealthier women tend to have many more connections and know where to look for safe abortion medicines or services, whereas women of lower socio-economic status do not have access to the same resources. A hotline director from Africa said:

Here, we have two levels of women. The women who have and the women who don't have-- let me put it like that. For the women who 'have', even if [abortion] is restricted, they can afford it. They can walk into a clinic that provides safe abortion and pay more money and get a safe abortion. For the women who 'don't have,' they cannot afford this expensive abortion, so they are left with the option of going to the 'quacks'. It is with these 'quacks' that most of the unsafe abortions happen. – Hotline staff member from Africa

A successful strategy used by one of the hotlines in Latin America is to establish a rotating abortion fund, where women of higher socio-economic status who can afford to pay for an abortion donate to a fund that is used to support women who cannot afford the procedure. This money is used to pay for these women's transportation costs and/or the abortion pill itself. The director of this hotline said, "Sometimes a woman needs something that is not supported by our grants, so this fund gives us the flexibility to do this." Other hotlines have successfully obtained such donations either at the time of the procedure or during the follow up.

Promoting hotline services without getting shut down

Promotion poses another significant challenge for hotline implementers. There are a number of pro-life groups in every country that work hard to prevent women from getting abortions and preventing them from receiving information about different options for terminating pregnancy. Even though most hotlines should be protected by freedom of information laws, this does not stop these opposition groups, or in some cases the government itself, from attempting to shut the hotlines down. Consequently, they need to walk a fine line between spreading the number widely and staying off of the government's radar. A hotline in Latin America was shut down several times after the first launch. The director of the hotline said, "There was originally a great deal of opposition when we first started. Everyone said that it was unsafe, it was against the religion, the constitution said that it wasn't allowed."

Some hotlines have overcome this challenge by nesting information about safe abortion services within information about other reproductive health services, a tactic they feel is also helpful to women, given how intricately connected these issues often are. One hotline director said, "we realized that contraception, gender misbalance and the need for women to understand their rights when it comes to women's health are all very important when talking about abortion, so we included these other aspects in the hotline." Other topics covered by the

hotlines include domestic violence, rape, and information on how to prevent postpartum hemorrhage. An informant from Southeast Asia said, “Sex education and early child marriage also contribute [to the number of abortions we see] and need to be addressed. I think all of this is important if we want to reduce maternal mortality.”

Other hotlines have found it useful to start with lower visibility promotion strategies and gradually progress to venues that attract more attention. This approach allows them to gauge the likelihood of the government shutting them down before crossing that line. A hotline director from Africa said:

> *When we were launching the hotline, we self-censored quite a bit because we were afraid of backlash. Some of our partners said that we were looking to break the law, and they would not support us with this kind of work, even though they supported our priorities. That really surprised us and made us somewhat afraid. So, we did not want to have a huge media campaign. We launched [the hotline] only to the partners and did a guerilla kind of spread with the number*. – Staff member from Africa.

Hotlines have found that certain types of promotion tend to draw much less attention than others, but are still effective at reaching the intended audience. For example, information provided via small personal items like stickers, pamphlets, and pens tend to stay with the person who picks them up, compared to mediums like television, radio, or billboards. Most of the hotlines use social media platforms like Facebook, YouTube, Twitter, and/or blogs. They also promote their hotlines through local networks like community centers, family planning clinics, schools, NGOs that are supportive of safe abortion, youth groups, and word of mouth. Another hotline director from Africa said:

> *For such a long time the only methods that women knew were unsafe methods. In any community, if you ask what methods [exist] for abortion, they know these [unsafe] methods and they will tell you these methods. They will tell you hangers, unknown stuff and so on. So we found that the information about unsafe methods travels very fast, from mouth to mouth only. They say things like, 'I read something and I showed this to that person'… So [the goal] of our hotline was to counteract [these] unsafe methods. We put information on safe methods in their hands so that this will be the information that they share with other women when they are sharing [about abortion]*. – Hotline Director from Africa

Some hotlines have found that grabbing the attention of the opposition was, contrary to expectation, such a beneficial promotion strategy that they welcome negative publicity. A hotline director from Latin America said, “We have found that the best articles about our hotline are from the pro-life people (laughs). They know exactly what we do and they explain it very well. They are very good speakers for us.”

Hotlines in both settings, however, have found that the strategy used to promote a service is less important than the frequency of promotion campaigns. Women likely will not

write down the number of an abortion hotline before they need it, but continuous promotion ensures that the number is readily available to them throughout the year. A hotline in Africa found that the number of calls always spikes when they do a big promotion, jumping from 15-20 calls a month to between 50-100 calls a month. Consequently, they do their best to ensure that the information is always out there in one form or another:

> *We continuously have radio shows and print stickers to put in public places because even somebody that does not have a problem at the moment saves it on their phone or in their memory, and later when they need it, they remember enough of it to ask a friend who knows it, [or to look for it] on the Internet. We also try to do hip stuff, like creating pens with the number or wristbands with the number. [These items are helpful] because when people get these things, they have it for a long period of time.* – Hotline staff member from Africa

Hotlines must also protect themselves by staying within the law. For example, in most countries, it is legal for hotline staff members to provide information that is publicly available from international sources like the WHO. They would, however, be violating the law if they directly advised a woman to have an abortion using one method or another. It is therefore imperative that hotlines only share objective information about where "a woman" can find the right medications and what the dosage would be if "a woman" were to use these medications. A slip in the language used with a fake caller from the government or an anti-abortion group could lead to the prosecution of the hotline staff members, and could ultimately lead to the hotline's demise.

Procurement and stretching existing resources

Procurement and stretching resources is another significant challenge that the hotlines face. While many receive grants from some large donors in the field, this funding varies from year to year, making it difficult to hire full-time staff or to plan for the future. A method that two of the Southeast Asian hotlines use to sustain their programs is to ask the callers for donations. The donation is optional and the amount is not specified, which they believe takes pressure off women if they do not have the money. Both hotlines have received small amounts of money from individual callers; however, they find that their success depends largely on how they present the request. One hotline said:

> *Our experience is that when we talk sometime about this donation, why do we need it, we get it. Women often understand and don't ask further questions. They donate. But if we say, we are just a volunteer group and we would like you to donate because this also costs us something, this sentence will not work. Actually, many of them don't donate [if we say it this way], not because they don't have it, but because they don't believe anyone is actually working for free.* – Southeast Asian hotline staff member

While any additional funding through small donations helps hotline operations, the resources collected are not sufficient to keep most hotlines afloat. Unless they can get a few committed donors to provide consistent annual funding, hotlines have to cut costs where possible. One of the most effective strategies used is to hire one to three permanent staff members and then train volunteers to cover the rest of the calls. For example, one of the Latin American hotlines has two paid staff members and a continuous inflow of volunteers that work on the hotline two to eight hours a week. This approach allows the hotline to stay open from 9:00-4:00 pm every day without having to pay the full salaries of six staff members. This also ensures that there are enough staff and volunteers to respond to callers while maintaining a certain level of consistency within the organization.

Another effective strategy for reducing costs is to find inexpensive loopholes in telecommunication services, an approach that varies significantly by country. In countries where the cost of buying a toll-free line is particularly expensive, it is most effective to initially use email, text, or social media to connect with women, and to take advantage of promotions offered by mobile phone companies. One African hotline has registered four different numbers so that both the hotline and the callers can take advantage of offers that come up through four different mobile providers. The key informant said, "We do this so that people can take advantage of the deals… You find some mobile providers that allow their subscribers to talk for free certain times of the day, but this deal only works if you call [another number] within that network. Other providers offer free text messages, or promotion bundles." Making use of these promotions significantly reduces the cost of the calls for both the hotline and the women themselves.

Other hotline technology prompts callers to either text, call and hang up, or leave a message, which provides the hotline with the caller's number at almost no cost. The hotlines can then call the woman back using a calling plan or one of the promotions mentioned above. This method has the added benefit of reducing the amount of money spent by the women calling in. One of the African hotlines found that this strategy has been successful at expanding their services to women of lower economic status:

> *Women can text 'please call me', which is a free message service. So, if they do not have any money, they can call or send a text and we call them back. This reduces the costs for the women who don't have money…. Most of the time, the women calling our hotline are desperate. They might have a [a small amount] on their phone, which is enough to send us a message, but not to make an actual call.* – African hotline staff member

Some hotlines find texting or emails to be just as effective as phone calls in countries where people are accustomed to exchanging information in this way. A hotline director in Southeast Asia said, "We almost entirely rely on text messages. I don't think is a bad system because [the women] can answer the more sensitive questions in their free time. Rarely do we get calls with a sense of urgency, but when we do, we speak to them directly."

Two African hotlines use open source software called Freedom Fone to pre-record messages about abortion, contraception, and a number of other reproductive health issues, so that some women can receive information about safe abortion and

other reproductive health services without talking to someone in person. The audio content is organized into multiple voice menus, which callers can navigate using their phone keypad. For example, the caller presses 1 to hear information about safe abortion, 2 for information about contraception, 3 to leave a message, and 4 to talk to someone directly. Women use this service successfully, and it costs the hotline almost nothing; however, the consensus of both hotlines is that most callers prefer to talk to someone directly.

> *This is because they would like some engagement as they are listening to the information and to ask questions in between. Most of [the women] say that they feel that they understand more when someone is explaining to them than when they listen to the IVR [Interactive Voice Recording]. But we still continue to provide both options because sometimes there are gaps in the time that we are able to talk to people directly. The line is not launched 24 hours a day. That means when the line is not available, the person who calls can still listen to the information*. – African hotline staff member

Discussion

Hotlines have developed innovative strategies for overcoming key challenges that prevent them from providing women with accurate information about the options for safe abortion in their countries. To help women access safe services, hotlines have established referral networks, provide accompaniment services, and in countries where abortion is legal for some indications, have taught doctors to address the stigma that is perpetuated by the staff in their clinics. To improve access to misoprostol, hotlines have trained pharmacists to give out correct information, and provide comprehensive information on correct dosage, potential side effects, signs of complications, and when to seek emergency care. By describing the circumstances under which abortion is legal, they also prevent women from being convicted of a crime, should they end up in a hospital.

To promote their services without attracting attention from opponents or having the government and shut them down, hotlines have nested safe abortion among other reproductive health services and have relied on social media, their own networks of reproductive health organizations, and word of mouth for promotion. Finally, hotlines have devised several methods for stretching their resources, include using volunteers to staff the hotlines, restricting hours of operation, seeking donations from callers, and finding inexpensive loopholes in telecommunication services.

These strategies have helped hotlines overcome some of the largest challenges that threaten their existence, however, they only appear to work on a small scale.
The fact that most hotlines cannot promote their service through national channels like television and radio without getting shut down limits the number of women they can reach. Also, lack of consistent funding restricts the number of full time staff members hotlines can hire, making it impossible to effectively respond to high call volumes. To effectively reduce maternal mortality related to unsafe abortion, hotlines need to devise additional strategies for reaching women on a large scale.

