Abortion Complication Syndemics: Pathways of Interaction between Structural Stigma, Pathologized Pregnancies, and Health Consequences of Constrained Care

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Despite its frequent and widespread nature across diverse populations (Sedgh et al. 2012), (Bartlett et al. 2004), abortion continues to be heavily stigmatized (Cockrill and Hessini 2014), (Harris et al. 2014). Abortion-related stigma is the widespread, institutionally enforced, gender-based, cultural phenomenon in which many people share a common understanding that abortion is morally deviant or unacceptable, and that individuals who seek or provide abortions are worthy of lower regard (Cockrill et al. n.d.). The structural sources and causes of abortion stigma are myriad. Kumar et al. (2009) provide some of the clearest definitions: "Abortion stigma [is] a negative attribute ascribed to women who seek to terminate a pregnancy;" women who seek abortion come to be seen as "as inferior to ideals of womanhood" (Kumar, Hessini, and Mitchell 2009). Researchers with *The Sea Change Program* describe abortion-related stigma as something that:

a) Manifests within multiple levels of society: media; law and policy; institutions; communities; relationships between individuals; and within individuals themselves (aka "internalized stigma");
b) Is experienced through "negative attitudes, affect, and behaviors related to abortion" and "inferior status experienced by women who seek abortions or who have abortions, providers, and others involved in…care;"
c) Leads to "social, medical, and legal marginalization of abortion [and barriers to] high quality, safe…care." (Cockrill et al. n.d.)

Kumar exhorts those studying abortion stigma not to over-simplify the issue by viewing it as solely, *any negative emotion experienced or perceived in relation to...abortion, but…to identify and…examine…structural factors that interact…with both stigma and discrimination to shape access and experience* (Kumar 2013 as cited by Ostrach 2016:1). Most relevant to this chapter, we follow this directive by exploring how structural abortion stigma shapes access to abortion, constricts safe medical care, and interacts with biological aspects of pregnancy and biomedical complications of the abortion procedure itself (Barot 2011; Ostrach 2016).

The relative biomedical safety of abortion is determined and contextualized in large part by legality, care quality, and access, which are in turn influenced multi-directionally by power relationships and structural factors, including stigma (Kumar 2013). Most abortion-related deaths and serious injuries resulting from illegal and/or unsafe abortion occur in the developing world (Bartlett et al. 2004; Grossman, Blanchard, and Blumenthal 2008; Harris and Grossman 2011), particularly in countries where abortion remains heavily stigmatized, such as in many African, Latin American, and Asian countries (Ostrach 2016). In Latin America, where nearly all countries[1] completely outlaw abortion, the World Health Organization (WHO) estimates as many as 30% of deaths among pregnant women are due to unsafe (often illegal) abortion (Khan et al. 2006). This is particularly troubling in light of concerns about the Zika virus outbreak in that region and its implications for resulting pregnancy complications, fetal anomalies, and child development challenges in pregnancies carried to term (Oliveira Melo et al. 2016). Related

abortifacient medication requests from women in Latin America have measurably increased (Aiken et al. 2016) even though most women in these countries face jail-time if caught inducing abortion.

Although women access abortion at approximately the same rate worldwide with little variation by ethnicity, nationality, religion, marital status, or abortion legality (Sedgh et al. 2012)—for the millions in settings where it is illegal, unsafe, and relatively more stigmatized, relationships between stigma and safety are major contributors to poor health (Sedgh et al. 2012; Ostrach 2016). Affecting social and biomedical aspects, stigmatization of a medical procedure influences both legality and social acceptability, further affecting safety in a seemingly endless, gendered, sociopolitical feedback loop (Ostrach 2016, Purcell 2015, Kumar, Hessini, and Mitchell 2009, Kumar 2013).

As social scientists and epidemiologists increasingly document, and as even a brief glance at headlines indicates, the more stigmatized abortion is in a given legislative, geographic, social, or cultural context, the more likely it will be illegal, unsafe, or heavily restricted (Ostrach 2016, Barot 2011, Singh 2010). In this chapter, to propose a syndemic model of abortion stigma, we present specific pathways of interaction between:

1) *Abortion-related stigma*, a structural factor that produces, facilitates, and perpetuates interactions between biological and biomedical factors, increasing the risk of morbidities (resulting in deleterious reproductive health threats) and mortality (death) related to:
2) *Pathologized pregnancy*, a biological condition often socially mediated to become pathogenic when concluding (or intended to conclude) in abortion; and
3) *Abortion complications* resulting from stigmatized abortion procedures performed in interaction with socially pathologized pregnancies. Such complications include but are not limited to: acute infection (Tristan and Gilliam 2009, World Health Organization 2010), sepsis (Khan et al. 2006), bleeding, and hemorrhage (Tristan and Gilliam 2009, World Health Organization 2010, Niinimäki et al. 2009, Khan et al. 2006)—all of which can lead to death (Khan et al. 2006), uterine perforation (Tristan and Gilliam 2009), retained pregnancy tissue (World Health Organization 2010), secondary infertility (Vlassoff et al. 2008), and chronic reproductive tract infections (Vlassoff et al. 2008).

Such complications are made more likely by 'non-compliance' with post-abortion "aftercare" instructions, which may signal inability or lack of resources to adequately 'comply,' failure or inability to seek treatment for these complications, and/or later entry to care with accompanying increased risks.

This list is not meant to suggest that abortion procedures, when performed in WHO-recognized settings of clinically acceptable care, with trained and skilled providers, are inherently unsafe. Indeed, as both authors were trained to inform patients in our combined twenty-two years of abortion work, a legal or high-quality abortion is "one of the safest procedures performed, *safer than a root canal*" (fieldnotes), up to fifteen times safer than giving birth (Raymond and Grimes 2012). Conservative estimates are that about three in ten women will have at least one abortion in their lifetimes (Jones and Kavanaugh 2011), while nearly half of unintended pregnancies, in the United States at least, end in abortion (Finer and Zolna 2016). Abortion, a frequent and necessary medical procedure, by itself is not a threat. Rather, abortion *stigma*, by constraining care quality and access to safe care with all needed follow-up, is the true threat. Improving access to legal and safe abortion and reducing abortion-related stigma are recognized global public health priorities (Grimes et al. 2006, Berer 2004); stigma's primacy in shaping abortion experiences and health outcomes is widely recognized - but there is a need to

bring anthropological theory to bear in examining this confluence of people, health care, policies, and social attitudes. Notably lacking in much of the existing literature are intersectional approaches to abortion research that fully acknowledge how structured inequalities shape individual and population-level experiences with abortion stigma, safety, and access.

As introduced above, the structural context that strongly contributes to abortion becoming unsafe in certain settings, potentially resulting in biomedically and biologically deleterious health consequences from a pathologized pregnancy, is *structural stigma* that surrounds it, narrowing ways recipients can seek care for and after the procedure. It is abortion-related stigma—understood as a structural factor producing or reinforcing interactions between socially pathologized pregnancies ending in abortion and possible complications[2] of abortion, in varying contexts of safety and legality—that creates pathways of interaction increasing reproductive morbidity and mortality risk. Our proposed syndemic model goes beyond the better-known models of disease-disease interactions in adverse social conditions (Singer 2009). We extend the foundational syndemic framework to introduce a pregnancy-related stigma syndemic predicated on the interaction of particular biological and biomedical risks, within the context of an otherwise *non*-pathological biological state (pregnancy), through the widespread social sanctioning of those whose pregnancies end in abortion (Kumar, Hessini, and Mitchell 2009). A syndemic model of abortion stigma's health consequences is an important, thus far absent, contribution to strategies demanded by public health advocates to increase global access to safe, legal, unrestricted abortion, and needed to close the gap in abortion mortality and morbidity rates, which remain troublingly and unnecessarily high where abortion is most stigmatized. This expansion of syndemic theory to include a view of physiologic pregnancy as vulnerable to pathologization in the context of social stigma (whereas feminist and reproductive anthropologists have tended to defend pregnancy as a non-disease state (Jordan 1992, Davis-Floyd 2004)) echoes Everson and Ostrach's related framework for teen pregnancy stigma syndemics, elsewhere in this volume.

Unsafe abortion represents one of the greatest current threats to reproductive safety: public health estimates attribute 13% of all 'maternal' (pregnancy-related) deaths worldwide to unsafe abortion. With an estimated 225 million women reporting an unmet need for contraceptives worldwide (Singh, Darroch, and Ashford 2014), 40% of pregnancies in the developing world -- where abortion is more likely to be illegal, heavily restricted, or highly stigmatized -- are unplanned. As elsewhere, half of these pregnancies will end in abortion (Barot 2011). Unsafe abortion, estimated to constitute 49% of all abortions (Alan Guttmacher Institute 2015b), is therefore called a 'preventable pandemic' by those who study it (Grimes et al. 2006). An inability to access or fully benefit from safe abortion services and related follow-up care produces tangible threats to health (Barot 2011) and represents a considerable global health concern that a syndemic framework can help address.

There is more work to be done in examining the impact of structural abortion stigma on resulting *biomedical* aspects of constrained abortion— to qualitatively and prospectively explore how, *specifically*, stigma produces risks for health complications (Fischer et al. 2005, Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009, Vlassoff et al. 2008, World Health Organization 2010), resulting in the 13% mortality rate of unsafe abortion, and associated morbidity rates (Singh 2006). Excellent research is underway to explore how abortion-related stigma contributes to perceptions of inaccessibility, legal climates that restrict legal abortion, and so on. But more biomedical and ethnographic research is needed to understand how people who perceive abortion stigma fare

medically when seeking and obtaining abortion. Here we outline a model for identifying abortion stigma's contributions to interactions between socially pathologized *biological* pregnancies, a *biomedical* procedure, and the health consequences of constrained *care*; we also call for future prospective research.

