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Shannon Broere Date

How We Talk When We Legislate on Abortion: A lexical analysis of ten severely restrictive state's statutes regulating abortion

By

Shannon Broere
Masters of Public Health

Hubert Department of Global Health

_____ [Chair's signature]
Evans, Dabney P.
Committee Chair

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By

Shannon Broere

Bachelor of Arts

New York University

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Thesis Committee Chair: Dabney P. Evans, PhD, MPH

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Abstract

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By Shannon Broere

Abortion discourse is often broken into simplified paradigms – choice and life, fetus and baby, mother and woman. Terms commonly used by either side of the public abortion debate find their way into court documents, legislative debates, and state regulations on abortion. The purpose of this study is to characterize the language used in ten states with severely restricted access according to NARAL Pro-Choice America and, by doing so, gain an understanding of how anti-choice language shapes legislation regulating abortion. This study will build on the existing literature by combining the methods of several pieces of previous literature (lexical analysis and abortion legislation itself). Ten states with severely restricted access to abortion from all geographic regions of the United States were selected. These state codes were then analyzed using a qualitative lexical analysis inquiry and a thematic analysis design. Four thousand one hundred twenty-two segments were auto-coded using the lexical search analysis before refining the data. Of these 4,122 unrefined auto-coded segments, 3,835 were anti-abortion, and 251 were pro-choice. Three major themes were present. First, state statutes regulating abortion contain medically inaccurate or disputed information. Second, pregnant people are identified and valued based on their gender as "female" or their ability to parent. Finally, voluntary informed consent is a tool to redirect people away from abortion care. Inclusion of medically inaccurate and disputed information – such as psychological effects of abortion, abortion reversal, and fetal pain – about abortion is harmful and perpetuates false ideas about abortion. The sole use of the term "mother" as a descriptor for a pregnant individual seeking an abortion places cisgender women into the box of motherhood. This language also excludes pregnant-capable groups, like transgender men and non-gender-binary individuals. Restrictive abortion regulations place a heavy burden on those seeking abortion and invade their privacy. Abortion providers, abortion advocates, and pro-choice legislators should continue to push for the revision and repeal of severely restrictive abortion laws and shift the discourse on abortion to be inclusive of all pregnant-capable people.

Abstract:
Abortion discourse is often broken into simplified paradigms – choice and life, fetus and baby, mother and woman. These terms are commonly used by either side of the public abortion debate. These terms are found in court documents, legislative debates, and state regulations on abortion. The purpose of this study is to gain an understanding of how anti-choice language shapes legislation regulating abortion. This study will build on the existing literature by combining the methods of several pieces of previous literature (lexical analysis and abortion legislation itself). Ten states with severely restricted access to abortion from all geographic regions of the United States were selected. These state codes were then analyzed using both a qualitative lexical analysis inquiry followed by a thematic analysis design. A total of 4,122 segments were auto-coded using the lexical search analysis before refining the data. Of these 4,122 unrefined auto-coded segments, 3,835 were anti-abortion auto-coded segments and 251 pro-choice segments. Three major themes were present. First, state statutes regulating abortion contain medically inaccurate or disputed information. Second, pregnant people are identified and valued based on their gender as "female" or their ability to parent. Finally, voluntary informed consent is used as tool to redirect people away from abortion care. Inclusion of medically inaccurate and disputed information – such as psychological effects of abortion, abortion reversal, and fetal pain – about abortion are harmful and perpetuate false ideas about abortion. The sole use of the term "mother" as a descriptor for a pregnant individual seeking an abortion places cisgender women into the box of motherhood. This language also excludes pregnant-capable groups, like transgender men and non-gender-binary individuals. Restrictive abortion regulations place a heavy burden on those seeking abortion and invade their privacy. Abortion providers, abortion advocates, and pro-choice legislators should continue to push for the revision and repeal of severely restrictive abortion laws and shift the discourse on abortion to be inclusive of all pregnant-capable people.