Legalization, or at least expanding the indications for legal abortion, would help reduce mortality and morbidity; however, legalization is only the first step to ensuring that large numbers of women have access to safe abortion. Even in countries where the policies were less restrictive, hotlines explained that many women did not want to be seen walking into a clinic that provided these services or do not feel comfortable talking to the hospital staff or doctor about terminating a pregnancy because of the stigma that surrounds abortion in most of these countries. In general, women prefer to take misoprostol, or another safe medical alternative, because it takes place in the privacy of their own home.

In the absence of full legalization, and even in situations where abortion is legal but there is still stigma, harm reduction strategies can be a good alternative. Historically, there are two harm reduction models that have successfully expanded their services to a national level in countries with restrictive abortion policies: the Uruguayan model and the Bangladeshi model. In both cases, there were two main conditions that made these achievements possible: 1) there was widespread availability of either misoprostol or safe abortion services through select providers, and 2) the harm reduction strategies were incorporated into the existing health system.

In each of the countries whose hotline providers we interviewed for this study, at least one of these conditions is lacking. While misoprostol is officially registered for at least one medical indication (postpartum hemorrhage or gastric ulcers), access to the drug is often limited. Frequent stock-outs and prescription requirements for large doses make it difficult for the average person to obtain good-quality misoprostol without going through special channels. For this situation to change, governments will purposefully need to loosen drug regulations or turn a blind eye to the drug administration agencies that supply it.

Second, the Uruguayan and Bangladeshi models were successful because they embedded their harm reduction strategies within the existing health care system. In Uruguay's case, health care providers in the Pereira Rossell Hospital, a public maternity hospital serving low income women in Montevideo, gave women with unwanted pregnancies factually accurate information on how to safely use misoprostol to terminate their pregnancies, and explained the risks, the legality, alternatives, and available social support in case a woman decided to continue her pregnancy (Labandera et al., 2016). In Bangladesh, formal trainings on how to properly perform "menstrual regulation" were incorporated into the medical curriculum at seven medical colleges and two public hospitals (Chowdhury & Moni, 2004).

To reach women on a large scale, it would be helpful for governments either to create their own national abortion hotlines, a tactic that Mexico City has successfully used to help women in neighboring provinces (where abortion is illegal) access information about safe abortion, or to expand the reach and capacity of private hotlines like the ones interviewed in this study. Officially supporting abortion hotlines would allow them to promote their services more widely and to respond to high call volumes. Incorporating hotlines into existing health systems would also encourage collaboration to take place across the health sector. Doctors, midwives, and other healthcare providers that are not permitted by national law to terminate pregnancies could refer women in search of safe abortions to the hotlines, ensuring that these women get the information to make a safe method choice. These health care providers could also provide follow up services, thereby addressing any complications that arise from incomplete abortions.

To meet either one of these conditions that made the Uruguayan and Bangladeshi models successful, it is essential that hotlines gather information from callers on the impact of their services, and the number of maternal deaths and morbidity prevented by these harm reduction strategies. Currently, only half of the hotlines interviewed gather this information, data that is essential for proving their efficacy to Ministries of Health or donors that might be interested in incorporating their services into the existing health framework. In situations where funding is unavailable, hotlines can partner with universities or other research institutions that are interested in gathering their data. They can also reach out to other hotlines who are successfully at collecting this information and adapt their research tools and protocols to their own context.

Conclusion

Hotlines offer essential information about safe abortion medicines and services to women seeking abortion in countries where it is illegal. This chapter identified a number of successful strategies used to overcome the main challenges hotlines face (helping women access safe abortion services, promoting their services without getting shut down, and procuring/stretching their resources), however most hotlines have struggled to implement their projects on a large scale. To significantly reduce maternal mortality and morbidity related to unsafe abortion, it would be helpful to incorporate these hotlines into the existing health care systems, providing them with the human and financial support to hire more staff and to promote their services more widely.

Chapter 2: Demographic, Knowledge and Regional Factors Associated with Use of Safe Abortion Methods in Nicaragua

Introduction

This chapter uses survey data from Nicaragua to investigate the factors that predict whether a person knows someone who has terminated a pregnancy, and whether the method this person used was safe or unsafe according to the WHO guidelines. The predictive factors measured include demographic characteristics such as age and sex, geographic factors including whether they live in a rural/urban area and whether they would go to a health facility if they had an unwanted pregnancy, and knowledge-related factors including education level, knowledge of the abortion law in Nicaragua, and whether they had seen or heard at least one of the safe abortion campaigns/programs promoted in Nicaragua.

The only factor that was statistically significant in predicting whether someone's friend or relative had a safe abortion is whether they had heard via television or other information campaigns about safe methods of abortion. While there is no way of knowing the degree to which these campaigns affected their decision to seek out safe abortion services, this finding suggests that information plays a role in women's decision making process about whether or not to choose a safe method of abortion. Also, identifying the methods people use to terminate pregnancy and the factors that influence these methods can help advocates build a better case for liberalizing the existing abortion laws and policies. It can also help public health professionals understand whether increasing people's knowledge of safe abortion strategies influences their own decisions, and what populations should be targeted with these strategies.

Context

While Nicaragua has reduced its maternal mortality rate over the past decade, it still remains high, at 150 deaths per 100,000 live births (WHO, 2016). How many of these deaths are attributed to abortion is unclear, although 80% of abortions in Central America are considered to be unsafe (Ganatra et al., 2017) and account for at least 10% of maternal deaths (Guttmacher Institute, 2016). Nicaragua's highly restrictive abortion laws, the high adolescent fertility rate, and the large number of unsafe abortions that occur regionally suggest that unsafe abortion could be one of the leading causes of maternal mortality in the country. To better understand and address this issue, data on incidence and the factors that influence the methods women are using to terminate their pregnancies is needed.

In Nicaragua, abortion has been illegal since 2007, even in cases of rape or when the pregnancy threatens the mother's health (Amnesty International, 2009). According to a worldwide study conducted by the Guttmacher Institute (2017), there is a strong association between unsafe abortion and restrictive laws; 87% of all abortions in the 57 countries where abortion was available on request were safe compared with 25% in the 62 countries where abortion was banned or allowed only to save the woman's life or to preserve her physical health.

Nicaragua has one of the highest adolescent fertility rates in the world, with roughly half of women giving birth by the time they are 20 (Guttmacher Institute, 2016), a trend that stayed consistent over time. Between 1990 and 2005, fertility rates in Nicaragua dropped by 26% for most of the other age groups (UNFPA, 2005), however the adolescent fertility rate declined by only 11% during this same time period (UNICEF, 2006). While contraception use among 15-24 year olds is relatively high in Nicaragua (70%) (Lion, Prata, & Stewart, 2009), many of the methods used have a high failure rate, or can lead to pregnancy if not used perfectly. Previous studies have attributed the high number of teen pregnancies to early marriage, lack of sex education, romanticism, machismo, gender double standards and religious prohibition of contraception(Berglund, Liljestrand, De María Marín, Salgado, & Zelaya, 1997; Lion et al., 2009; Rani, Figueroa, & Ainsle, 2003; Remez, Prada, Singh, Bixby, & Bankole, 2008).

Of the 18.5 million unsafe abortions that occur each year in the developing world, around two-thirds are conducted by women ages 15-29 and one third by women over the age of 30 (Shah & Åhman, 2004). In most of these countries, the rate of unsafe abortions tends to peak around the ages of 20-24, then declines, both as a percentage of all abortions and per 1000 women in each age group (Shah & Åhman, 2004). Most studies attribute the high number of unsafe abortions among young people to a lack of access to contraception and information on how to use it safely and correctly.

Two studies that measured the demographic distribution of abortion in countries with restrictive policies found a positive association between abortion and higher levels of education. In Nigeria, compared to those with lower levels of education, women who had received secondary or University level education were respectively three and four times more likely to report having an abortion (Author et al., 1999). The authors of this study believe these numbers reflect better access to abortion services among the better educated, greater willingness to report, or a greater desire to prevent an unwanted pregnancy that would limit their ability to pursue a career (in a country where effective and efficient use of contraceptives is not guaranteed) (Author et al., 1999). In Zaire, the authors hypothesize that the motivation to better space (and to some degree limit) births rises as a woman becomes more educated, leading to an increase in the numbers of abortions used to control fertility (Shapiro & Tambashe, 1994).

Since 2016, there have been three local interventions launched in Nicaragua to address the issue of unsafe abortion. The first campaign, called “Las Queremos Vivas” (We Want Them Alive), aims to expand the existing law in Nicaragua, allowing women to terminate a pregnancy if their health is in jeopardy. The group of activists, journalists, and doctors who created this campaign have attempted to gain support for the law by generating public debate, holding mass protests, and spreading propaganda. The second intervention, a program called “Loma Verde,” was a telenovela designed by the Luciérnaga Foundation. The show discusses a number of sensitive health and social issues, including HIV, domestic violence, sexual abuse and trafficking. Unsafe abortion was incorporated into one of their episodes to raise awareness. The third intervention, “Proyecto 17” is a television program that uses music as a social medium to discuss dating violence, adolescent pregnancy, abortion and other reproductive health issues.

There is a great deal of evidence supporting the effectiveness of mass-media entertainment-education programs at increasing contraceptives use, fertility regulation, and encouraging positive reproductive health behavior change(Agha & van Rossem, 2002; Bankole,

Rodríguez, & Westoff, 1996; Gupta, Katende, & Bessinger, 2003; Kincaid et al., 1996). For example, in four northwest states of Nigeria, 67% of women who came into reproductive health clinics cited an educational radio drama called Ruwan Dare as their primary motivation for seeking contraception (Kincaid et al., 1996). In Brazil, a mass media campaign promoting vasectomy via television and radio in three major cities increased the number of vasectomies performed by 108% in Fortaleza, 59% in Salvador and 85% in Sao Paulo (Villela & de Oliveira Araujo, 2000). While there is some literature documenting abortion campaigns like "Las Queremos Vivas" in some countries (Villela & de Oliveira Araujo, 2000), there is no evidence that exposure to these campaigns is associated with safe abortion practices.

Methods

Data

The data were collected as part of a survey designed by Planned Parenthood Global and carried out by CID Gallop Latinomerica in 2017. The study aimed to identify the reproductive health needs of men and women 15 and above, so that they could better target their interventions in these countries. The full self-administered survey collected information about a wide variety of reproductive health information, including reproductive history, family planning, pregnancy, and abortion. The survey data were obtained through Planned Parenthood Global. Because the names and identifying information of the interviewees were not included, the data analysis was considered exempt from ethical review by the University of California, Berkeley Institutional Review Board. The results include 1200 men and women, ages 15 and up, from 10 districts in Nicaragua, including rural and urban areas.

Measures

There were 2 outcome variables. The first outcome variable of interest for this study was whether or not the person knew someone who had terminated a pregnancy. The second outcome was among those who did know someone who had terminated pregnancy (n=203), whether the abortion was carried out safely or unsafely. The designers of the survey purposely asked interviewees about a friend or family member's experience terminating a pregnancy rather than their own because they believed women would speak much more honestly about abortion methods used by another person.

For the analysis, abortions were categorized as *safe* if the woman "went to a clinic for the procedure" or if she "went to a clinic to receive medicines." Abortions were categorized as *unsafe* if the woman "took medicine without any kind of intervention," "had a procedure with someone who was not a health professional," or was "beaten by their partner." These categorizations were based on the WHO's definition of unsafe abortion and recommendations within WHO guidelines on safe abortion (Ganatra et al., 2014).