Abortion stigma, by driving the illegality of abortion and other restrictions that reduce access to quality care, represents a structural threat to reproductive health (Ostrach 2016, Harris et al. 2014). Although abortion is estimated to be nearly fifteen times safer than carrying a pregnancy to term (Raymond and Grimes 2012), abortion stigma increases the reproductive morbidity risk of even legal, comparatively low-risk abortion by acting as a barrier to timely care (Ostrach 2016, Singh 2010). While the major complication rate for a first-trimester, legal abortion is less than half of 1% (Alan Guttmacher Institute 2016b), risks increase with each week of gestation (Harris and Grossman 2011, Jones and Weitz 2009), making stigma's relationship to delays in care-seeking directly relevant to safety.

A large number of people seek abortion (Alan Guttmacher Institute 2016a) – estimates vary from 1 in 2 to 1 in 3 women, and many people have more than one (Alan Guttmacher Institute 2015b, Weitz and Kimport 2012). While we hear about women dying from unsafe or illegal abortion in developing countries or places where it is illegal, less-acknowledged and less-studied is another issue we examine in this chapter — some people affected by abortion stigma in settings of *legal* abortion are also at increased risk for health complications of constrained abortion (Grossman et al. 2010, Fischer et al. 2005, Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009), as a result of stigma interacting with the biological state of pregnancy, which becomes pathologized through social sanctioning.

As a structural factor, even in settings of legality, abortion stigma affects whether people can obtain abortion in a timely manner (DePiñeres, Baum, and Grossman 2014); adhere to aftercare instructions to avoid deleterious health complications (Harris 2012), and seek needed follow-up care if complications do occur (Shellenberg et al. 2011, Kumar, Hessini, and Mitchell 2009, fieldnotes). Perceptions of abortion-related stigma or discouragement from seeking care can affect willingness to disclose having had an abortion (Shellenberg et al. 2011, Kumar, Hessini, and Mitchell 2009) with implications for obtaining medical care for rare but possible complications from legal abortion (such as acute infections and prolonged bleeding) (Singh 2010) and the ability to adhere to aftercare instructions intended to prevent those complications (Kumar, Hessini, and Mitchell 2009). Abortion stigma represents a socially constructed and biomedically risky public health threat worthy of exploration from biomedical *and* structural perspectives.

Based on our more than twenty combined years working in abortion clinics and with abortion referral and funding hotlines, and the first author's approximately thirty-five interviews with abortion clinic workers in her own research (Ostrach 2014b, Ostrach and Cheyney 2014), and currently underway), we each observed firsthand with patients, and heard from fellow providers, that women who report perceiving more abortion stigma seem more reluctant to return for follow-up appointments and seem less likely to have followed aftercare instructions if they do return to the clinic with complications from legal abortions. In discussions with fellow clinic workers, some shared with us observations that patients who appeared more concerned about being stigmatized for having an abortion are reluctant to seek care for complications. We include our auto-ethnographic perspectives on these topics throughout the chapter.

Women with a wide range of opinions and beliefs about abortion seek it (Bankole, Singh, and Haas 1999) -- unplanned or ill-timed pregnancies affect all who can become pregnant. Worldwide rates of pregnancy have more to do with unmet need for contraceptives than with beliefs about abortion or with attempts or ability to avoid abortion need (Singh, Sedgh, and Hussain 2010). Providers report that, of patients who do return for follow-up care, those who are more concerned about being stigmatized for having sought an abortion may wait until their bleeding or signs of infection are '*really bad*,' (so bad they can no longer ignore it), before returning to the clinic, while women less affected by stigma may be more inclined to call or come in at the first sign of anything out of the range of normal (as directed by the aftercare instructions). Here stigma's tendency to feed a damaging feedback loop becomes painfully evident, as providers express frustration or impatience with patients who 'wait too long' to come back for follow-up, arriving at the clinic with prolonged bleeding, retained uterine tissue requiring a repeat suction procedure, or a preventable infection now requiring stronger antibiotics. In some providers' views, obscuring structural factors, a woman who had been more 'compliant' with her aftercare instructions, or called sooner at the first sign of a complication, could have avoided the need for further treatment. Though it could be presumed that some avoidance of follow-up care is due to cost, at least in the United States and in most countries with public health systems, follow-up appointments are free or included in the cost of the initial abortion. A sense that patients in need of simpler, easier, complications management avoided returning until the needed follow-up became more challenging and time-consuming (but still free) seemed to be part of what frustrated clinic workers with whom we worked (fieldnotes).

Prospective research to ethnographically evaluate the impact of abortion-related stigma on women's aftercare compliance, and on complications risk, is overdue. In the meantime, understanding precisely *how* abortion stigma contributes to reproductive morbidity through an abortion stigma syndemic can offer a nuanced understanding of reproductive health risks.

Methods

From January to July 2015, the first author conducted ongoing literature searches for each of the following terms in scholarly, social science, and health research databases[3]: "*stigma abortion complications*," "*abortion stigma trimester*," "*abortion stigma follow up*, " "*abortion stigma aftercare*, " and "*trimester complications*."[4] She scanned the literature found, closely read publications related to the research foci (stigma, abortion safety, aftercare, and/or complications) engaging in an iterative process of re-reviewing publications found more than once under these search terms or in more than one database, closely re-read outliers, and consulted with the second author to discuss the literature's implications for the syndemic model. We looked closely at literature that explored or suggested links between abortion-related stigma and biological and medical aspects of abortion safety, care, sequelae, and reproductive morbidity risk. The first and second authors also reviewed literature from their fields (medical anthropology and public health, respectively) and relevant publications by the *Sea Change Program*[5] and *Advancing New Standards In Reproductive Health.* With this information, we developed *a syndemic model of interactions between abortion stigma, socially pathologized pregnancies ending in abortion, and biological/biomedical complications and health consequences*. Our model is visually represented in Figure 1.1 and delineated in the discussion section – we refined it through an iterative process of discussion and collaborative analysis that lasted over a year. During the writing process, if a pathway of interaction required further evidence, we conducted a focused search to identify further sources. For each biomedical health risk resulting from the pathways of interaction proposed in our model, we conducted a subsequent literature search during the final revision

process, to provide examples. Throughout, we include relevant data from our own encounters with patients and co-workers (in our 22 combined years of abortion work with seven clinics in three states and two countries, and with three abortion funding and referral hotlines) and from nearly 35 interviews with abortion providers (conducted by the first author in other research (Ostrach and Cheyney 2014, Ostrach 2014a, Ostrach 2014b), to auto-ethnographically illustrate the interactions we identified in the literature search.

Health Consequences and Contexts of Abortion Stigma

Social scientists increasingly examine connections between abortion illegality, restrictions, attitudes toward sexual and reproductive health, and safety (Greene Foster and Biggs 2014, Biglia and Olivella-Quintana 2014). The need to unpack poorly understood relationships between the frequently conflated terms 'illegal' and 'unsafe' in research and epidemiological measurement is gaining recognition (Ganatra et al. 2014, Gerdts et al. 2015). Because our chapter focuses heavily on the effects of abortion stigma on legality and safety, we begin with a brief introduction to the discourse differentiating these two conditions. Ganatra (2014:1) explains,

The World Health Organization (W.H.O.) defines unsafe abortion as a procedure for terminating a pregnancy performed by persons lacking the necessary skills or in an environment not in conformity with minimal medical standards,[6] or both… immediate determinants of the risks of an induced abortion…are influenced…by underlying social determinants: i.e. the legal context, the availability of safe abortion services, the level of stigma surrounding abortion, the degree of women's access to information on abortion, and a woman's age and socioeconomic status. The legal context and the level of safety are closely intertwined, but the association is context-specific…where restrictive laws are liberally interpreted, women can receive safe care in certain contexts; conversely, where liberal laws are poorly implemented, women sometimes abort with delay and under unsafe conditions. Thus, illegal abortion is not synonymous with unsafe abortion… the safety of abortion must be considered within both the legal and legally restricted contexts.

If it were as simple as "illegal = unsafe," then public health and legislative efforts to make all abortions legal might suffice. As significant an undertaking as that could be, it still would not address all dimensions of abortion safety or guarantee full, universal access to safe, easily obtainable abortion. Abortion's safety is influenced by the context in which services are obtained; contextual factors include both legal permissibility and the clinical environment. These nuances highlight the need for the context-sensitive lens offered by an anthropological perspective on abortion stigma's health effects.

Because the concepts of *illegal* abortion and *unsafe* abortion have long been conflated in research and policy work, much of the literature we reviewed did not differentiate between the terms. As a result, even our discussion here cannot always adequately do so. This is a limitation of existing research on the health effects of abortion stigma, and further bolsters the case for clarifying how stigma mediates relationships among abortion legality, safety, and accessibility.

Kumar and co-authors (2009) provide a crucial framework for understanding abortion-related stigma as a structural factor in access. They define it as an extension of Goffman's 1963 use of the term stigma/stigmatized to describe 'spoiled' or 'tainted' identities. Referring to women having abortions, Kumar et al. (Kumar, Hessini, and Mitchell 2009) write,

… abortion stigma… is a social phenomenon… constructed… as a negative attribute ascribed to women who seek to terminate a pregnancy that marks them, internally or externally, as inferior to ideals of womanhood... (pg. 628).

The stigma comes not from *who* such women are (anyone with a uterus may at some point in time need an abortion[7]), but from the medical procedure they seek. Abortion stigma affects not only patients who undergo it, but the procedure itself, and those who provide it or support a patient seeking it. As we argue, the negative attribute Kumar and co-authors describe is socially constructed as an inherent expression of a person's agency whereby s/he rejects the societal and cultural expectation to carry a particular pregnancy to term. The negative attribute attached to someone seeking or obtaining an abortion is extended to the procedure itself, to those who provide it or support the person seeking it, to all aspects of the process – implicitly characterizing abortion provision as 'dirty work' (Wolkomir and Powers 2007). Abortion stigma's influences on the structural and medical aspects of abortion legality and safety, and the resulting consequences for reproductive health, are a topic of research worldwide. Researchers and providers have begun paying more attention to abortion stigma's impacts on access, patients, and policy (see (Cockrill and Nack 2013), (Cockrill et al. 2013b), (Weitz and Kimport 2012)). The focus of this social science research explores how stigma shapes popular and legislative positions in ongoing debates about abortion legality, criteria for being allowed to obtain an abortion, gestational limits, facility requirements, health system coverage of the procedure, and other social and legal aspects.