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Literature Review:

A literature review was completed in order to determine the breath of information currently available analyzing anti-choice language and legislation regulating abortion. Google Scholar was searched using relevant search terms: “lexical analysis abortion”, “anti-choice legislation”, “lexical analysis abortion law”, “abortion law discourse”, and “anti-abortion discourse.” This search yielded hundreds of results however, not all were relevant to this study. Studies that were not relevant did not include analysis of language. Few studies analyze anti-choice legislation itself. [15, 20, 27] Several studies analyze anti-choice discourse more generally [21, 25, 32-34]. Studies analyzing anti-choice discourse were largely conducted outside the US. [20-25] These studies highlighted similarities between anti-choice ideology present in the US, Canada, Latin America, and Europe. In particular, language used to describe pregnant individuals seeking an abortion and the fetus was strikingly similar across studies. Much of the existing literature that involved lexical analysis studied discussion of abortion on social media cites or on news outlets. [20-24] These studies underscore the importance of social mobilization and public opinion in relation to legislation regulating abortion. Additionally, these studies highlighted the impact language has on shaping and shifting public opinion and discourse regarding abortion. These articles aid in understanding the impact of this legislation and the importance of pushing for more liberal legislation grounded in science and human rights. Overall, there is a large body of existing literature studying the general topic of abortion. However, when the search is narrowed to include only lexical analysis of abortion legislation, the data are sparse. There is no available study lexically analyzing an entire state abortion code in full. In this respect, this work is unique as it analyzes and compares the language used to fully legislate on abortion across ten states with highly restricted access.

Several studies analyze anti-choice discourse more generally. [21, 25, 32-34] This includes analysis of language used to discuss abortion. [20-21, 23, 25] Several arguments were identified in analysis of abortion discourse in Europe and North America. [21, 23, 25] While anti-choice arguments did appear to be influenced by regional history and identity, the core of these arguments were the same. Discourse largely fell into categories of protecting a fetus, protecting a pregnant individual through restrictions on abortion, and the positioning the rights of a woman against the rights of a fetus. [21-22, 34] First, fetus-centric arguments from Northern Ireland indicated that "the understanding of rights [as] solely concerned with the right to life of a fetus" [21] Concerns over the rights of a fetus were also linked to acceptability of abortion in Poland. [23] Here, language used to describe a fetus (as fetus or unborn child) was linked to feelings on causes for acceptable abortion (elective or traumatic). This study highlighted the important power of language and how it is used to shape reality. Second, the argument that abortion restrictions are protecting women was found in several analyses. [21, 25, 34] The shift from women seeking abortion being shameful to being vulnerable reflects a global trend. This paternalistic take on abortion restrictions is a common argument for anti-choice groups. In Northern Ireland, limiting abortion rights "has been positioned as a means of protecting women." This is similar to findings in North America. A Canadian analysis of anti-abortion discourse in Canada reflected similar values and arguments of those found in Northern Ireland. Gordon et al. found that, "the anti-abortion movement in Canada has developed a very different discourse – one that avoids employing an 'anti-woman' tone and instead tries to frame itself as pro-woman and even pro-choice." This "pro-woman" tone is created by "crafting a largely sympathetic tone towards women" and avoiding "vilifying women." This reframing is alarming. The implications of this shift in Canadian anti-abortion discourse are now being seen in the United States, where

anti-abortion legislation is beginning to take a "pro-woman" stance. An analysis of anti-abortion bills introduced between 2008 and 2017 in all 50 states indicated that, "the pro-woman frame is found throughout the majority of bills." [34] This new framing, much like the framing indicated by Gordon's analysis in Canada, is indicative of a strategic tactic of anti-abortion organizations and legislators to appeal to and seem less hostile towards women. Shifts in rhetoric to appeal to a larger and potentially younger generation marks an important point in the evolution of the anti-choice movement.