The explanatory variables included in the analysis were demographic characteristics (age and sex), factors that could influence interviewees' knowledge of safe abortion methods (including education level, whether they had a complete understanding of the abortion law in

Nicaragua, and whether they had heard or seen at least one of three safe abortion campaigns/programs), and geographic factors (including whether they lived in an urban or rural area, and whether they would personally go to a clinic in the event of an unintended pregnancy).

Analyses

First, descriptive statistics were computed and significance testing was calculated using a chi squared test. Multivariate logistic regressions were then conducted using an incremental approach to model building for each of the outcome variables. For both logistic regressions, Model 1 included demographic factors, Model 2 included demographic and knowledge factors, and Model 3 included demographic, knowledge, and geographic factors. The likelihood of each explanatory variable's association with the outcome variable was used to determine the stage each variable was introduced. Demographic factors were assumed to be the most predictive, followed by knowledge, then geography, decisions that were based on the existing literature. The Akaike Information Criterion (AIC) was then used to assess which of these models best fit the data. All data were analyzed using Stata version 15.

Results

Of the men (n=590) and women (n=610) surveyed, 234 (20%) reported knowing someone who terminated a pregnancy. Demographic, knowledge, and geographic statistics from the questionnaire are provided in Table 1. Bivariate analyses indicate that most of the variables were significantly different between respondents who know vs. do not know someone who has had an abortion. Respondent sex was significantly associated with knowing someone who had an abortion (P=0.01), as was age (P=0.01), education level (P<0.00), knowledge of the abortion law in Nicaragua (P=0.02), having seen or heard of any of the safe abortion campaigns (P=0.03), and willingness/ability to personally visit a clinic in the event of an unwanted pregnancy.

In unadjusted analyses, more women knew someone who had an abortion compared to men (58% vs. 42%). People in their 20s and 30s were more likely to know someone (56%) compared to adolescents (16%) and those who were 40 years or older (28%). The men and women who had received at least some secondary school education were more likely to know someone who had a safe abortion (53%) compared to those with lower (21%) and higher education levels (28%). Finally, 64% of those who knew someone had seen or heard at least one of Planned Parenthood's safe abortion campaigns and 42% had a complete understanding of Nicaragua's abortion law.

Table 1: Descriptive Statistics of Demographic, Knowledge and Geographic variables

	All Respondents (n=1200)		Knows someone who has had an abortion (n=234, 20%)		Does not know someone who has had an abortion (n=966, 80%)		P-value*
Respondent Characteristic	**N**	**%**	**N**	**%**	**N**	**%**	
Total	1200	100	234	20%	966	80%	
Gender							
Male	590	49%	98	42%	492	51%	0.01
Female	610	51%	136	58%	474	49%	
Age							
15-19	140	12%	37	16%	103	11%	0.01
20-39	630	53%	132	56%	498	52%	
40+	430	36%	65	28%	365	38%	
Education level							
Primary or below	370	31%	48	21%	322	33%	<0.00
Secondary	592	49%	124	53%	468	48%	
Higher education	238	20%	62	27%	176	18%	
Knowledge of the law							
Knows the abortion law in Nicaragua	489	41%	98	42%	391	40%	0.02
Campaign knowledge							
Has seen or heard of any campaign	693	58%	150	64%	543	56%	0.03
Has seen or heard of "*Las queremos vivas" campaign*	371	31%	95	41%	275	29%	
Has seen or heard "*Loma Verde"* programe	707	38%	82	36%	352	38%	
Has seen or heard of "*Proyecto 17"* programe	163	14%	43	19%	120	13%	
Urban/Rural							
Lives in an urban area	244	20%	52	22%	192	20%	0.35
Lives in a semi urban area	299	25%	50	21%	249	26%	
Lives in a rural area	657	55%	132	56%	525	54%	
Access to clinic							
Would go to a clinic if they had an unwanted pregnancy	477	40%	92	40%	385	40%	.04

**Note: p-values were calculated with chi2 test for categorical variables*

Table 2 shows the results of the first multivariable logistic regression models, which assessed knowing someone who had an abortion, using demographic, knowledge, and geographic predictor variables. Model 2 was the fully adjusted model (AIC = 1166.19). The factors that were significantly associated with whether someone knew someone who has had an abortion included sex, age, and education level. According to the analysis in Model 2, women were much more likely to know someone who terminated a pregnancy (OR=1.45, p<0.001) than men. Adolescents were also more likely to know someone (OR=1.79, p=.016) compared to men and women who were 40 and older. People with a low level of education (primary or lower) were also less likely to know someone who had terminated a pregnancy (OR=.45, p<.001), compared to those who had received education beyond secondary school.

Table 3 presents the results of the second multivariable logistic regression models, using the same group of variables to predict whether or not the abortion the person's relative or friend had was safe or unsafe. Model 1 best fit the data (AIC = 275.07), however I chose to use Model 2 as my final model (**Δ**AIC=-2.01, 5 added variables) because of the lack of predictive power associated with education in combination with the significant influence of the campaign variable. According to the analysis in Model 2, the only factor that was significant in predicting whether or not someone had a safe abortion was whether they had seen or heard of at least one of three safe abortion campaigns that had been launched by Planned Parenthood. Of the men and women who knew someone who had an abortion, those who had seen or heard at least one of these campaigns were more than twice as likely to know someone who had a safe abortion (OR= 2.17, p=0.023), compared to those who hadn't heard the campaigns. I think it's also important to note that, according to these reports, women ages 20-39 were less likely to have had a safe abortion (OR=.52, p=0.058) compared to women 40 and up.

Table 2: Multivariable Results: Factors associated with whether respondent knows someone who has had an abortion. N=1,200

	Model 1		Model 2		Model 3	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Demographic Characteristics						
Sex (female to male)	1.43	.015	1.45	.014	1.45	.014
Age						
Age 15-19	1.99	.003	1.79	.016	1.79	.016
Age 20-39	1.50	.015	1.32	.098	1.33	.097
Age 40-55 (reference)	ref		ref		ref	
Education						
Primary education or lower			0.45	<.001	0.45	<.001
Secondary education or lower			0.72	.070	0.72	.072
Higher than secondary education (reference)			ref		ref	
Campaign						
Have seen or heard an abortion campaign			0.79	.118	0.78	.104
Legal knowledge						
Knows the abortion law in Nicaragua			.974	.86	0.96	.871
Geographic						
Lives in an urban area					1.11	.478
Lives in a rural area (reference)					ref	
Clinic access						
Would visit a clinic if they had an unwanted pregnancy					0.97	.817
Constant	0.10	<.001	0.23	.001	0.21	.003
AIC	1175.74		1166.19		1169.62	

Table 3: Multivariable Results: Factors associated with whether respondent knows someone who has had a safe abortion vs. unsafe abortion. N=203

	Model 1		Model 2		Model 3	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Demographic Characteristics						
Sex (female to male)	0.72	.294	0.70	.256	0.72	.294
Age						
Age 15-19	0.64	.320	0.60	.269	0.61	.292
Age 20-39	0.54	.065	0.52	.058		.060
Age 40-55 (reference)	ref		ref		ref	
Knowledge						
Primary education or lower			1.20	.683	1.15	.756
Secondary education or lower			1.26	.527	1.23	.588
Higher than secondary education (reference)			ref		ref	
Campaign						
Have seen or heard an abortion campaign			2.17	.023	2.30	.016
Legal knowledge						
Knows the abortion law in Nicaragua			0.65	.185	0.68	.243
Geographic						
Lives in an urban area					0.74	.317
Lives in a rural area (reference)					ref	
Clinic access						
Would visit a clinic if they had an unwanted pregnancy					0.83	.551
Constant	1.62	.361	1.08	.922	1.99	.482
AIC	275.07		277.08		279.72	

Discussion

The only factor that was statistically significant in predicting whether the interviewees' friends or relative had a *safe* abortion is whether they had personally heard at least one of the three safe abortion campaigns/programs. Without asking women directly, it's impossible to know the degree to which these campaigns affected their decision to seek out safe abortion services, however it's an important finding given the paucity of data on the efficacy of safe abortion interventions outside the clinic setting. If the interviewees were talking about their own pregnancy, this finding suggests that information plays a role in women's decision making process about whether or not to choose a safe method of abortion. If the interviewees were talking about a friend or relative's pregnancy, it's still possible that the information played a role in these women's decision making process, given that friends/relatives often watch the same television shows and are exposed to the same campaign propaganda.

The results of this study indicate women are more likely to know someone who has had an abortion, which is consistent with the current literature on abortion decision-making. Women who terminate a pregnancy tend to confide in their parents over any other person, and those who tell a parent confide in their mothers more often than fathers (Henshaw & Kost, 1992). This is especially probable in a country like Nicaragua where the culture surrounding sex and childbearing is colored by machismo and marital instability (Lion et al., 2009). Many girls in Nicaragua grow up without their biological father, a consequence of men choosing to father many children without the societal expectation that they need to support these children (Lion et al., 2009). Outside of parents, a woman seeking an abortion is most likely to confide in their partner, then a close friend (Lion et al., 2009).

Adolescents were much more likely to know someone who'd had an abortion compared to women 40 and older. A major limitation of asking interviewees whether they "know someone who has had an abortion" is that there is no way of deciphering whether the person is talking about their own pregnancy or the pregnancy of a friend or relative. If the interviewees were referring to themselves, these findings suggest that the incidence of abortion is much higher among adolescents than in older age groups, which makes sense given that the teen pregnancy rate is so high. If the interviewees were referring to a friend or relative who had an abortion, it's possible that adolescents are more comfortable confiding in friends than the women in the older age groups. These results would also suggest that open communication about this issue is a more recent phenomenon given that the 40+ age group did not hear about anyone who had and abortion when they were in their teens, despite the teen pregnancy rate and sexual activity among this age group remaining consistent over the past 30 years.

The findings indicate that people with lower levels of education are less likely to know someone who had had an abortion than someone who has been educated beyond secondary school, results that are consistent with findings from countries with similar legal constraints and cultural norms surrounding fertility and abortion. A possible explanation for why educated women are having more abortions (or know more people that have had an abortion) is that their motivation to prevent pregnancy is stronger than it is for a woman without the same career or education prospects. It's also possible that this group of men/women have better knowledge and access to abortion services compared to women with lower levels of education, or that better educated women are more likely to report.

Despite the evidence linking other maternal health outcomes to rural vs. urban residence, the results of this study do not show any indication of a correlation between living in an urban area and knowing someone who has had a safe abortion. Studies of maternal mortality by geographic location indicate higher maternal mortality ratios in rural areas (Ronsmans & Graham, 2006). This discrepancy is often attributed to a lack of knowledge of safe practices (You et al., 2012), a greater dependence on unskilled providers (You et al., 2012), and reduced access/proximity to health facilities (Fawcus, Mbizvo, Lindmark, & Nystrom, 1996). There is also a large body of evidence pointing to discrepancies in health knowledge between urban and rural populations in many other countries, including the United States (Alghanim, 2010; Davis & Harris, 1982), China (Zhao, Kulane, Gao, & Xu, 2009), India (Raychaudhuri & Mandal, 2012), and Egypt (Kishk, 2002). Explanations given were differences in exposure to media, levels of education, and access to health centers and information.