Though legal abortion is very safe (Bartlett et al. 2004), risks associated with second- or third-trimester abortion are greater compared to first-trimester abortion (Harris and Grossman 2011, Grossman, Blanchard, and Blumenthal 2008). Statistical risks of abortion complications increase with each week of gestation, even in settings where abortion is legal and safe — highlighting the public health value of reducing delays and addressing *all* social, structural, and biomedical factors influencing access to care. Stigma-related delays add even more risk for those facing greater abortion restrictions, since risks associated with illegal or unsafe abortion similarly increase with each week (Gebreselassie et al. 2005). For example, in Ghana, which unlike many African nations (Ostrach 2013) legalized abortion in the first trimester, researchers nevertheless documented an unexpected number of deaths from clandestine, second-trimester abortions (Payne et al. 2013). Qualitative interviews suggested stigma played a role; some assumed abortion was illegal, did not or could not find legal providers in the first trimester, and obtained riskier illegal and/or unsafe care (Payne et al. 2013). The researchers recommended reducing stigma and increasing awareness of the availability of legal abortion—mirroring similar findings in Europe and Asia, and public health policies internationally (Ostrach 2013, Barot 2011). Even in contexts with some access to legal abortion, a dynamic array of structural and biological factors – whose entanglement functions to pathologize pregnancies, constrain care, and influence biomedical outcomes – poses serious risks to health and produces deleterious consequences, as a result of stigma.

In another stark example from a country ostensibly with safe and legal abortion services, people in the United States have been arrested (and sometimes sentenced to prison) after a stillbirth or late miscarriage, on charges of feticide or illegally self-inducing an abortion (Paltrow 2015, Rowan 2015). One U.S. woman recently died of septic infection after attempting to self-abort a 21-week pregnancy with a coat hanger (Saultes, Devita, and Heiner 2009). As this death, which we discuss in more detail later, occurred in a state with full Medicaid coverage for abortion, few legal restrictions, and second-trimester abortion services in several large towns (fieldnotes), we suggest this self-abortion attempt may have been a consequence of stigmatized

discourse surrounding second-trimester abortion, or even due to an assumption that a later abortion was illegal.

Even after a pregnant person has taken the steps to seek legal abortion, stigma contributes to delayed or denied abortion and aftercare by underpinning some health professionals' refusal to care for abortion patients (Fiala and Arthur 2014). Refusal of care is currently addressed by a patchwork of laws that vary across the states and countries where abortion is officially permitted (Johnson Jr. et al. 2013, Grady 2006, Marshall 2016). As a result, in some international jurisdictions a public hospital may be required by the health ministry to offer abortion services and resort to paying for the regular cross-country travel of a single willing provider, as is the case with gynecologists in Uruguay (EtShalom 2015). In others, individual professionals have argued in court they were within their rights in refusing not only to assist in abortion procedures but also to refuse to manage or work with staff who do, as occurred with midwives at a public hospital in Scotland (BBC News 2014). Elsewhere, nurses in New Jersey (U.S.) refused to care for an abortion patient after her procedure (Stein 2011), potentially increasing the patient's risks for complications.

Based on our auto-ethnographic research, we can add to such broad-strokes stories the conundrum of a clinic worker in Louisiana who described to the second author how her clinic is not able to stock both of the two drugs required by the Food and Drug Administration for a medication abortion, nor identify a nearby pharmacy whose staff will reliably fill a prescription for the one they do not stock (both must be taken within a specific number of hours to be effective). In fact, this clinic worker told the second author that some of her patients mention at follow-up appointments that pharmacy workers refused to fill their prescriptions for *any* medications upon seeing that the prescription originated from the abortion clinic— including prescriptions for antibiotics to prevent post-procedure infection. The first author heard many similar stories about difficulties obtaining prescribed antibiotics at notoriously anti-abortion pharmacies in Oregon -- even in cases when additional medication was needed for ongoing signs of infection or other post-abortion complication symptoms. Thanks to structural abortion stigma embodied and enacted by health care professionals beyond the oversight of the abortion clinic itself, patients are delayed in carrying out the safest recommended procedures, observing aftercare precautions, or following recommendations to treat recognized signs of infection, as well as exposed to unprofessional discrimination in healthcare.

The spillover effects of such abortion stigma may endanger those who have not even sought abortion. In clinics and on abortion hotlines, we find abortion stigma contributes to and is exacerbated by persistent myths and misconceptions about certain commonly prescribed medications (Shoveller et al. 2007) including the "morning-after pill" (emergency contraceptives that inhibit ovulation); ergonovine, a smooth-muscle constrictor that aids in restoring uterine muscle tone; misoprostol (used similarly to ergonovine in a range of post-pregnancy situations including hemorrhage, and to induce a pharmacologic miscarriage in medication abortion) as well as lingering prejudices about people who use any of these medications -- whether for abortion, abortion complications, labor and delivery complications, or other reproductive health treatments (Shoveller et al. 2007). Such stigma-driven, potentially dangerous, ideas underlie the trend of consumers denied time-sensitive access to emergency contraception (Shoveller et al. 2007), or the news about a woman in Georgia whose potentially critical life-saving miscarriage treatment was delayed by an anti-abortion pharmacist (Carmon 2015).

These individuals recount the harm done to them primarily in terms of the emotional impact of stigma, though in our syndemic analysis, the encounters also directly increased their

risk of biomedical harm from (undesired) pregnancy, which constitutes a greater risk than an abortion, or infection following incomplete miscarriage. Yet perhaps the collateral harm done to these other, unintended victims is perfectly unsurprising, as Kumar (et al. 2009) reminds us of abortion stigma's threat to mark any person who has failed to live up to the idealized functions of womanhood, with "successful" reproduction high on that list.

Reinforcing the need to examine stigma's role in health outcomes, morbidity and mortality from unsafe and often illegal abortion (Vlassoff et al. 2008:1):

An estimated 66,500 women die annually from complications of unsafe abortion, and a much greater, and largely uncounted, number suffer morbidity. Furthermore, an estimated 7.4 million disability-adjusted life years are lost annually as a result of unsafe abortion, and each year 1.6 million women suffer secondary infertility and 3–5 million experience chronic reproductive tract infections.

Structural, Biological, and Biomedical Pathways of Interaction

Here we outline known and likely pathways of interaction between biological, biomedical, and structural factors mentioned. We present the role of abortion stigma in contributing to or causing deleterious biological/biomedical interactions and resulting health risks (Figure 1.1).

Pregnancy as an entry point for stigmatization & pathologization

In this syndemic, and in other research on abortion stigma (Cockrill and Nack 2013), (Kumar, Hessini, and Mitchell 2009), pregnancy, an otherwise *non*-pathological biological state, is socially pathologized when the person whose body within which it biologically occurs seeks or obtains an abortion. This occurs in contexts of structural and symbolic violence where women's rights and agency to determine their own bodily autonomy and reproductive destiny are systematically marginalized (Farmer 2004, Morgan and Roberts 2012, Boonstra and Nash 2014, Ginsburg and Rapp 1991).

Like other pregnancies pathologized due to assumptions about the pregnant person's social status or economic standing, a pregnancy intended by the person in whose body it occurs to end in abortion becomes socially contested, with repercussions for medical care (e.g. Everson 2015, Collins and David 2009)). This is seen in: adolescent pregnancy, which inspires widespread cultural judgments about who should have children and when; Black women's pregnancies, accepted as medically higher-risk for preterm labor and low birth weight without thorough discussion of the structural reasons for this; older women's pregnancies, often assumed to be the result of assisted reproductive technologies and constructed as higher-risk; and trans men's pregnancies, an understudied topic until now given more attention in tabloids than in reproductive health studies.

Hotly contested in debates over state restrictions (Boonstra and Nash 2014), portrayed in media in ways that make women's bodies and pregnancies sensationalized public property (Joffe 2010), and subject to capricious legal restrictions and insurance rules (Roberts et al. 2014), pregnancy ending in abortion is framed as something other than a temporary biological state or physiologic pregnancy like any other. Several categories of pregnancies have historically been *more* stigmatized to begin with: those of women of color, adolescents, women in poverty, and/or unmarried women. All of these groups are statistically more likely to seek abortion services, and to encounter barriers to abortion (Ostrach and Cheyney 2014, Greene Foster et al. 2008, Boonstra and Nash 2014). Overlapping categories of stigmatized pregnancies highlight the intersectional nature of social inequalities impacting reproductive (in)justice.

Pathologized through stigma resulting from gender role expectations and biologically reductionist views that diminish women who opt not to carry a given pregnancy to term (Kumar, Hessini, and Mitchell 2009), pregnancies concluding in abortion become the first biological factor in the mechanisms of interaction between abortion-related stigma and resulting physical sequelae resulting from the inability to obtain a safe abortion, and/or to properly adhere to aftercare measures to prevent or treat complications. Neither pregnancy nor safe abortions inherently constitute a health risk. However, the stigmatized nature of a pregnancy ending in abortion results in the social construction of a pathological pregnancy from which deleterious reproductive harm may result. When reproductive harm does occur, sufferers are blamed for the negative outcomes, compounding abortion stigma's connection to health consequences, such as in the documented cases of low-quality care and delayed treatment for women in post-abortion and septic wards (Mayi-Tsonga et al. 2009, León, Billings, and Barrionuevo 2006).