A potential reason for the lack of association between geography and knowing somebody who had an abortion may be due to the way safe abortion was classified in this study. According to the WHO, taking misoprostol without the assistance of a health professional is technically considered "unsafe" (which is how it was categorized in this study). There is, however, a great deal of evidence showing how safe misoprostol can be when taken outside a clinic setting. In a country where abortion is highly illegal and misoprostol is widely available in urban areas, it is likely that women in urban areas are using this method to terminate their pregnancies. Reclassifying the response "taking misoprostol outside a clinic" as a *safe* method instead of as an *unsafe* method may have led to a statistically significant correlation between geographic location and method choice.

Conclusion

Being female, adolescent, and receiving higher than secondary school education are associated with whether a person knows someone who has had an abortion. Of the people who knew someone who'd had an abortion, those that had watched at least one of the three local abortion campaigns were more likely to know someone who had a *safe* abortion. These findings provide some of the first data examining the relative importance of demographic, knowledge, and regional factors associated with the need for safe abortion services and education. Knowledge plays a role in women's decision making process about what abortion method to use. While liberalizing the existing law would likely decrease the number of unsafe abortions taking place in Nicaragua, it is unlikely that this change will happen any time soon. In the meantime, it is important that both men and women have access to information about the safe methods of abortion currently available to them through local campaigns, programs, or other harm reduction strategies.

Chapter 3: The Global Hotline for Women's Health: Lessons Learned from An Innovative Approach to Addressing Unsafe Abortion in Restrictive Settings

Introduction

Hotlines have proven to be an effective method of getting information about safe abortion options to women in countries where it is illegal (Drovetta, 2015; Gerdts et al., 2014; Ramos et al., 2015). That said, there are a number of barriers (discussed in Chapter 1) that have prevented local hotlines from reaching women on a large scale. First, most of these hotlines have limited funds, making it difficult to hire enough staff to handle high call volumes. Second, the fear being shut down prevents many hotlines from promoting their services beyond a few major cities or districts. While legalization of abortion policies and/or incorporating this harm reduction model into existing healthcare systems can help address this problem, this is often not an option in countries with highly restrictive governments.

Additionally, in countries like Nicaragua, where there is a complete ban on abortion for any indication (Amnesty International, 2009), and where the government attempts to restrict individual's freedom to information (Freedom House, 2012.), local NGOs and women's groups are too afraid of being prosecuted to set up such a public intervention. As a consequence, there are many countries where rates of unsafe abortion are high, and where women have no way of accessing information about safe methods to terminate their pregnancies. In an attempt to address this gap, Optio, a non-governmental organization based in the United States, came up with the idea of the "The Global Hotline for Women's Health." The aim of this intervention was to provide women-centered, supportive care to women (and men) seeking information about abortion, contraception and other reproductive health issues, with the overall goal of reducing preventable maternal death and suffering.

Given the need that existed for information about safe abortion options in Nicaragua (see Chapter 2), Optio decided to begin the project as a two-year pilot in Nicaragua before scaling-up to other countries in Latin America. The implementers of the project worked for two years setting up the backend, which includes background research, the legal rationale, technological setup, promotion strategies, a referral map and database, evaluation tools, and all of the materials that would be used by the hotline staff members. Unfortunately, the project was put on hold indefinitely in 2018, four months before it would have launched. Despite the fact that the project was never realized, this chapter will use the Consolidated Framework for Implementation Research (CFIR) analyze the facilitators and barriers to implementation of the Global Hotline. It is my hope the lessons learned from this intervention will inform the work of others working on a similar problem or under similar conditions.

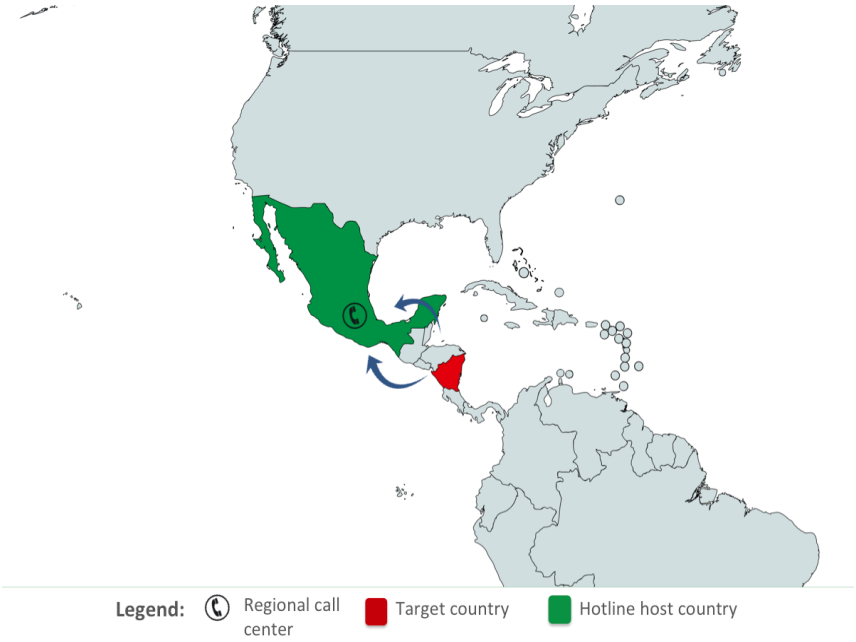
The Global Hotline for Women's Health

The goal behind the Global Hotline was to connect women in countries with restrictive abortion policies to a hotline in Mexico City, providing information about the safe abortion options available in their country without putting hotline operators at risk. Optio believed that placing the hotline in a country where abortion is legal would make it very difficult (if not

impossible) for governments to shut the service down, allowing the hotline to reach women in even the most restrictive settings. In addition to preventing unnecessary legal consequences for local activist organizations, they believed that the Global Hotline would overcome other major challenges faced by local hotlines, leading to wider reach of services at a lower cost.

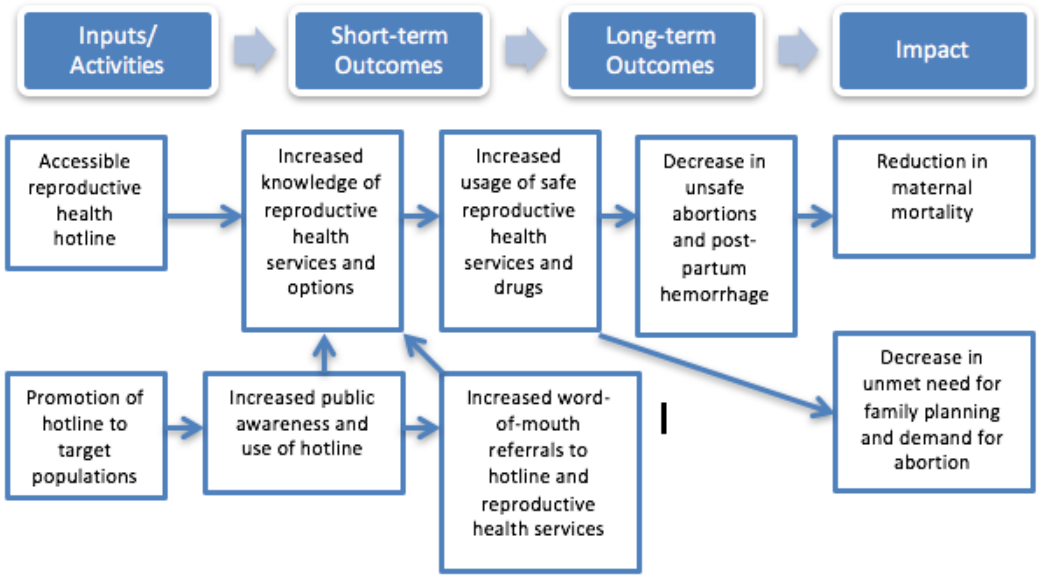
The designers of the project intended to provide Nicaraguan women a toll-free, local number for a "global reproductive health hotline" that offered information about a number of reproductive services, including options for safely terminate a pregnancy. When women called the local number, they would be redirected to a regional call center in Mexico City (see Figure 1). Using the caller's approximate location, hotline staff would give women in need of abortion services information on several options, including the location and contact detail of clinics/providers, information on how to induce an abortion using misoprostol, and the names/contacts of organizations that would send abortion pills via mail. All of this information would be stored in a database that would be routinely updated by personnel in Nicaragua.

Figure 1. Map of pilot country (Nicaragua) and regional call center (Mexico City)



Optio anticipated that the Global Hotline would increase women's knowledge of safe abortion options, both as a result of their direct communications with the hotline, and through word-of-mouth in targeted communities. This, in turn, would lead to an increase in the use of safe abortion options, including misoprostol, mifepristone/misoprostol combination packs, and safe clinic services. By using a harm reduction strategy to increase women's access to information, Optio hoped that the Global Hotline would reduce the incidence of unsafe abortion, unmet need for family planning, and maternal mortality in Nicaragua (see Figure 2).

Figure 2. Theory of Change: reducing maternal mortality through the Global Hotline for Women's Health



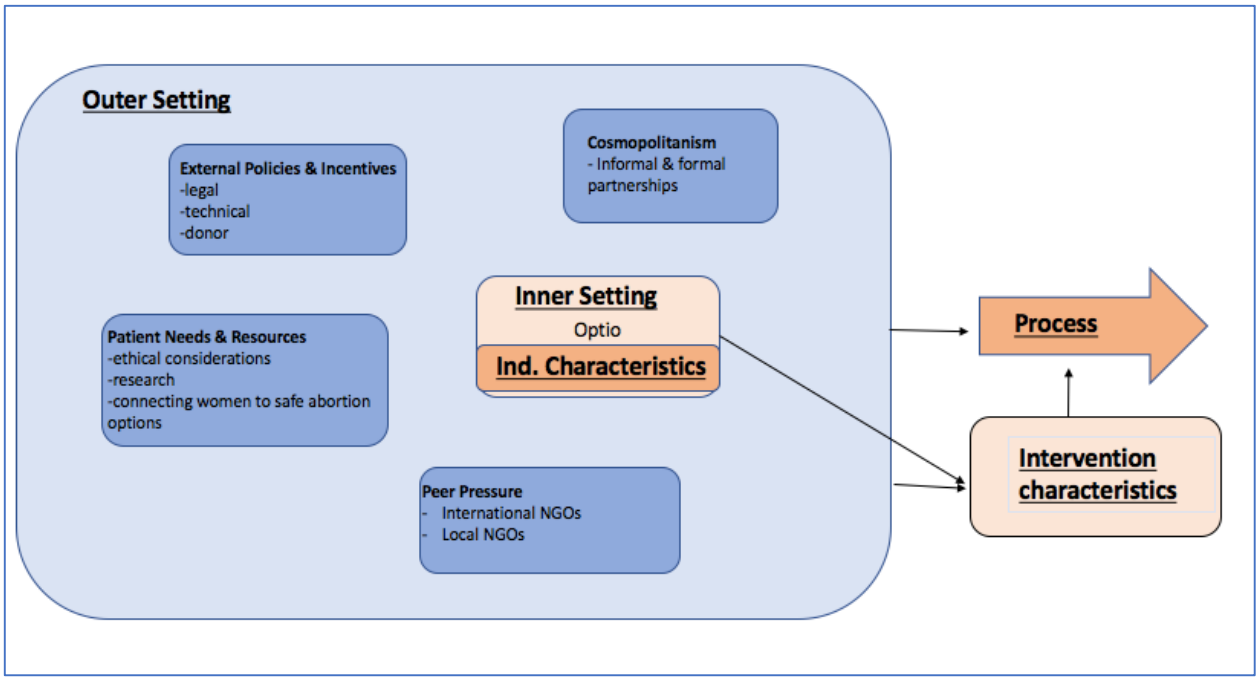
Methods

This chapter is primarily ethnographic, based on participant observation between 2015-2018 from within Optio, the organization implementing the Global Hotline. I participated in approximately 30-40 planning sessions and meetings related to the ideation and setup of the hotline, putting me in a unique position to gain an intimate understanding of the challenges and successes of the project. This research is also based on approximately 10 conversations with key stakeholders, who were either directly or indirectly involved in the project, as well as secondary data sources, including memos, emails, funding proposals, laws, and formal meeting notes.

The notes from these conversations, along with the secondary data sources, had all of the names and identifying information redacted before being uploaded into MaxQDA for coding and qualitative analysis. To limit interpretation biases, an assistant researcher was involved in developing the coding scheme, coding the documents, discussing coding discrepancies, and refining codes and code definitions to improve inter-coder reliability. The "negotiated agreement" approach was used for assessing inter-coder reliability, where any disagreements were discussed and resolved to the best of our ability.

The Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009) was used to guide these analyses. The CFIR is a well-established typology, devised from several published implementation theories, to guide diagnostic assessments of implementation context, evaluate implementation progress, and help explain findings in research studies or quality improvement initiatives (Damschroder et al., 2009). The framework consists of five domains: intervention characteristics, outer setting, inner setting, characteristics of the individuals involved, and the process of implementation. Figure 3 provides a visual representation of each of these domains and how they interact with one another within the context of the Global Hotline.

Figure 3: An adapted version of the CIFIR framework



The "outer setting," or the political and social context within which an organization resides, is the domain I will be analyzing in this chapter. The "inner setting" refers to constructs within the implementing organization, Optio in this case. The "characteristics of individuals" describes the interplay between individuals working at Optio, and how that interplay influences individual or organizational behavior change (Damschroder et al., 2009). Finally, the "process" refers to the planning, engaging, executing, reflecting and evaluation components of the intervention. "Intervention characteristics" refers to stakeholders' perceptions about whether the intervention is externally or internally developed, the quality of evidence supporting the belief that the intervention will have desired outcomes, the advantage of implementing the intervention (versus an alternative solution), and the degree to which it can be adapted, tailored, refined or reinvented to meet local needs. It also describes the influence of the trialability, complexity, design quality and packaging, and cost on implementation.

The four constructs that relate to the outer setting include patient needs and resources, cosmopolitanism, peer pressure, and external policies and incentives. Patient needs and resources refers to the extent to which patient needs, as well as barriers and facilitators to meet those needs, are accurately known and prioritized by the organization. The patients, in the case of the Global Hotline, are Nicaraguan women who are interested in terminating their pregnancy. Cosmopolitanism is the degree to which an organization is networked with other external organizations. Peer pressure refers to the mimetic or competitive pressure between organizations. Finally, external policies and incentives are the broad constructs that encompass external strategies to spread interventions, including policy and regulations (government or other central entities), external mandates, and recommendations and guidelines.

Results:

External Policies and Incentives

External policies and incentives were responsible for both the initial motivation for implementing a Global Hotline and its ultimate demise. International laws and regional agreements between telecommunications companies in Latin America made it legally and financially possible to connect women from Nicaragua to hotline staff members in Mexico City, which set it apart from any other intervention of its kind. On the other hand, donor policies on types of projects they would and wouldn't support made it impossible to raise the funds necessary for Optio to carry out this project on their own.

Legal policies

The project was originally motivated by the observation that there were gray areas in international law that made it possible to legally provide information about safe abortion to women in countries with even the most restrictive abortion laws/policies. Optio speculated that placing a hotline in a country where abortion was legal would prevent local law enforcement (in countries where the hotline was being promoted) from shutting the service down or prosecuting hotline staff members, a challenge that had prevented any local Nicaraguan organization from starting up a similar service. To ensure that these assumptions were correct, Optio sought pro-bono legal counsel with lawyers from the United States, Mexico City and Nicaragua to understand the actual risk.

According to lawyers from the United States, the Hotline's legality was ultimately based on how abortion and freedom of information laws were applied in each county, and how these laws corresponded with international law. In Mexico City, the voluntary termination of pregnancy has been legal for the past ten years.[1] According to the lawyers in Mexico City, an important consequence of decriminalization was that the provision of information on abortion became a regular practice in Mexico City and was not sanctioned (Becker & Díaz Olavarrieta, 2013). In fact, a number of non-governmental organizations in Mexico City currently provide information to women in Mexican states where abortion is still considered a crime without penalty. One important stipulation in the Mexican Criminal Code requires that abortions be performed (or informed) by either a doctor or a health professional, however it does not define this term, making it impossible to legally determine whether a hotline operator qualifies.

In Nicaragua, abortion is prohibited in all cases, including to save the life of the mother. It is also illegal for anyone to help a woman terminate her pregnancy. The legal question, however, is whether it is legal for someone *outside* of Nicaragua to give a woman information that would help her acquire a safe abortion. According to the lawyers from Mexico City, Article 14 of Nicaragua's Criminal Code *technically* permits Nicaraguan courts to apply criminal laws

[1] Criminal Code of Mexico City, art- 144: "Abortion is the termination of pregnancy after the twelfth week of pregnancy. For the purposes of this Code, pregnancy is the part of the process of human reproduction that begins with the implantation of the embryo in the endometrium."

outside of its jurisdiction (or territory)[2], but this law is overridden by international laws on externality (Ryngaert, 2015), which establish five bases for a State to gain jurisdiction over an individual (Draft Convention on Jurisdiction with Respect to Crime, 1935).

1. **Territoriality**: Asserts that States are limited by their own territory to apply their laws except in the case of criminal laws.
2. **Nationality of the offending party**: Asserts that jurisdiction is determined by the nationality of the one committing the crime.
3. **Protected-interest basis:** States that the national interest injured by the offense determines jurisdiction. In other words, a State can criminalize a conduct beyond its borders that negatively impacts a State's interest (Ries, 1992, p. 1217), and can respond to acts perpetrated abroad which jeopardize sovereignty or the right to political independence (Ryngaert, 2015, p. 96).
4. **Universality principle**: Asserts that the nature of the act itself may confer jurisdiction on any State(Ryngaert, 2015, p.101). This principle does not operate on the basis of a connecting factor linking up a situation with a State's interests.
5. **Passive personality principle**: Establishes that the nationality of the victim provides the basis for jurisdiction. The State, in this case, is granted jurisdiction because a crime was committed against one of its citizens.

A country may exercise all five principles or any one principle alone in defending the scope of its jurisdiction (Ries, 1992, p. 1216), however the lawyers from Mexico City claimed that it would be highly unlikely for Nicaragua to do so for several reasons. First, the nationality of the offending party principle would not apply because the people giving out information about safe abortion are citizens of Mexico City, not Nicaragua. To use the protected-interest basis principle, Nicaragua would have to argue that providing information on how to terminate one's pregnancy constitutes an active effort against Nicaraguan sovereignty or political independence, which is not convincing. The universality principle is used mostly to prosecute perpetrators of war crimes, genocide, crimes against humanity and torture (Ryngaert, 2015, p.100). According to the lawyers, it applies to actions or crimes that the international community as a whole consider to be "punishable", and abortion does not fall within this category.

Finally, under the passive-personality principle, the alleged victim would in this case be the fetus. To ground this argument, Nicaragua would have to argue that the fetus is a citizen, an assertion that directly conflicts with Nicaragua's Civil Code, which states that the "legal existence" of any person begins at birth.[3] Moreover, under civil litigation, Nicaragua considers "people" to be beings capable of exercising rights and obligations.[4] Neither of these

[2] Legal fiction: an assertion accepted as true, though probably fictitious, to achieve a particular goal in a legal matter.

[3] Civil Code of the Republic of Nicaragua, art. 5: "The legal existence of every person starts at birth."

[4] Criminal Code of Mexico City, art- 144: "Abortion is the termination of pregnancy after the twelfth week of pregnancy. For the purposes of this Code, pregnancy is the part of the process of human reproduction that begins with the implantation of the embryo in the endometrium."

dispositions grants the fetus citizenship in the Nicaraguan context, making persecution under the passive-personality very unlikely. Furthermore, abortion is legal in Mexico City[1], which means that the hotline is not actively executing a crime under the passive-personality principle.

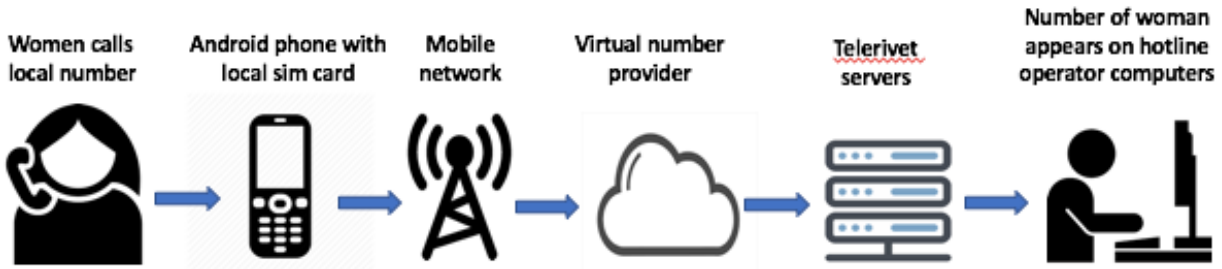
In summary, while the legality of the hotline was never tested in court, the lawyers from Mexico City confirmed that it would be "very unlikely" for the Republic of Nicaragua to prosecute Optio or Mexico City hotline staff, as long as the hotline was 1) based in Mexico City and that 2) the hotline operators were not citizens of Nicaragua. Optio attempted to get confirmation of these assertions from lawyers in Nicaragua, but unfortunately, they were not as familiar with the international laws and could therefore not provide official legal counsel on the matter.

Technical Policies

The other external policy that made this project possible were existing telecommunications agreements between Mexico and the rest of Latin America. Because Mexico City owns most of the telecommunications companies in the region, the cost of calls from Mexico to Nicaragua are low compared to other regions. In East Africa, for example, the lowest amount you can pay for calls between countries is .20 cents per minute (even if the call is made through the Internet), making it impossible to implement a project like this at scale. Furthermore, the unrestricted Internet policies in both countries made it possible to set up a technical system that would allow women to use the hotline for free and without risking their safety.