Societal stigmatization of women's constrained decision-making about reproduction perpetuates a cycle of abortion stigma with social, biological, and medical effects (Cockrill et al. 2013, Kumar, Hessini, and Mitchell 2009), reinforcing what anthropologist Marcia Ellison (2003) characterizes as structural violence shaping reproductive agency. Through pathways of structural-biological-biomedical interaction, these dynamics constitute an abortion stigma syndemic. By preventing or reducing deleterious pathways of interaction, addressing abortion-related stigma will improve chances that those needing abortion will be able to obtain (and comply with aftercare instructions to ensure) the safest procedures and recovery possible.

[FIGURE 1 ABOUT HERE]

To explain each of the pathways presented in Figure 1.1 we propose links represented by multiple overlapping structural layers and describe resultant downstream risks for health complications, each of which we present with supporting literature and auto-ethnographic data. Throughout the chapter, we discuss these layers in relation to each other rather than in the (artificially) separated manner of the figure, but for the sake of explaining our syndemic model we introduce each of the pathways separately.

Elements of Figure 1.1

Pathologized pregnancy

The circle enveloping the other elements represents the biological state of pregnancy, pathologized through the socially constructed abortion-related stigma, which, in interaction with health complications resulting from constrained abortion affected by stigma, results in deleterious health complications including infection (acute and chronic), sepsis, bleeding, hemorrhage, uterine perforation, secondary infertility, and even death (Fischer et al. 2005, Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009, Vlassoff et al. 2008, World Health Organization 2010). Through a syndemic relationship with abortion-related stigma, the non-disease state of pregnancy becomes socially pathologized and biomedically risky, producing risks for serious health issues that would not otherwise affect it.

Structural abortion-related stigma

The darkest gray box at the top of the diagram and corresponding dark gray arrows convey the structural factor driving this syndemic: social sanctioning expressed through abortion-related stigma (Kumar 2013). Abortion-related stigma has a bidirectional relationship with unsafe and lower-quality abortion, wherein stigma towards pathologized pregnancies ending in abortion affects care quality by, for example, discouraging providers from working in the field of abortion (Freedman et al. 2010) and limits access to safe and high-quality care by contributing to the

increasing passage of state-level restrictions on facilities that provide abortion (Alan Guttmacher Institute 2015a); lower quality abortion care contributes to stigma, feedback loop with biomedical health consequences (Ostrach 2016, Kumar 2013, Barot 2011). Abortion-related stigma has a bidirectional relationship with restrictions and outright prohibition (illegal abortion), contributing to legal and social climates in which abortion is restricted or outlawed; contributing to a perception that abortion is worthy of being stigmatized. Stigma toward abortion and fear of disclosing an abortion may reduce compliance with aftercare instructions (Harris 2012) intended to reduce the risks of biomedical health complications from the abortion procedure. Structural stigma results in delays in being able to receive care, increasing the likelihood that someone may receive later abortion care, with associated greater risks for complications (Harris and Grossman 2011). Stigma results in a desire not to disclose having an abortion (Shellenberg et al. 2011), which can interfere with someone's ability or willingness to seek biomedical follow-up care for infections, bleeding, or other health consequences of interactions between pathologized pregnancies and stigmatized abortion care.

Unsafe/low quality abortion; legal restrictions

The dark gray boxes with white writing and corresponding arrows indicate a structural layer of interaction among abortion-related stigma, legal restrictions on abortion, and outright prohibition of abortion which directly contributes to unsafe, lower quality abortion (Barot 2011, Bartlett et al. 2004, Jones and Weitz 2009). Relationships between restrictions and safety are bidirectional, with restrictions leading to public perception that abortion is either so dangerous as to require heavy regulation or so deviant as to merit prohibition (Kumar, Hessini, and Mitchell 2009), and abortion restrictions leading to care that is in fact harder to obtain and/or less safe (Banerjee, Andersen, and Warvadekar 2012). Legal restrictions have the dual effect of steering some people toward clandestine and/or self-induced abortion *and* contributing to reluctance to seek follow-up care for complications (Saultes, Devita, and Heiner 2009, Grossman et al. 2010). Constraints on legal abortion also result in delays in being able to receive safe clinical care (Grossman et al. 2014), by creating onerous barriers to providers' entering or remaining in practice, requiring patients to undergo multiple visits and waiting periods, or indirectly increasing the costs of care such that patients must spend more time preparing financially. Such delays in care lead to greater risks (Harris and Grossman 2011) and include deleterious health consequences from biomedical complications of procedures performed for socially and structurally pathologized pregnancies (Kumar, Hessini, and Mitchell 2009).

Delayed care & reduced compliance with aftercare

The lighter gray boxes with black writing and corresponding arrows indicate how abortion-related stigma as a structural factor contributes to women obtaining abortions later in a (pathologized) pregnancy (Jones and Weitz 2009, Harris and Grossman 2011) with increased risks for deleterious health complications including infection, sepsis, bleeding, hemorrhage, uterine perforation, retained placental or fetal tissue, cervical laceration, secondary infertility, and even death (Fischer et al. 2005), (Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009, Vlassoff et al. 2008, World Health Organization 2010, Grossman, Blanchard, and Blumenthal 2008). Unsafe or lower quality abortion, structurally produced and reinforced by abortion-related stigma, directly contributes to increased risks for complications (Fischer et al. 2005, Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009, Vlassoff et al. 2008, World Health Organization 2010, Kumar, Hessini, and Mitchell 2009). This delayed care, and reduced compliance with aftercare as a result of structural stigma, also leads into the ultimate

result of an abortion stigma syndemic, increased risks for deleterious health complications (as delineated throughout this chapter), and ultimately, increased reproductive morbidity and mortality.

Avoiding follow-up care for health complications; Increased risks for health complications

The lightest gray box and arrows, and the white box, illustrate the specific deleterious health consequences of avoiding routine aftercare or seeking follow-up care for suspected complications as a consequence of stigma, and of the overall health risks of interactions between pathologized pregnancies, constrained abortion, and the structural and biomedical/biological relationships between factors. Reluctance or inability to follow aftercare instructions, due to stigma, increases risks for complications : infection, sepsis, bleeding, hemorrhage, uterine perforation, retained placental or fetal tissue, cervical laceration, secondary infertility, and even death (Fischer et al. 2005), (Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009, Vlassoff et al. 2008, World Health Organization 2010). When abortion-related stigma contributes to legal restrictions or prohibition -- pathologizing pregnancies intended to end in abortion -- risks for biomedical complications increase . This can contribute to avoiding treatment for resulting health consequences of interactions *between* pathologized pregnancy and stigmatized biomedical care. Such interactions contribute to reproductive morbidity and mortality.

The various overlapping, intersecting, and additive relationships between the syndemic factors graphically represented in Figure 1.1 are further presented in detail in the following sections, with supporting literature and auto-ethnographic accounts.

Abortion stigma, safety, and care quality

Links between abortion stigma and lack of access to safe and timely care are well-known and well-documented (Ostrach 2016, Harris and Grossman 2011, Kumar, Hessini, and Mitchell 2009). Here we briefly reiterate immediate risks for reproductive morbidity and mortality that result from the restriction of practical access to safe abortion, through stigma. Abortion stigma can predict the likelihood of a wide variety of complications (Singh, Sedgh, and Hussain 2010, Mayi-Tsonga et al. 2009). Widespread abortion stigma contributes to women in much of the world having access only to clandestine or unsafe abortion, with accompanying risks for infection, sepsis, hemorrhage, and death (Khan et al. 2006, Vlassoff et al. 2008, World Health Organization 2010, Barot 2011,Grimes et al. 2006). In countries where women have no option for either legal or safe abortion, abortion stigma directly contributes to morbidity and mortality from the pathologization of ill-timed pregnancies that may end in unsafe abortion (Barot 2011,Grimes et al. 2006).

Stigma-driven abortion restrictions & prohibition

Even in countries where abortion is legal but heavily restricted especially in later weeks of gestation, such as the United States (Alan Guttmacher Institute 2015a), and many countries in Europe (Chełstowska 2011, Worrell n.d.a), (Worrell n.d.b), those who cannot access legal services may self-induce an abortion (Grossman et al. 2010), or seek clandestine care (Delicia 2002, Grimes et al. 2006). People concerned about abortion stigma and/or legality may use herbs, pesticides, other toxins, off-label drugs, or direct physical trauma to terminate a pregnancy and avoid being seen entering a clinic or approaching a provider with an abortion or referral request (Shellenberg et al. 2011, Grossman et al. 2010, Worrell n.d.c, Saultes, Devita, and Heiner 2009, Nyblade, Edmeades, and Pearson 2010). Self-induction or use of clandestine care occurs in

settings where stigma contributes to assumptions that abortion is illegal, restricted, or not publicly funded, even where it is available (Ostrach 2013). When performed without adequate information or support, clandestine methods can result in serious health consequences (Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Khan et al. 2006, Vlassoff et al. 2008, World Health Organization 2010). Self-induction and other clandestine methods, with greater health risks, have increased in some areas as abortion becomes more heavily restricted harded to obtain, especially in (Southern) parts of the U.S. facing rapid escalation of restrictions targeting free-standing abortion clinics (Alan Guttmacher Institute 2015a, Gerdts et al. 2016, Grossman et al. 2014). Abortion stigma contributes to increasing clinic closures and abortion restrictions (Martin 2013) – we propose this is bidirectional.