Optio used these policies to its advantage, setting up a system that was cost effective, simple to use, and that protected the identity of the callers. Nicaraguans would have either called or texted a local Nicaraguan number, after which they would be called back by a hotline staff member in Mexico City. A company called Telerivit accomplished this by placing a local sim card inside a simple Android phone in Nicaragua. When someone called or texted this local number, the phone number would pass through a "virtual number provider" and then on to Telerivit's server. Hotline staff members who were logged onto Telerivit's website in the Mexico City office could see these numbers as they came in and would be able to return the call using a secure line in Mexico City (Figure 4 shows an illustration of this system). Because Mexico owns many of the telecommunications companies in the region, the hotline only had to pay $100 a month per line for unlimited calls to Nicaragua.

Figure 4: The Global Hotline's telecommunications system



While this system was less convenient than calling a Mexico City number directly from Nicaragua, the designers of the hotline felt it was a better approach: it was free for the callers (texting or "flashing" a number doesn't cost anything in Nicaragua), it protected the women's privacy because calls were routed through a Mexican provider, and it was also inexpensive, improving the hotline's sustainability.

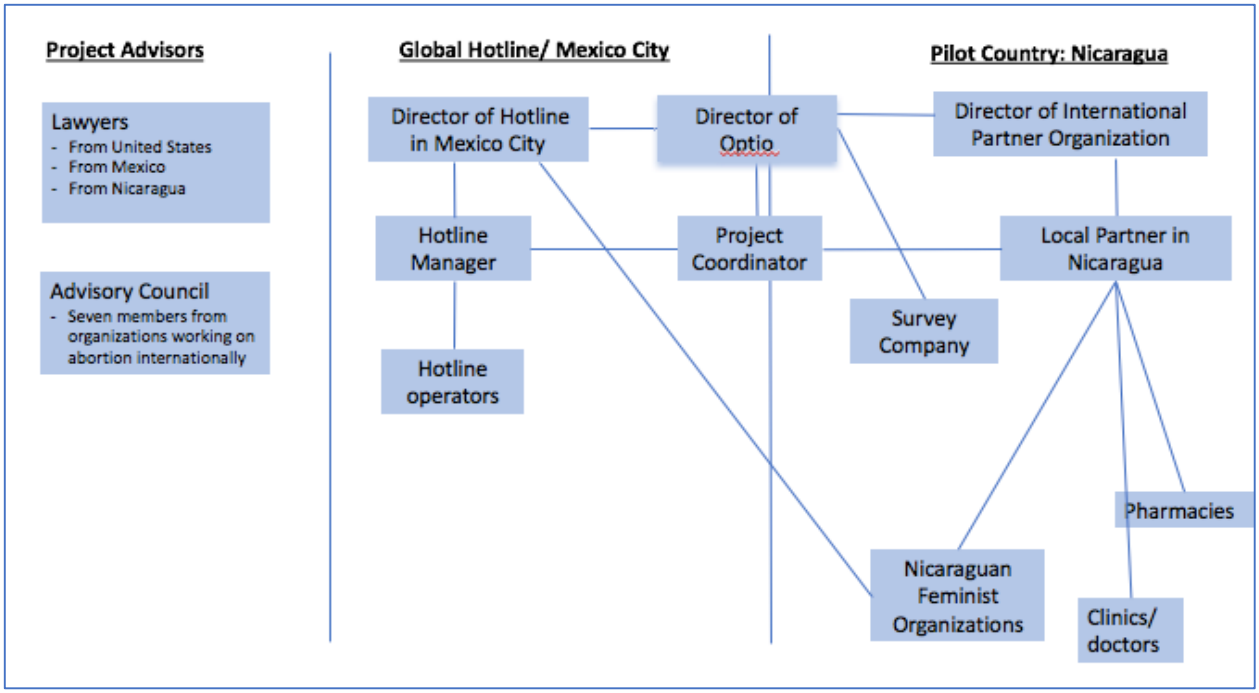
Donor Policies

Foundations' policies on the kinds of projects they will fund was an external policy that significantly impeded the implementation of the Global Hotline. The original support for the Global Hotline project came from private donor, however this money could only be used for the development of the actual hotline in Mexico City. Funding for the rest of the project (i.e. promotion, evaluation, database upkeep) had to come from other sources. Optio attempted to get additional support for the project from foundations known to support abortion projects in Central America. However, all of these foundations made it clear that they refused to fund pilots. The Director of one foundation said "There isn't enough data showing how effective hotlines can be at reaching women on a large scale. [The Global Hotline] is a really interesting project, but I don't feel comfortable putting money into this until we know for sure that it works." They asked Optio to contact them again once they had the data to show that the pilot was successful, at which point they would potentially be interested in expanding the hotline to other countries.

Cosmopolitanism

Optio's attempt to build informal and formal partnerships served as both a facilitator and barrier to implementation. By 2018, the Global Hotline had turned into a network of three law firms, seven international non-governmental organizations, two local non-governmental organizations (one in Mexico City, one in Nicaragua), a survey company, two telecommunications companies, and a group of Nicaraguan clinics/ providers (see Figure 5 for a complete list of organizations involved in the project). While the hotline benefited from the knowledge and resources of lawyers and members of the Advisory Council, the complexity of the project made it vulnerable to failure.

Figure 5: Organizational Chart and Structure of the Global Hotline



Informal Partnerships

In addition to the law firms from the United States, Mexico City and Nicaragua, Optio decided at the outset of the project to form informal partnerships with seven leaders of non-governmental organizations working to increase access to safe abortion internationally. Each of these people were approached to be part of an Advisory Council (see Figure 6 for a description of the Advisory Council members). Members were expected to advise on communications technologies, the design and management of the hotline, delivery of reproductive health services (particularly abortion care in lower income settings), and the global policy context for expansion of access to reproductive health information/services. Advisory Council members were also expected to assist with identifying and securing financial support for the Global Hotline. While each advisor's depth and mode of involvement was to be at his/her discretion and convenience, they were also asked to participate in one annual meeting per year.

Figure 6: List of Global Hotline's Advisory Board members

Advisory Council Members	**Description of the organization they belong to**
#1	International organization that provides abortion pills by mail
#2	International organization that provides contraceptive services in countries where abortion is illegal and safe abortion services in countries where it is legal

#3	International organization that funds a network of clinics that provide family planning and abortion services throughout the word (in countries where abortion is legal and illegal)
#4	International organization that conducts a number of legal and medical interventions related to safe abortion in Latin America and Africa
#5	International organization that provides abortion pills by mail and misoprostol for post-partum hemorrhage to many countries in Africa, Latin America and Asia
#6	International organization that supports local hotlines in 8-12 countries, and provides misoprostol for post-partum hemorrhage to clinics in Africa, Latin America and Asia
#7	International organization that provides support to local hotlines throughout Asia

The Global Hotline Advisory Council ended up being a major asset to the project. In both the annual and in private meetings, they offered good advice on setup and management, and helped develop strategies for overcoming barriers along the way. They raised important concerns that the program directors addressed throughout the project's implementation and connected Optio staff members to foundations that were interested in supporting their work. Most importantly, they provided human resources and funding to the Hotline via their own projects. Since many of the Council members were already funding large reproductive health projects in Latin America, they offered to promote the hotline through these projects, a cost that equated to around $40,000 per country. The Advisory Council also gave credibility to the hotline. Having the buy-in (and involvement) of other major actors within the abortion field gave the project credibility in the eyes of both foundations and partners.

Formal Partnerships

The three formal partnerships that Optio formed with an international NGO, a local reproductive health NGO in Nicaragua and a local NGO in Mexico City also played an important role in the project. Two of these three partnerships developed out of a conversation that Optio had with one of its Advisory Council members at the start of the project. This partner connected Optio to what ended up being the hotline's local partner in Nicaragua. Her organization (which ended up being Optio's international partner) was funding this local Nicaraguan NGO to run a nation-wide reproductive health text messaging project that connected Nicaraguan women to contraceptive options and information about a number of different reproductive health issues. This local NGO offered to incorporate the Global Hotline into its reproductive health project, directing women who texted in with questions about an unwanted pregnancy to the number of the Global Hotline. This local partner also offered to oversee the database of safe abortion resources, which involved making periodic calls to service providers and suppliers of misoprostol to ensure that their addresses and information were correct, as well as incorporating feedback from the callers themselves (i.e., removing a provider

from the database if women had negative experiences, and adding additional providers as they emerged).

The third formal partnership that Optio formed was with an NGO in Mexico City that was supposed to host the Global Hotline. Optio had chosen this particular organization as a partner because it was already running a safe abortion hotline for women in provinces outside of Mexico City, where abortion is illegal. This hotline had been operating for about five years and had been very successful at helping women either obtain misoprostol from local pharmacies or accompanying them to Mexico City, where they could get a safe surgical abortion from a trusted provider. The partnership appeared to be ideal, given that the Global Hotline would be employing the same model on a larger scale. They also had the infrastructure, staff, training manuals, and evaluation guidelines in place, which would have saved Optio a significant amount of time and effort.

The disadvantage of building these formal partnerships with was that the Hotline's success depended on each of these partners carrying out their designated tasks and collaborating effectively. By the end of the project, two of the three partners failed to carry out the roles and responsibilities they had committed to.

For four months, Optio and the Mexican NGO worked out the implementation details of the Global Hotline backend, designing the technical model they would use, estimating the costs associated with expanding their operation, coming up with a joint work plan and identifying the technical systems and pieces of information needed to accommodate additional countries. The latter included the telecommunications system, database, intake forms, and country-specific follow up evaluations. The two organizations created a Memorandum of Understanding (MOU), identifying one another's role, their responsibilities and hierarchy within the project. The Mexican NGO sought approval for the project from their Board right before signing the MOU. It was at this point that the hotline experienced a major setback. The Board decided that they did not want the organization to host the hotline (reasons for this decision are described in the following section). Optio did eventually choose another local organization to run the hotline, but it was never able to fully recover from this setback. The new host organization in Mexico City was run by a group of young feminists who managed a network of reproductive health organizations in Central America. While they were very capable and eager to work on the project, they did not have any prior experience running an abortion hotline, so much of the infrastructure needed to be recreated from scratch.

Optio's international NGO also ended up withdrawing from the project after two years. The reason for this departure was that they lost faith in the local Nicaraguan partner's ability to carry out their end of the project. According to the international NGO, the Nicaraguan NGO had suddenly fired and replaced almost the entire staff, and the international NGO was not comfortable working with an entirely new group of people. Additionally, the resources of the international NGO had been halved as a result of the Global Gag Rule that had been reinstated by the President of the United States in 2017, and had other projects that urgently needed the funding that they had designated for the Hotline. Because of the delayed start of the project on the Mexico City end, Optio had used up all of its discretionary funds at that point, making it impossible to continue funding the local Nicaraguan partner organization (or to replace them). It was at this point that the project was put on an "indefinite hold."

Patients' needs and resources

For the Global Hotline to be successful, it was vital that the patients' (in this case, women seeking abortion services) needs, as well as barriers and facilitators to meet those needs, were accurately understood and prioritized by Optio. In conversations with Optio over their decision not to host the Global Hotline, Mexican NGO's Board posed two important ethical questions about the hotline's ability to meet the needs of women in Nicaragua : 1) Was it possible for someone living outside the Nicaraguan context to truly understand the needs of Nicaraguan women with unwanted pregnancies? and 2) Assuming that an international organization could really understand these women's needs, did they have the right or ability to create an intervention that would help women access safe abortion services, given the potential consequences to both the providers and the women themselves?

To address these questions, Optio designed several strategies to identify the needs of the women who would be calling into the hotline, and to ensure that the Hotline could meet these needs. To do this, they designed a baseline survey to understand current levels of knowledge about safe abortion methods, what methods were being practiced, and whether women would trust a hotline to provide information about safe options. To ensure that the options given to the women were in fact safe, an obvious need that had to be addressed, Optio also conducted an undercover investigation of pharmacies to ensure that women referred to pharmacies could get ahold of misoprostol.

Ethical considerations

Apart from "not wanting to become a call center," the Board of the NGO in Mexico City gave two main reasons for not wanting their organization to host the hotline. First, they believed that it wasn't their (or Optio's) place to be leading the intervention. They said:

> *We are not able to decide what is best for women in other countries. The only people entitled to make those choices and make those bold decisions are those that are part of that country. They breathe the context and live with the consequences. They can do things against their own movements, pick the fight they want and thrive. They are entitled to do it, and from our perspective no one else is. And if they [come to us specifically with the request to] open a hotline that is settled in Mexico City, we will be glad to do it. But so far, all our tries to have a direct communication with [feminist groups] have been vague and never a clear yes, which is a "no" in our context. We have no local organization [asking us directly] to set a hotline. We refuse to be part of something that is Nicaragua's movement and that might become a threat to their already scarce resources.*

Second, they didn't feel they would ever have the context specific knowledge to advise women on where to go for a safe abortion. They said:

> *Our organization works on a case to case basis. We do have a protocol we follow, but the protocol is loose and customized, flexible and warm, because we know*

that is the only way we can really support women's choices. We know how the different clinics we work with look like from every corner, we know the physicians, nurses and social workers. We know the transportation, the streets, the schedules, the way that the anti-choice movement operates. Spanish is a language with many variances, even in Mexico there are different words we use and we try to neutralize ours so that it can be understood by all the folks that call us from across the country. When we have received cases from abroad, the communication has been rocky. For us to be able to give the kind of support we want (not in terms of what we can do legally) we need to know the country very well, we need to know the clinics very well, and the protocol of each provider. We need to be able to give women directions to reach providers or pharmacies, we need to know what words they can use at drugstores, how the health system works, what they can say when going to the emergency room, how they refer to abortion, bleeding and urinary infections. We see this as a huge challenge for us to learn Nicaragua in such way, even when we have worked there as an organization [in a different capacity] for 8 years.

While this response came as both a surprise and disappointment to Optio after all the work that had been put into the project up to that point, it raised important questions about the needs of women in Nicaragua, and whether or not an international hotline was the best intervention to address these needs. In an attempt to answer these questions, Optio designed two different studies.

Understanding the needs of women in Nicaragua

To better understand women's level of knowledge and practice of safe abortion methods, and to establish whether there was desire to have a hotline that would provide this information, the research team at Optio put together a survey. This survey was to be administered to women in Rivas, a district with a high number of teen pregnancies and a relatively even dispersal of rural and urban residents. Had it been administered, this survey would have employed a cross-sectional design with a two-stage cluster sampling method and would have reached approximately 350 reproductive-age women (ages 18–44) in urban and rural areas. It would have been administered by a professional survey company based in Nicaragua. Unfortunately, while this survey was finalized and approved by the Internal Review Board at University of California, it was never carried out due to the project's close in early 2018.

Connecting women to safe abortion options

The most important need the Global Hotline had to fill was to connect the women who called in with safe abortion medicines and services. Optio was very confident in the abilities of the surgical abortion providers the Advisory Council members had include in the database, but ensuring women had access to misoprostol ended up being a much bigger challenge. Optio's

international partner told Optio at the start of the project that misoprostol was widely available in Nicaraguan pharmacies. Optio eventually learned, however, that "availability in pharmacies" does not necessarily mean that women can actually buy it in the quantities needed for a safe abortion, or that it would always be in stock. A local feminist organization in Nicaragua told Optio that many pharmacists who were morally opposed to abortion and knew misoprostol could be used for this purpose often required a prescription. Others would run out of misoprostol and forget to restock for months.

To test whether the average woman would be able to purchase misoprostol, Optio paid an undercover contractor in Nicaragua to visit pharmacies in two districts that had high incidences of unsafe abortion: Matagalpa and Rivas. The contractor went into every pharmacy in the district, attempting to buy 12 tablets of misoprostol for "gastric ulcers." The results of these visits were discouraging. In Matagalpa, only 2 out of 15 pharmacies had misoprostol in stock, and of these 2, none of them would sell it to the undercover contractor without a prescription. In Rivas, only 3 out of 12 pharmacies had misoprostol in stock and only 1 of the 3 would sell it without a prescription (see Figure 7 for notes on pharmacist's reactions to selling a large quantity of misoprostol to a woman).

Figure 7: Availability of misoprostol in Rivas and Matagalpa

District	**Did they have misoprostol available?**	**Did they require a prescription?**	**Notes about the visit**
Rivas	No	NA	The pharmacy clerk who looked after me was a woman. When I tried to purchase misoprostol, her gaze fixed on my belly. And with a strong voice she said, "I do not sell without a prescription. They won't sell that anywhere."
Rivas	No	NA	The pharmacy clerk who answered me was an elderly lady and her facial expression made me think she had never heard of the pills I requested,
Rivas	No	NA	The clerk who attended me was an adult man. He said: "We do not sell that anymore."
Rivas	Yes	Yes	The pharmacy clerk I spoke to was an adult woman. The first thing she asked me for was the receipt. Seeing that I didn't have one she was very annoyed: "Without a prescription, I do not sell, because the Ministry of Health has them controlled."
Rivas	No	NA	The person who treated me was a man and he replied immediately with a strong tone of voice "I do not sell!"
Rivas	No	NA	The person who treated me was a man who said,

			"I don’t have them. I do not sell it "
Rivas	No	NA	The clerk who attended me said "I do not sell it"
Rivas	No	NA	The young woman who treated me said. "We do not sell it"
Rivas	No	NA	In a very sharp way they expressed: "We do not sell that"
Rivas	Yes	No	The pharmacy was somewhat full and they treated me very kind, as if I was buying any medication they sell without a prescription.
Rivas	Yes	No	At the pharmacy he treated me with a lot discretion. It was an adult man and a young woman.
Rivas	No	NA	In a very direct way they expressed: "Mmmm.. here we do not sell.”
Matagalpa	No	NA	In the pharmacy there were four pharmacists. A young woman told me "we no longer sell it. Usually they will not sell it unless you present first the medical prescription "At the moment to leave they stayed talking to each other about my request.
Matagalpa	No	NA	The clerk who was a young woman and said that they do not sell it
Matagalpa	No	NA	The clerk who attended me It was a lady who said, "No, I don’t sell."
Matagalpa	No	NA	I was attended by a young woman who said, "we do not sell them. Those are not brought by the doctor." In the pharmacy facilities there was a sign that says “only with original prescription, not a copy.”
Matagalpa	No	NA	They do not sell it.
Matagalpa	No	NA	Attended by lady who said, "they have not been brought by the doctor."
Matagalpa	No	NA	They do not sell it.
Matagalpa	No	NA	They do not sell it.
Matagalpa	No	NA	I was attended by a lady who in a very discreet way told me that she did not sell it, however, she offered me a prospect (it was the word that used). She showed me a drug called Esomeprazole which cost 9 córdobas each. She said “this is available without a prescription. I recommend you communicate with doctor who treats you and ask him to change your medication because the misoprostol they no

			longer sell.”
Matagalpa	No	NA	They told me they do not sell.
Matagalpa	Yes	Yes	The clerk who attended me was an adult man who said: "I sell them only if you bring me a prescription. With a prescription I will sell fifty if you want."
Matagalpa	Yes	Yes	The clerk who attended me was a young woman who told me "We sell only with prescriptions". There was no way of seeing if she had the pills.
Matagalpa	No	NA	I was attended by a very kind lady who told me that she did not have it, however she had a generic called Lansoprazole which cost $ 7 córdobas each. The lady added that: "That's what we offer because they do not sell misoprostol. " He mentioned that in Pharmacy Matagalpa I would likely find misoprostol.
Matagalpa	No	NA	The person who treated me was a much older gentleman and said he didn’t sell it
Matagalpa	No	NA	The pharmacist said they don’t sell it.

The results of these visits would have resulted in the termination of the project, given that women’s ability to choose between a medical or surgical abortion was such a large part of what the pilot was testing. The only reason the project survived was that around the same time, Optio discovered an underground network of misoprostol providers. It turned out that an anonymous donor was supplying several feminist groups in Nicaragua with good quality misoprostol. Women in close proximity to these organizations knew that they could go to them if they needed an abortion. Optio staff spoke with these feminist groups, and found that they intended to continue providing misoprostol as long as it was needed. Given this new information, Optio made a decision that it would refer every woman who wanted a medical abortion to these groups, rather than to the pharmacies.

Peer Pressure

“Peer pressure,” or fear of the Global Hotline competing with or threatening the work of several NGOs working in the same space, also impeded the Global Hotline’s implementation efforts in a variety of ways.

International NGOs

One of the eight people approached to be on the Advisory Council decided not to join because she was concerned that the Global Hotline would take business away from her organization. Her NGO is one of the leading abortion service providers internationally, and relies heavily on the funds they receive from women who pay for abortion services. Given that

the Global Hotline would provide each caller with information on *all* of the abortion options available to them (surgical, medical, and pills by mail), and would refer women to the clinic closest to them rather than to one managed by any specific group, she was concerned about supporting a project that would indirectly take business away from her organization.

An international NGO responsible for helping local hotlines get started was very vocal with both Optio and other organizations about their disapproval of the Global Hotline from the onset. Like the original host organization in Mexico City, they felt that any effort to address unsafe abortion should be driven women from that country. Additionally, they expressed to Optio a concern that Global Hotline would "replace" local hotlines and that the small pool of donors that support safe abortion interventions would choose to support the Global Hotline over local hotlines. Despite Optio's efforts to assure this organization that the project was meant to complement the efforts of local hotlines, and that it would only be launched in countries that did not have a local hotline, they were not convinced. There is evidence that these perceptions were shared with several donors that Optio applied to for funding. It's also possible that they shared these views with the Board of the original host organization, given that they were the organization that helped launch this hotline.

Local NGOs in Nicaragua

In addition to competition between International NGOs working on projects to improve access to safe abortion, there was also competition between local organizations in Nicaragua. According to Optio's international partner, most of the "reproductive health NGOs" in Nicaragua supported abortion; however, they purposefully distanced themselves from the "feminist organizations" in the country, which had built their identity around supporting safe abortion. These feminist organizations were looked down upon by much of the country as being "too extreme," and therefore had difficulty gaining respect for any project that helped improve women's access to these services.