Abortion stigma compels women to rely on higher-risk abortion practices, resulting in dangerous biological and biomedical interactions between pathologized pregnancies and constrained abortion, in part through the reality and perceptions about clinic closures that result from stigma-driven and stigmatizing laws (Saultes, Devita, and Heiner 200), Gerdts et al. 201), (Khan et al. 2006, Vlassoff et al. 2008, World Health Organization 2010), and even news coverage of these laws. In a particularly chilling instance, Saultes et al. (2009) documented a case of a woman dying of septic shock after self-performing an abortion with a wire coat-hanger. This happened in Washington, where abortion is legal, covered by Medicaid, and where second-trimester services (which she would have needed) are available (fieldnotes). Based on our auto-ethnographic experiences in the field of abortion care, this death occurred in the context of a time when many U.S. patients, nationally, sought care while aware of news stories about clinic closures stemming from stigma-driven abortion restrictions. A woman in Tennessee faced recent charges of attempted murder for using a wire coat hanger in similar fashion attempting to self-induce a 24-week abortion (Kaplan 2015). In the wake of Texas's then-tightening of abortion restrictions, facilitated by and contributing to stigmatizing abortion rhetoric, resulting in the closure of more than 20 clinics statewide, the Texas Policy Evaluation Project collected data from at least 100,000 women reporteding attempts to self-abort, often through potentially dangerous means (Kaplan 2015). Though the Texas restrictions were challenged in court and overturned by the Supreme Court in mid-2016 (Domonoske 2016), closed clinics do not necessarily reopen. When stigma hinders access to legal, high-quality abortion, and motivates risky self-surgery, how likely is it that someone will seek appropriate biomedical follow-up care in the event of injury or infection, when faced with the threat of criminal charges?

Stigma as deterrent to seeking treatment for complications

Perhaps most threatening to health and far less studied, perceived stigma can act as a deterrent to seeking treatment for abortion complications (Singh 2006) in settings of legal and illegal abortion. Internationally, women appear to delay seeking care for complications from unsafe abortion more than for other pregnancy-related complications (Mayi-Tsonga et al. 200), Nyblade, Edmeades, and Pearson 201), Grimes et al. 2006), increasing the risk of death; acute infections can progress to sepsis, bleeding can progress to hemorrhage (Khan et al. 2006). The World Health Organization offers recommendations to primary care facilities worldwide on stocking a supply kit for basic reproductive health needs – including aftercare and follow-up medications and instruments for 'common' complications of unsafe and illegal abortion, among them infection, hemorrhage, and retained tissue -- conveying an assumption that care will be needed such complications from illegal or unsafe abortion (World Health Organization 2010).

Abortion stigma affects which providers people are willing to visit, particularly in international settings where women may seek care from clandestine providers who offer lower

quality abortion and post-abortion care, under conditions of greater secrecy (Banerjee, Andersen, and Warvadekar 2012, Grimes et al. 2006). When the degree of stigma experiences structurally determines the quality of care obtained, producing interactions between pathologized pregnancies and constrained biomedical care, this endangers reproductive health and exposes recipients to risks for infection, bleeding, and other complications (Fischer et al. 2005, Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009, Vlassoff et al. 2008, World Health Organization 2010).

In one memorable auto-ethnographic case of stigma affecting both access to care and subsequent ability to receive follow-up care for apparent complications from an abortion, the first author (Ostrach) vividly recalls one of her first clients on an abortion referral and funding hotline in western Oregon, founded in the wake of an abrupt clinic closure that left a large region of the state with no abortion providers for several years. One of the earliest calls came from a Spanish-speaking woman in her 40s. The woman, whom we refer to as "Guadalupe," told the first author (hereafter "I"), then the only bilingual volunteer, she had no transportation to get from her home several hours from where the hotline was based, to a clinic. I explained her options were to arrange to travel about an hour north to one of several clinics in the state's largest city that offered first-and second-trimester care, with bilingual staff, and some funding assistance, -- or travel a half hour to a nearby small clinic with only first-trimester care and more limited appointment availability, that would also require she bring her own translator. I assumed she would try to go to one of the northern clinics -- the clinic nearest Guadalupe had a reputation among hotline volunteers (most of whom had worked in area clinics for many years), for providing substandard care.

Guadalupe told me she needed to go to the closer clinic despite its limitations, because she could not tell her husband or anyone except her teenage daughter about her need for an abortion. She thought going somewhere closer would make it easier to conceal her appointment. Guadalupe did not want her trip out of the small town where she lived to be noticed – a shorter trip was less risky. When she eventually told me she had no way to arrange her own transportation, our small group of hotline volunteers agreed I could drive her. I was dismayed to notice from the moment of our arrival at the smaller clinic that this facility did little to de-stigmatize the process. Guadalupe was barely acknowledged during the check-in process; the faxed voucher from our hotline organization to pay for her care had been misfiled (had I not been there to verify her coverage she would have been charged full price). Though several clinic staff spoke Spanish, Guadalupe was spoken to almost solely in English.

During the abortion procedure, the nurse, wearing wore a large crucifix around her neck, turned to Guadalupe and said, in Spanish (the only time she directly addressed Guadalupe or spoke to her in Spanish), "*it's okay, God will probably forgive you, as long as you don't have* another *abortion.*" With all my own training to provide unbiased, supportive, patient-led care in mind, I was nearly speechless. In that moment, lying on the exam table, after the nurse's presumptuously stigmatizing remark, Guadalupe turned her face toward me and began to recount an earlier, illegal abortion she obtained in Mexico as a young woman. She described how her cervix had been manually dilated with an unsterile metal instrument, on someone's kitchen table, and then a short length of garden hose was passed into her uterus and left in place until a miscarriage began. Guadalupe described the infection and bleeding that followed -- all told to me while her legal abortion in the U.S. was performed just a few feet from our conversation by clinic staff who acted like we were not there. She told me how pleasantly surprised she was to successfully carry *wanted* pregnancies to term, later. When we reached the recovery room that

day and a different nurse told a still-sedated Guadalupe what signs of infection or excessive bleeding to look for (in English, as I translated), I idly wondered, thirteen years before first drafting this chapter, how likely she would be to call this clinic where someone had spoken to her in such a stigmatizing way, if she did experience any complications again.

Later that night, Guadalupe was home (before her husband or other family members arrived), and I called to see how she was. She described strong cramps and bleeding as heavy as a period. I reminded her this could be normal in a first-trimester abortion and suggested comfort measures -- a heating pad, and ibuprofen. When she left a message on the hotline much later that night, sounding worried, I called again –she described passing blood clots "*the size of lemons*," a sign of possible retained uterine tissue that (most) clinic workers are trained to take seriously. I encouraged her to call the clinic, assuming they would have an after-hours number for emergency care. She could not understand the outgoing message; I called the clinic myself, shocked to find no option to page an on-call provider, or reach an answering service. The outgoing message was only in English. I tried to leave a message for anyone on-call, mentioning a patient from that day experiencing heavy bleeding, cramping, and passing clots, and left both the hotline number and my personal cell. I did not get a call back that night, nor in the days that followed; I kept calling frequently, day and night, never able to reach anyone in my attempts to arrange Guadalupe's follow-up care. Instead, I coordinated between Guadalupe and an unaffiliated primary care clinic serving primarily Spanish-speakers in her town, to request alternate care to evaluate her for suspected retained tissue – a rare but possible complication of legal abortion. Guadalupe was extremely nervous that going anywhere else for follow-up would reveal she'd had an abortion (Shellenberg et al. 2011). And that one 'free' health clinic in her town would not waive the appointment fee – apparently, checking for post-abortion infection was not "primary care." Though Guadalupe was feeling better when I spoke to her for the last time a few months later, I wonder to this day what stigmatizing effects the whole experience had on her, and on her teenage daughter's perceptions of abortion safety (personal journals).

This auto-ethnographic from one of the author's early days working in abortion provision heartbreakingly illustrates how structural stigma—affecting access, attitudes of providers, and as perceived by Guadalupe herself—interacted with the biomedical complications of the constrained care she received, such that when she experienced excessive bleeding and likely retained tissue (Tristan and Gilliam 2009), it was difficult to seek follow-up care -- compounding and prolonging deleterious health consequences. The stigma she feared and encountered likely contributed to difficulty in finding appropriate follow-up care for her apparent abortion complications -- worsening her suffering.

Crisis Pregnancy Centers as a visible marker of stigma affecting access and follow-up

In the United States (Bryant et al. 2014), increasingly in other countries where abortion is legal but stigmatized, and where anti-abortion movements are growing (fieldnotes), unregulated "crisis pregnancy centers" run by anti-abortion organizations engage in misleading advertising and coercive 'counseling' practices (Bryant et al. 2014). Such centers disseminate inaccurate medical information (Bryant et al. 2014, Bryant and Levi 2012) posing public health threats (Rosen 2012). Not inspected or held to any standards by county or state health departments or boards (as are professional medical facilities), these centers routinely operate next door to legitimate reproductive health clinics (Margo et al. n.d.) and make a point of buying or renting storefront or driveway space next to or near existing abortion clinics, confusing patients attempting to attend a scheduled abortion appointment (Everitt 2015, Margo et al. n.d.). Such biased non-medical facilities advertise free pregnancy tests, ultrasounds, and options counseling,

performed by workers wearing scrubs or other medical apparel (Rienzi 2009). Yet crisis pregnancy centers, with names chosen to appear alphabetically in phonebooks just above local abortion providers, engage in discouraging tactics designed to talk women out of having a wanted abortion, ultimately delaying abortion when wanted (Greene Foster et al. 2008, Rienzi 2009).

Though limited or no research on direct links between visiting a crisis pregnancy center and subsequent compliance with abortion aftercare instructions or care-seeking for any abortion complications yet exists, a concern among providers is that some whose pregnancies are confirmed at a crisis pregnancy center (the staff of which then discourages them from seeking care elsewhere), may be experiencing life-threatening ectopic pregnancies, a situation in which the lack of medical training of crisis pregnancy center staff could directly result in a missed opportunity to diagnose a serious pregnancy complication (Koenigsmark 2015). Auto-ethnographically, in our experience as abortion counselors and medical assistants in clinics and on hotlines, we also found that women who had been to a crisis pregnancy center or received misleading information before their abortion from a biased anti-abortion website (or from protesters outside the clinic) seemed more hesitant to call a doctor or return to the clinic in the rare cases when bleeding, cramps or signs of infection persisted following a legal abortion procedure. This is as an unsurprising but dismaying effect of the abortion stigma syndemic and warrants further prospective research.

Abortion stigma and medication abortion

In one study (Henshaw et al. 2008), those with more dangerous complications including infections, sepsis, and injury following illegal abortion had also been farther along in pregnancies and/or attempted to self-induce, illustrating the bidirectionality of structural stigma in constraining the quality and timing of care available for pathologized pregnancies, increasing risks for complications.