For this reason, Optio's international partner had specifically chosen a reproductive health organization to be Optio's local partner in Nicaragua, and had only consulted with reproductive health organizations about whether they supported the idea of the Global Hotline. The original host organization in Mexico City happened to be well connected to the feminist groups in Nicaragua, so when the Board said there had never been a clear "yes" to push the project forward, they were leaving out an entire group of organizations who had expressed a strong desire connect women with unwanted pregnancies to a hotline in another country.

Limitations

This study has a few important limitations. First, researcher conducting these analyses worked for Optio, the primary organization responsible for implementing the Global Hotline. Conducting observations from within Optio was advantageous in that it connected the researcher to people, information and knowledge that would have been difficult for someone outside the organization to access (Vindrola-Padros & Vindrola-Padros, 2018). At the same time, it is important to acknowledge that the researcher's position within the organization also

shaped the interpretation of these findings. Despite efforts to separate oneself from the data, the ethnographer will always view findings through his or her own interpretive lens, which carries with it its own set of values and biases.

The other important limitation of this study is that the Global Hotline was never actually implemented. The barriers and facilitators discussed in this chapter could only be discussed in the context of the hotline's design. There is no way of knowing the effects of these factors would have had on full roll-out, uptake or the ability of the project to actually improve women's access to safe abortion services in Nicaragua.

Discussion/Conclusions

While the Global Hotline was not fully implemented, there are many lessons that can be taken away from the process of designing and setting up the project. For example, the hotline wouldn't have been possible without certain legal and technical policies having been in place. International laws on externality override national criminal codes, which made it unlikely for the Republic of Nicaragua to be able to prosecute Optio or hotline staff members, as long as the hotline was based in Mexico City and the hotline operators were not citizens of Nicaragua. Additionally, telecommunications agreements between Mexico City and the rest of Latin America, coupled with open Internet policies in the region, made international calls inexpensive and opened the door for a VoIP operating system that further reduced the cost of the project and protected the identity of the women calling in. Other external policies, mainly foundations' general rule about funding projects only after they make it past the pilot stage, led to the fall of the project. Lack of funding forced Optio to rely on other partners to support the project's implementation in Nicaragua, and when this partnership fell through, so di the Global Hotline.

Apart from this relationship, the informal and formal partnerships that Optio formed with other organizations were, for the most part, vital to the project's design. The lawyers and Advisory Council members provided good advice on many important aspects of the project, offered referral services that were incorporated into the database, and provided both human and financial resources. Apart from being logistically necessary, the formal partnerships with the local NGOs in Mexico City and Nicaragua provided important local perspectives that guided the overall design of the project. Optio's international partner would have also been a large asset to the project, had this organization been able to carry out the roles and responsibilities they had agreed to. Cosmopolitanism, in the case of the Global Hotline, was an asset that later became an impediment. A project like this relies on many moving parts, fitting together flawlessly to form a well-oiled machine. When some parts have to be removed or altered, their synergistic effect is lost, and function is decreased greatly.

The question of whether the hotline was able to accommodate the needs of callers is still up for debate, given that Optio was never able to evaluate the project. There is also the more philosophical question of whether it's even possible for an outside organization to truly understand the situation and needs of people from a different culture/ country. The original host organization in Mexico City objected to an international organization conceiving the idea of the Global Hotline in the first place. They strongly believe that safe abortion solutions for Nicaraguan women should come from local women themselves, or from the Nicaraguan organizations already working on the issue (the feminist organizations). They also believed they

would never be able to fully understand the Nicaraguan context as well as their own, and therefore did not have the right to advise women on how/where to access safe abortion services given the potential consequences. In an attempt to answer these questions, Optio created a baseline survey to measure knowledge and practice of safe abortion methods in Nicaragua, and to understand whether women would trust an international hotline to give them this information. They also did an uncover assessment of how easy it was to get ahold of misoprostol, the results of which led Optio to change their referral strategy and to bring feminist organizations into the misoprostol supply chain.

The degree to which peer pressure, or the perceived competition between Optio and the international NGOs working in the same space negatively affected the hotline's implementation efforts is also unknown. The community of donors and NGOs working to improve women's access to safe abortion services is small, so it's possible that these organizations' negative perceptions of the Global Hotline influenced donor perspectives, and/or the decision of the original local partner in Mexico City not to host the hotline. It is also possible that these personal gripes stayed between the organizations, and that they had no effect on the outcome of the project. Furthermore, the conflict between the local Nicaraguan feminist and reproductive health organizations over "who owns the abortion space" could have been solved by incorporating the feminist groups into the referral database, or the relationship could have been further strained when they realized that they were not included in the initial decision making process about whether the Global Hotline was a good idea.

The challenges that prevented the hotline from being implemented are far from insurmountable. Given the potential benefit of reaching women in restrictive settings, this intervention still has a great deal of potential. So far, no local abortion hotline has been able to reach women on the scale that is needed to lower the number of maternal deaths and morbidity caused by unsafe abortion. There are also a large number of countries where there aren't any organizations willing to provide information about safe options to terminate pregnancy. The Global Hotline is a harm reduction strategy that could provide a unique solution to both of these problems by complementing the work of existing hotlines and filling a much-needed gap in countries without any other option.

The relative advantage of an international hotline is that it gets around the legal barriers that threaten people who provide the same information in country. Also, the cost of the intervention is relatively low. After the initial startup, the only ongoing expenses would be for the space used by the hotline, the salaries of the staff members themselves, and the fees of the telecommunications providers (Telerivit and the Mexican provider). If the number of the hotline is incorporated into existing reproductive health projects, the cost of promotion, which tends to be the largest expense for local hotlines, would be eliminated, allowing it to reach women on a much larger scale. Finally, an international hotline could easily be expanded to different contexts and countries. One the hotline is set up, all one would need to expand to another country is a local partner (or partners) with an existing reproductive health intervention that the hotline number could be added to, and the capacity to create and update a database of abortion medication and service providers.

That said, there are lessons that should be taken into consideration if another organization attempts to start up their own international hotline. Most importantly, it is vital that all potential consequences of the intervention be thoroughly assessed and evaluated.

While an organization could technically stop a pilot implementation if problems arise, there are potential costs that the implementing organization may not be able to "undo," and that would be devastating to those involved. For example, if the identities of a provider or a woman who had an abortion were somehow disclosed to the wrong people, they could easily end up in jail for an extended period of time. Also, while the lawyers involved in Global Hotline project believed it was "highly unlikely" for Nicaraguan courts to file a lawsuit against the Mexico City Hotline or Optio, this was still a possibility. There are also potential health consequences for the callers themselves. If the information given to a woman on the use misoprostol is incorrect, or if the hotline operator does not provide proper information on when to seek emergency care, that woman could end up suffering or even dying from a botched abortion.

The goal of any harm reduction strategy is to provide women with a safer option than what is currently available to them. In many countries, restrictive legal contexts force women to have unsafe abortions, which puts them at great risk of death and other forms of morbidity. An international hotline has the potential to mitigate these risks, but only if it's implemented in a thoughtful, comprehensive way. For example, there needs to be local ownership of the project. It's important that a local organization be in charge of promotion and overseeing the referral database, given their intimate knowledge of the context of abortion in their country. It's also important to meet with all of the stakeholders in the country where the hotline will be promoted. While it may be impossible to get every local organization working in this space to agree on *all* of the implementation details, it is important that the concerns of each stakeholder be at least taken into consideration.

Other important lessons to aid implementation of hotlines include a solid funding base, a thorough evaluation plan, an Advisory Council and dependable local partners. While much of the backend of the project can be carried out inexpensively, it is unwise to begin implementation until an organization has attained all of the funding necessary to carry out the project. There is only a small group of foundations in the United States that support harm reduction strategies, and even fewer that support pilot projects, so acquiring funding should be the first step to this kind of project. For an international hotline to be sustainable and to expand to other countries, a comprehensive evaluation component is also vital. Ideally, the evaluation should measure changes in knowledge and practice, at both an individual and population level (among the women who have called into the hotline and within a designated city or district).

Conclusion

This dissertation identified several important facilitators and barriers of implementing local and global hotlines for safe abortion information, as well as the strategies that have been used to overcome challenges within each context. The first chapter identifies the main barriers that local hotlines face: ensuring that women who call in have access to safe abortion medicines and services, promoting hotlines without getting shut down by the government, and procuring the resources necessary to make their hotlines sustainable. It then discusses some methods that have been used to address these challenges, including training pharmacists to give out correct information about misoprostol, setting up a rotating fund to subsidize costs for low-income women, using volunteers to staff the hotlines, and finding inexpensive loopholes in telecommunication services. The second chapter looks closely at abortion practices in Nicaragua, a country with restrictive laws and without an existing hotline. This study found that adolescent girls with higher levels of education are most at risk of terminating their pregnancies, and that being exposed to information about safe abortion through campaigns and/or telenovelas significantly affects whether a woman chooses a safe method to end her pregnancy. Finally, the last chapter uses the CFIR framework to analyze the external factors that impeded and facilitated the implementation of the Global Hotline, an intervention that attempted to apply the lessons learned from local hotlines to the Nicaraguan context, in an attempt to reach women on a large scale.

Based on these findings, there are a number of approaches that policy makers and public health professionals could use to improve women's access to safe abortion medicines and services in restrictive settings. In countries with existing hotlines, it would be most helpful to build the capacity and expand the services of these organizations by offering additional funding and support. These organizations already have a comprehensive understanding of the local context and knowledge about the women calling in. Additional funding would allow them to hire more permanent staff, build a technological base that could handle more calls, and promote their services more widely. Connecting these hotlines to universities that can help design and carry out comprehensive evaluations could also be helpful in building a solid evidence base for the value they provide in their respective countries. Depending on attitude of governments involved, it would be ideal for these hotlines to eventually be incorporated into the existing health infrastructure. Even if the abortion laws remain unchanged, providing hospital patients correct information on how to safely terminate a pregnancy and offering post-procedure care on a national scale could significantly reduce the number of maternal deaths and morbidity resulting from unsafe abortion.

In countries without existing hotlines, there is a need for creative solutions that do not put local organizations at risk. An international hotline is an example of an intervention that could be highly effective if implemented correctly. Being based in a country where abortion is legal circumvents many of the obstacles local hotlines face, making evaluation, regulation, sustainability, and wide promotion much easier to achieve. In these countries, other harm reduction strategies, including campaigns, telenovelas, and spreading information about misoprostol via word of mouth, pamphlets or flyers could also be helpful. Regardless of the strategy used, it is important that local women's groups and/or NGOs have joint ownership of project and that they are involved centrally in its design. To be an effective "harm reduction

strategy", implementers must also ensure that the benefit of these projects significantly outweigh potential consequences.

Finally, to better tailor interventions, it would be helpful to have more information on the efficacy of hotlines and other harm reduction strategies, and how they compare to one another in different contexts. It would also be interesting to see if the abortion strategies used differ by region, age or education level. Identifying the most effective harm reduction strategies, in combination with information on the best methods for implementing each of these strategies, could significantly improve NGOs' ability to improve women's access to information about safe abortion services in countries where it is illegal.

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