Another particularly worrisome complication if left untreated, 'incomplete abortion' or retained tissue is seen more often following a medication or pharmacologic abortion, in which a woman takes a series of medications (typically mifepristone followed at certain intervals by misoprostol, or simply misoprostol taken at timed intervals) to halt fetal development and induce a miscarriage (Grossman, Blanchard, and Blumenthal 2008, Akin, Kocoglu, and Akin 2005). Retained tissue or an incomplete abortion can lead to infection or to a continuing (nonviable) pregnancy (Grossman et al. 2004). Medication abortion is known to carry slightly higher risks for complications (Upadhyay et al. 2015, Ireland, Gatter, and Chen 2015), particularly infection and sepsis. In one study, medication abortion had a four-fold higher risk for complications including retained tissue and hemorrhage (Niinimäki et al. 2009). Prior to the current much-safer alternate regimen used by most providers in the United States (Ashok et al. 1998), an earlier medication abortion protocol that directed women to insert misoprostol tablets vaginally (thereby potentially introducing bacteria near the cervix or uterus) is thought to have resulted in several *Clostridium sardelli* infection deaths (Fischer et al. 2005) among medication abortion patients in the U.S., Canada, and France. Among some abortion providers in Europe, there is increasing concern that the wider availability of medication abortion and reduced availability of surgical abortion is contributing to a stigmatization of surgical, and thus second-trimester, abortion (fieldnotes) – which is actually safer in later weeks of gestation.

Among providers, there is discussion of the increased need for women receiving medication abortions to monitor the amount and length of bleeding, signs of infection or retained tissue, and of continuing pregnancy (E. Singer and Ostrach 2017). As clinic workers, we were

extensively trained to screen potential medication abortion patients based on whether or not they would return for follow-up and stay in contact regarding signs and symptoms of infection. Abortion providers increasingly offer this method that requires multiple visits, medications to be administered at home, and self-monitoring of bleeding and tissue passed. Close analysis of any social or structural factor that influences likelihood, ability, or willingness to follow aftercare instructions and follow-up protocols will be critical to maintaining current low complication and high safety rates of legal abortion -- especially medication abortion, which carries higher risks. Such an analysis could also be used to ensure that self-administered medication abortion, clandestinely attained in settings where women cannot otherwise access high-quality care, can be made as safe as possible by informing the efforts of groups like *Women on Waves* to distribute information about safely using medication abortion pills, and what to watch for in terms of complications, even in less-than-legal contexts.

Complications of medication abortion such as infection, hemorrhage, and retained tissue (Niinimäki et al. 2009, Grossman et al. 2004) documented more often with the increasing use of these methods in settings of self-induction where clinics are closing as a result of stigma or in settings of illegality/restrictions, draw our attention to the public health importance of women feeling fully able to comply with aftercare instructions and return to a high-quality care provider for follow-up care in the event of complications, or to have another way to access high-quality post-abortion care (Greenslade et al. 1994) unimpeded by structural stigma. Given that women who feel more stigmatized about seeking an abortion are less likely to disclose their abortion intention (Shellenberg et al. 2011), the implications of this for those concerned about or more affected by abortion stigma who obtain a medication abortion but experience possible complications such as infection and bleeding (Niinimäki et al. 2009) are worrisome. If the desire not to disclose having had an abortion (Shellenberg et al. 2011) deters women from seeking follow-up care, structural stigma perpetuates serious syndemic health consequences of interactions between a pathologized pregnancy and the biomedical aspects of constrained abortion. That said, providers in settings with high rates of abortion mortality (such as in countries where abortion is illegal or otherwise hard to obtain) report that pharmacologic options used for medication abortion offer a less-stigmatizing avenue for treating post-abortion complications, as women can discreetly take pills at home rather than being seen going to a hospital or clinic for uterine aspiration (Osur et al. 2013).

While complications are rare for legal and high-quality abortion (especially the earlier in a pregnancy the abortion is obtained), the dangers of complications from abortion performed in clandestine or unsterile environments are greater (Barot 2011, Mayi-Tsonga et al. 2009, Grimes et al. 2006). Feeling unable or unwilling to seek care for abortion complications due to illegality and stigma, and the real or perceived lack of accessible health facilities equipped to give this care, constitute a real danger worldwide. All of these risks for interactions between biological pregnancy, socially pathologized by circumstance and physically endangered through lack of access to safe care, further compounded by difficulty obtaining follow-up and treatment for infection and other complications, are all driven by structural stigma.

Worldwide, structural, biomedical, and biological interactions between stigma, pathologized pregnancy, constrained abortion, and resulting deleterious health consequences contribute to disastrous reproductive morbidity and mortality rates, increasing the harrowing health burden of unsafe and inaccessible abortion (Barot 2011, Grimes et al. 2006). Multiple syndemic pathways of interaction pose biological and biomedical risks for those who have difficulty accessing, or who experience any of the described complications from, abortion.

Syndemic interactions between biological and biomedical factors occur and persist as a result of structural stigma that constrains optimal care.

Stigma and later entry to care

Health complication rates for legal abortion are low overall, and the absolute risks of high quality clinical abortion continue to decline (Grossman et al. 2004). Yet stigma increases risks for complications even in abortion care provided under clinical guidelines, if it causes people to experience delays in obtaining care, or to avoid seeking needed follow-up care (Sedgh et al. 2016). Risks for complication such as bleeding, infection, uterine perforation, and retained tissue (DePiñeres, Baum, and Grossman 2014, Waddington, Hahn, and Reid 2015) are greater in later stages of pregnancy, with the risk of death, in particular, increasing with each week of pregnancy (Grossman, Blanchard, and Blumenthal 2008). Clinic workers and abortion researchers report those who perceive or display greater levels of abortion stigma appear to seek abortion services later in pregnancy, and more often in the second trimester (Harris and Grossman 2011, Harries et al. 2007), which bears out in our experiences working in abortion settings. These stigma-related delays syndemically increase risks for rare but serious complications of legal abortion (Grossman et al. 2008) including bleeding, infection, and retained tissue (Tristan and Gilliam 2009), and for greater risks from later procedures, illegal, and unsafe abortion such as infection leading to sepsis, bleeding leading to hemorrhage, chronic reproductive tract infection, cervical laceration, secondary infertility, and death (Khan et al. 2006, Vlassoff et al. 2008, World Health Organization 2010, Waddington, Hahn, and Reid 2015, Barot 2011).

Beyond the scope of this literature review but deserving of further study, there is some evidence that openly anti-abortion medical providers and other institutional representatives may further contribute to structural expressions of abortion stigma by directly preventing or delaying people from obtaining a wanted abortion (Ostrach and Cheyney 2014, Cockrill and Nack 2013)—embodying abortion stigma and enacting civilized oppression (Harvey 1999) even within structures that ostensibly exist to provide care. Women report that the stigmatized nature of abortion may prevent or delay them from obtaining services by interfering with needed referrals (Harris et al. 2014), or affecting their comfort in asking their regular Ob/Gyn about terminating a pregnancy (Weitz and Cockrill 2010). Abortion stigma can interfere with asking about routine medical care such as an ultrasound or blood test, required in many states before terminating a pregnancy because of state-level legal restrictions and potentially resulting in delays that produce unnecessary, avoidable, biomedical risks associated with obtaining later care.

Because stigma delays women into the second trimester of a pregnancy while seeking care (Norris et al. 2011), and risks for the health consequences of complications are greater in later weeks of pregnancy (Grossman, Blanchard, and Blumenthal 2008), the issue of stigma and second trimester (or otherwise later) abortion is crucial to public health (Jones and Weitz 2009). The relationship between structural stigma, pathologized pregnancies, and constrained care is bidirectional, as second trimester abortion procedures, those who seek them, and providers who offer this care, are all more heavily stigmatized compared to first trimester abortion (Norris et al. 2011). This is variously attributed to misogynistic and culturally constructed notions about the primacy of fetal 'life,' biologically reductionist gender roles, maternal obligation described as beginning at conception, and abortion being characterized as 'dirty work' (Taylor 2008, Kumar, Hessini, and Mitchell 2009, Wolkomir and Powers 2007, Norris et al. 2011). Second-trimester abortion is thought to be less concealable, and more graphic or emotionally evocative of fetal 'life' or the potential for life (if the pregnancy were to continue), than are earlier procedures in which only a cluster of cells or an embryo, but not yet a developmental fetus, is seen on

ultrasound or by clinic workers (Kumar, Hessini, and Mitchell 2009, Norris et al. 2011). However, these ideas do not in fact change women's minds about pursuing abortion for a given pregnancy, when they have already made their decision.

Stigma-laden legal restrictions have imposed ultrasound-viewing requirements at U.S. clinics (and elsewhere), to deter women from continuing on to abortion. Yet, at any gestation, only a tiny percentage (primarily those who described themselves as unsure in their decision) hesitate to abort after viewing the yolk sac, embryo, or fetus on ultrasound (Gatter et al. 2014). Women seeking care are aware of the disproportionate stigma toward second-trimester and later care – as clinic workers and abortion researchers, we often heard women say they felt pressured to obtain care in the first trimester, or received more harassment from people in their lives over attempts to undergo later care, even when their need for such care was precisely caused by delays in seeking care related to structural barriers (fieldnotes, Ostrach and Cheyney 2014).

Providers express anxiety about greater risks for deleterious health consequences from second-trimester and later procedures, and discuss with each other the importance of later abortion recipients monitoring bleeding and signs of infection or retained tissue -- indicating that if stigma deters women from doing so this would compound the very real worries providers have. Both authors attended a national meeting of abortion providers in the U.S. where skills-sharing and evidence-based practice are emphasized, in particular at a popular session held each year to update and train physicians and clinic staff who offer second-trimester and later abortion. We recall the good-humored but deeply understanding chuckle, followed by a profound sigh, that rippled through the room when a second-trimester session speaker began his remarks by saying, "*Hello, I'm ****, and I have complications*!" (personal journals).

The speaker went on to describe successful clinical management of several cases in which women had been delayed until well into the second trimester, presented with complex abortion needs, and then experienced various complications requiring careful monitoring and skillful attention. The opening joke belied how tense such situations can be for committed providers, who feel responsible for patients' outcomes. They must trust that their patient, facing a larger society that structures abortion as a highly stigmatizing experience, will nevertheless remain in contact with the clinic to give updates on her progress and symptoms as they (hopefully) resolve. When abortion stigma is deployed politically to restrict the legality, availability, and accessibility of second trimester (or later) abortion, making care less safe, while simultaneously functioning to prevent women from finding information to access earlier, safer care, the result is a set-up for patients *and* providers. Its worst victims are those delayed into later gestation, when care is harder to obtain and complications more likely. Those most at risk for delays and obstacles are backed into a sociopolitical corner: because of structural abortion stigma, they need a highly contested and riskier procedure that is more stigmatized; and then have greater relative difficulty obtaining it, at increased risk for stigma-driven health consequences of the later care they had to seek. This is not a reason to restrict second-trimester abortion, but rather to de-stigmatize, expand access to, and ensure the safety of, *all* abortion.

Abortion stigma increases the likelihood that some women will need later care, while simultaneously making it harder to obtain later care (Harris et al. 2014, Ostrach and Cheyney 2014, Harries et al. 2007). On both sides of this equation, a pregnancy that biologically does not otherwise carry any particular medical risk may come to pose a socially shaped and biomedically interacting health risk, as someone is pushed into a later trimester of pregnancy while delayed from obtaining a timely abortion due to stigma. This produces tension and stress for women seeking care and for providers (Harris et al. 2014, Ostrach and Cheyney 2014, Harries et al.

2007) and creates structural-biological-biomedical interactions with deleterious health consequences.

Abortion stigma and a related lack of social support appear highly correlated with need for second-trimester abortion, or with delays that result in this need (Harris et al. 2014, Ostrach and Cheyney 2014, Harries et al. 2007). A particularly insidious strain of abortion stigma in popular discourse characterizes women who have later abortions as being somehow at fault for not getting to a clinic sooner, despite ever-increasing restrictions and consistent delay factors (Boonstra and Nash 2014, Weitz and Yanow 2008) that actually make access difficult. Women are damned if they do, and equally damned for *not* doing, sooner. Abortion stigma makes it more likely women will need later abortions, and more likely they will have difficulty obtaining later care (Harris et al. 2014, Ostrach and Cheyney 2014, Harries et al. 2007) — constructing a landscape of constrained care. In this double-edged way, structural stigma affecting pathologized pregnancies and constraining care exposes recipients of later abortions to greater risks that this needed later care will result in complications: increased bleeding, hemorrhage, retained tissue, and infections (DePiñeres, Baum, and Grossman 2014, Waddington, Hahn, and Reid 2015) — and the same stigma may deter women from seeking care for these consequences (a dynamic discussed in another section).

Where stigma-related delays and barriers to obtaining legal or more-accessible first trimester abortion prompt women to seek clandestine second-trimester care, or to self-induce, the graver relationships between stigma, pathologized pregnancy, and often-deadly biological and biomedical health consequences of infection, hemorrhage, and sepsis contribute to women's mortality worldwide (Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Khan et al. 2006), (Vlassoff et al. 2008, World Health Organization 2010, Grimes et al. 2006). Viewing this as a vicious cycle of structured and intersecting social, biological, and biomedical risks is precisely what is meant by a syndemic perspective.

Stigma and non-compliance with abortion aftercare

Abortion stigma impacts willingness to disclose abortion-seeking, potentially interfering with the ability to get an abortion and/or follow-up care (Ostrach and Cheyney 2014, Cockrill and Nack 2013, Shellenberg et al. 2011, Kumar, Hessini, and Mitchell 2009). While little research has been conducted to examine the phenomenon closely, we propose that structural stigma can also impact ability to engage in self-care steps (Paul et al. 2011) typically recommended for a period of time immediately after an abortion (such as taking prophylactic antibiotics, monitoring amount of bleeding and cramps, avoiding assumed infection risk factors such as vaginal penetration and swimming, etc.), increasing risks of complications in yet another way. No less an expert than long-time abortion provider and anthropologist Dr. Warren Hern (now one of the only surviving physicians openly providing late second-trimester and third-trimester abortion in the U.S.) began writing several decades ago about the importance of establishing clear aftercare and follow-up plans with abortion patients to minimize risks of complications (Hern 1994). However, if a patient avoids following abortion aftercare instructions because doing so reminds her that she had an abortion for which she felt stigmatized (Greene Foster et al. 2012), or for fear of unintentionally disclosing (Shellenberg et al. 2011) (if, for example, someone sees the clinic-provided aftercare instruction sheet with the word 'abortion' on it, or the packet of antibiotics, menstrual pads, or other related supplies), this could increase risks for rare but possible complications (Tristan and Gilliam 2009).

Both authors noticed in years of abortion work that women who seem more affected by abortion stigma appear less able or willing to closely follow aftercare instructions given to

encourage the avoidance of rare but possible complications of legal abortion (Tristan and Gilliam 2009). Women who report more stigmatizing attitudes toward abortion nevertheless obtain abortions (Ostrach and Cheyney 2014), as unintended or ill-timed pregnancies affect all women, and large percentages of women worldwide have an unmet need for contraceptives (Barot 2011)—religious and personal beliefs do not strongly influence abortion rates (Greene Foster et al. 2012). We conclude those more affected by stigma are at greater risk for complications such as infection, sepsis, bleeding, hemorrhage, secondary infertility, and death (Fischer et al. 2005), (Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Tristan and Gilliam 2009, Khan et al. 2006, Niinimäki et al. 2009, Vlassoff et al. 2008, World Health Organization 2010, DePiñeres, Baum, and Grossman 2014, Waddington, Hahn, and Reid 2015), through pathways of interaction between structural stigma, pathologized pregnancies, constrained care, and difficulty complying with aftercare. Based on combined twenty-two years of abortion provision and research, we observed that part of this equation includes those who seemingly internalize their experiences of abortion stigma by not following aftercare instructions, increasing their risks for complications such as infection or prolonged bleeding. Rigorous research on this aspect of our syndemic model is urgently needed.

Women who present for care seemingly more affected by abortion stigma may arrive at later gestations (Rowlands 2014), increasing risks for complications in another way (DePiñeres, Baum, and Grossman 2014). We each encountered many patients over the years who returned for follow-up care for the most common complications of legal abortion -- infection and prolonged bleeding or retained tissue (Tristan and Gilliam 2009) -- apparently suffering with them for without returning for follow-up or calling for phone counseling for weeks at a time, or even months. Each of us can recall times when we asked a patient, for example, "*why did you wait so long to come back if you were having [cramps… bleeding that lasted more than two weeks… not having a period after a month… etc.]?*" only to have a woman recount a story about a partner, family member, or anti-abortion protester who gave her such a hard time about having an abortion in the first place that seeking follow-up meant facing harassment all over again. We remember times when patients told us they had not taken prophylactic antibiotics recommended and provided to prevent infection, because having them around meant risking someone who had initially stigmatized them for seeking an abortion being reminded of it, or someone who had not known about the abortion finding out by seeing the packet of pills (personal notes).

Much existing literature on the efficacy of aftercare instructions and follow-up protocols puts the onus on abortion patients to be aware what constitutes a 'range of normal' bleeding and other signs and symptoms following surgical and medication abortions, emphasizing that patients must call or return to a clinic if they suspect a problem (Grossman et al. 2004). Research on unsafe abortion acknowledges the importance of reducing abortion stigma to increase the likelihood that women will seek post-abortion care (Faúndes 2012). Such research, however, increasingly also calls for consideration of alternative, less time-consuming strategies such as telephone follow-up, at-home pregnancy tests to rule out continuing pregnancy, or drop-in follow-up hours at clinics rather than scheduled appointments (Grossman et al. 2004) —more realistic options in settings lacking access to legal abortion. All of these strategies could prove more convenient for patients, but might not fully address the issue of stigma, where that is the factor deterring people from monitoring their symptoms or feeling safe keeping aftercare instructions, which clinic workers often note is a very real concern in situations of intimate partner violence or for young patients who live with their parents.

Implications for the links between stigma and effects on interactions between pathologized pregnancies and biomedical complications of constrained abortion in the context of ability to comply with abortion aftercare instructions also return our attention to the issue of crisis pregnancy centers and public health threats (Rosen 2012). Just as women who receive stigmatizing and false medical information from a crisis pregnancy center (Bryant and Levi 2012) may be less likely to seek follow-up care for biomedical complications such as infection or bleeding, this abortion stigma syndemic may manifest in the form of women who have visited such centers feeling less empowered to follow aftercare instructions intended to prevent complications.

'Crisis pregnancy centers' often operate near abortion clinics or high schools (Everitt 2015), targeting young women and other vulnerable individuals who seek abortion at higher rates, falsely claiming that legal abortion will inevitably damage future fertility, cause breast cancer, or result in mental illness (Bryant and Levi 2012, Rosen 2012). We propose this has lead to a normalizing of the idea that a legal abortion might be *expected* to be followed by medical complications, and cause an abortion patient to ignore an amount of bleeding or cramping that clinician-provided, evidence-based, abortion aftercare instructions would advise her is *not* in fact normal and means she should seek care. We argue that a woman who might otherwise monitor symptoms and seek follow-up care after an abortion when faced with excessive bleeding, cramping or other symptoms, if previously told by a biased pregnancy center that the abortion would do her irreparable harm, might pay less attention to the clinic-provided aftercare instructions and be influenced more by the stigma-driven misinformation.

If exposed, online or in person, to stigmatizing anti-abortion myths promoting the idea that abortion will cause harm (Bryant and Levi 2012), a person may be less inclined to heed aftercare instructions that indicate a scientifically reliable range of normal symptoms, in biomedical terms. Weitz (2010) describes abortion stigma as contributing to unrealistic expectations about abortion. In the context of abortion aftercare, women may expect recovering from abortion to be worse than it needs to be, clinically speaking, as compared to the perspective of abortion providers who are familiar with the actual percentages of various complications and how they can be managed, based on stigmatized and inaccurate views of the procedure to which they have been exposed by crisis pregnancy centers (Bryant et al. 2014).

In one study of medication abortion regimens taken at home (Elul et al. 2001) most women took the second of the two doses in the presence of a male partner. Though medication abortion regimens are an imperfect proxy for post-abortion medications, this suggests social support may mitigate some effects of stigma on the ability to follow an abortion aftercare protocol at home. Though echoing findings (Ostrach and Cheyney 2014) that social support in general helps women overcome obstacles while accessing abortion, this has not been widely explored in the context of biomedical aspects of abortion. Whether women are as motivated to pay close attention to instructions for aftercare following a completed abortion as they are to instructions mid-abortion (in the case of medication abortion) warrants further study.

The issue of stigma affecting someone's ability to follow aftercare instructions is the area of our proposed syndemic least illuminated in existing literature – here lies the greatest need for prospective research. We did encounter this phenomenon directly in our own work with abortion patients, and heard about it from many fellow abortion clinic workers in other research, underscoring this aspect of the syndemic as an area ripe for ethnographic exploration.

Conclusions & Recommendations

Each of the pathways of interaction we present overlap and intersect in a myriad of ways, additively increasing morbidity and mortality. Someone in a country with heavily restricted or low-quality abortion, as a result of structural stigma, may be less able to access safe abortion in the first trimester, ultimately obtaining care in the second trimester or later -- facing greater risks for complications such as infection, hemorrhage, and retained tissue, and resulting reproductive morbidity. Where someone is able to obtain safe, early abortion, but perceives a high degree of stigma and does not or cannot follow the aftercare instructions, they may be at greater risk for preventable or easily treatable complications such as infection or prolonged bleeding. Someone who perceives abortion stigma may avoid seeking follow-up care for complications such as infection, bleeding, hemorrhage, cervical laceration, or secondary infertility, increasing severity or long-term effects. A person affected by structural stigma, which pathologizes the pregnancy seek to terminate, attempts to obtain abortion in the context of constrained care and may have difficulty finding a provider because of stigma-linked legal restrictions, lack of skilled or high-quality providers, or a reluctance to disclose the need for an abortion -- obtaining care later in pregnancy, with greater risks for deleterious health consequences (Harris and Grossman 2011). In another important pathway of interaction, a woman who obtains lower-quality or unsafe care, when legal or high quality abortion is unavailable due to restrictions and stigma, may in turn perpetuate and contribute to societal abortion stigma by speaking negatively about her abortion experience (Kumar, Hessini, and Mitchell 2009). A myriad of other possible combinations of the structural, social, biological, and biomedical factors in our proposed syndemic can interact in many ways to deleteriously affect reproductive health, through the pathways shown in Figure 1.1, and likely many others as yet unstudied.

In each of these scenarios, the multiple and multi-directional pathways of syndemic interaction between structural abortion stigma, socially pathologized pregnancies, constrained abortion, and biologically and biomedically interacting health consequences of abortion complications such as infection, sepsis, bleeding, hemorrhage, or other acknowledged physical harm resulting from stigma-driven risk factors, are evident, additive, and inextricable. The possible short- and long-term sequelae of these interactions are diverse, multi-directional, and complex, demonstrating the need for nuanced ethnographic and prospective syndemic analyses of each of the structural settings and biological features of this newly identified syndemic.

In all of these situations, abortion-related stigma facilitates and reinforces a structured biological and biomedical dynamic in which those in need of abortion and/or abortion follow-up care may be delayed in or prevented from safely obtaining it. As Purcell (2015) discusses in the context of the sociology of abortion, abortion stigma motivates those affected to avoid face-to-face contact with medical providers. Abortion stigma can affect people at different points in their care process and interfere in a variety of their efforts: when they are initially seeking an early abortion, which is likely to have a much lower risk of complications (such as bleeding and acute infection which are quite rare but possible (Tristan and Gilliam 2009), when they are attempting to fully complying with medically based, unbiased aftercare instructions (Paul et al. 2011), or when they are deciding how to handle symptoms of complications (whether the rare but possible complications from high-quality abortion, mentioned above, or the frequent, dangerous complications from illegal, unsafe, or self-induced abortion including chronic infection, hemorrhage, sepsis, and even death (Saultes, Devita, and Heiner 2009, Gerdts et al. 2016, Khan et al. 2006, Vlassoff et al. 2008, World Health Organization 2010)). In each instance, reproductive morbidity and mortality risks increase for those facing structural stigma, through consequential relationships among biological and biomedical aspects of pathologized

pregnancies, and in interaction with health consequences from stigmatized and constrained medical procedures.

Together, these interactions produce a greater burden of biologized stigmatization in the form of preventable abortion complications and health consequences. This is no indictment of abortion when performed safely in settings without legal restrictions and with proper access and support. This syndemic framework instead reconfirms and supports existing public health and policy efforts to expand reproductive justice and facilitate the practical ability of all people to obtain safe, legal, high quality abortion as needed worldwide, to lessen the devastating international burden of reproductive mortality and morbidity (Barot 2011, Ostrach 2016).

Even when abortion is legal, it is not always accessible or safe. Even when it is legal and accessible, those who perceive abortion stigma may feel less able to obtain care, comply with aftercare, or seek follow-up for complications. Abortion does not need to be stigmatized, illegal, restricted, unsafe, or inaccessible. Complications do not have to occur more often for certain populations. Abortion stigma need not result in a higher burden of reproductive deaths and injury. As providers, policymakers, and researchers, we already know how to make abortion safe and accessible. Recognizing, confronting and reducing abortion stigma may be the final piece of the structural equation to fully address abortion safety.

To do so means addressing structural abortion stigma at all levels of law and attitudes, and in the context of abortion provision itself. This requires clinicians, policymakers, and organizers to reduce stigma in the realm of services, aftercare instructions, and access to follow-up care, and to tackle it in popular culture and consciousness, before patients ever arrive at the clinic, or search the internet or their neighborhoods for clandestine means. Policymakers cannot concern themselves only with law, ignoring social attitudes; abortion providers and researchers cannot concern ourselves only with protocols and aftercare instructions, ignoring social contexts that patients embody as they sidle nervously through clinic doors flanked by shouting protesters. Abortion stigma becomes biologized and carried in people's bodies, along with pregnancies they seek to terminate, producing biological and biomedical risks for the deleterious health consequences of interactions between pathologized pregnancies, constrained abortion procedures, and biomedical health complications including infection, bleeding, infertility, and even death.

Until structural abortion stigma is acknowledged and addressed as a risk factor that interacts with biological features of pathologized pregnancy and biomedical aspects of abortion, abortion safety will be compromised -- increasing complications and ensuing health consequences. Syndemics offers a framework to think about how structures of society, the arguably more intractable elements of a medical context, are unavoidably biologized in medical settings. Until we take to heart the syndemic lessons of how abortion stigma is translated into risks for delayed and denied access, reduced ability to comply with aftercare, and reluctance to seek follow-up care -- increasing biological and biomedical risks, we can only ever address part of this overlapping and intersecting reproductive morbidity and mortality challenge.

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[1] With the exceptions of Cuba, Puerto Rico, Colombia, and the Distrito Federal in Mexico. A few other countries in the region technically allow the procedure to save a pregnant woman's life, but with unclear rules for executing this bypass process (Ostrach 2016). Recent news accounts suggest Chile might soon reconsider some of its abortion restrictions as well (Reuters 2015).

[2] Including acute infection, sepsis, bleeding, hemorrhage, uterine perforation, retained tissue, secondary infertility, chronic reproductive tract infection, and even death (Fischer et al. 2005), (Saultes, Devita, and Heiner 2009), (Gerdts et al. 2016), (Tristan and Gilliam 2009), (Khan et al. 2006a), (Niinimäki et al. 2009), (Vlassoff et al. 2008), (World Health Organization 2010).

[3] GoogleScholar, AnthroSource, and PubMed; and related, more focused searches in the Alan Guttmacher Institute publication archives.

[4] Because of the acknowledged conflation between the terms "illegal" and "unsafe" in the literature described below, neither term was used in our search, but rather simply the term "abortion."

[5] A social science research organization, funded by the Tides Foundation, which specifically examines effects of abortion stigma on women and providers.

[6] The World Health Organization publishes guidelines for safe abortion provision, most recently in 2012 (World Health Organization 2012), which run to well over 100 pages and thus are difficult to summarize. In short, providers should be trained, well-equipped, and able to provide the most appropriate procedure (surgical vs. medication, vacuum aspiration vs. dilation and evacuation) and other supportive measures to ensure safety, with prophylactic antibiotics if possible, following a proper estimate of gestation beforehand.

[7] Out of respect for calls to address gender inclusivity in reproductive justice movements we acknowledge that any person born with a uterus may become pregnant and find themselves in need of abortion care. Our use of the terms "woman" and "women" throughout this chapter admittedly confirms the gender binary and reaffirms heteronormative constructions of pregnancy and reproductive health, much to our chagrin. We considered using terms such as, "persons who become pregnant," "persons with uteruses," and so on, but also acknowledge that such inclusive language can become clunky or make readability challenging. We ask the reader to please be aware that wherever the text says "women" or "woman" we also mean any individual with a uterus who may find themselves pregnant when they do not wish to be.

Additional Note

We thank Stefan Ostrach for his feedback on an early design of the schema, and John Duke, Freddy-May and Rima AbiSamra, and Jordon Ostrach for their patience during various stages of the writing process. We are grateful to the volume co-editors Shir Lerman and Merrill Singer for the clarifying questions and suggestions.