In addition to more general discourse, several studies also analyzed anti-choice discourse around legislation specifically. [10, 20, 27] Anti-choice legislation in the United States often contains language the places a fetus in competing interest with the person carrying that fetus. State interest in the protection of a fetus has recently become elevated as states like Georgia push for legal protection of fetuses within their state codes. [16] Arguments for these types of protections, along with other anti-choice restrictions, often cite medically inaccurate or disputed information as a means of defense. Evans and Narasimhan analyze the debate and testimony surrounding Georgia House Bill 481: Living Infants Fairness Equality (LIFE) Act. [10] In order to understand the debate and public sentiment that is involved in the adoption of anti-choice legislation, "arguments and tactics used by legislators and community members in support of Georgia's early abortion ban" were analyzed. [10] Major themes found in this debate indicated a fetus-centric view of abortion regulation. This harm-to-a-fetus argument is in line with historic arguments against abortion. These fetus-centric arguments were also often backed up by "through appropriation by misrepresenting medical science and co-opting the legal successes of progressive movements." [10] Additional findings indicate a shift in fetus-centric arguments – moving from anti-harm to fetal personhood. Heartbeat is used as an indicator of personhood.

This technique has been used to attempt to limit access to abortion as soon as a fetal heartbeat is detected. This misrepresentation of medical science is a staple in re-enforcing anti-choice argument against abortion. Grossman et al. discussed the 2013 Texas abortion legislation that set a gestational limit on abortions at 22 weeks. [27-28] This piece of legislation limited the use of medication abortion, set requirements for facilities where abortions are performed and mandated that physicians who performed abortions also have admitting privileges at nearby hospitals. [28] The Texas law, much like the Georgia law analyzed by Evans and Narasimhan, also subscribed to many medical inaccuracies and misconceptions regarding abortion. [28]. The use of this type of language directly mirrors campaigns by the National Right to Life Campaign [30]. Another common argument made in support of anti-choice state legislation is one of state sovereignty. [10, 31-32] In the case of Georgia's LIFE Act, arguments for expansion of the protection of fetuses was framed as a matter of state sovereignty. [10] This argument was also made in debate around a piece of pro-choice legislation, the 2013 Women's Health Protection Act. [31, 33] Although this piece of legislation is not anti-choice, the debate surrounding it in the Senate is largely anti-choice in its rhetoric. Here, Duffy (2013) analyzed this senatorial debate around the Women's Health Protection Act. A populist framing of abortion debate was presented. [31] Leaning on Lee's populist framework, Duffy argued that abortion opponents use a populist argument to reframe the debate over the Women's Health Protection Act (WHPA). [32-33] Here, populism takes on the face of state's rights. The "people" represent those who support state-based abortion regulations, the "enemy" are proponents of the WHPA and the bill itself, and the "system" is existing abortion laws and the delicate balance of power between state and federal governments. [33] Senators who opposed the bill emphasized the importance of states' rights all while largely ignoring the issue of women's health. The crux of the anti-choice argument in this

case was achieved by "diverting the audience's attention onto the question of the role of the states versus the federal government and obfuscated the real question of women's health." [33] In this regard, state's right to express their anti-choice interests overshadow the rights of pregnant individuals' access to healthcare like abortion. These studies frame two important anti-choice arguments – concern for a fetus and states' rights.

Abortion discourse on social media platforms, like Twitter, have also been studied. [22, 24]. One of these studies indicated that the proportion of "against abortion" tweets was significantly higher than neutral or supportive of abortion tweets. [22] In addition, findings indicate that "those in opposition to abortion remain consistent in their tweets regardless of the legislative debate." [24] However, findings also indicated that activism in defense of abortion rights on twitter was pushing the issues presented by pro-choice abortion legislation. [24] Traditional media platforms are also extremely important points of accessing information and framing public discourse. In Spain, researchers conducted an analysis of abortion rhetoric from an interview of former Minister of Justice, Alberto Ruiz-Gallardón. [20] This study highlighted the impact language used by elected officials has shaping public discourse. Gallardón's language choices, similar to many other anti-choice legislators, shaped the way others speak about abortion. Here, much like other studies, abortion was viewed through the lens of harming a fetus. In reference to a fetus, the most common phrase used was "the conceived" and, in reference to women, the most commonly used phrase was "the mother." The paternalistic tone taken here creates an image of women as "passive" as if they are "acted upon as recipients or beneficiaries" instead of independent-minded individuals controlling their own bodies and destinies. [20] This is very similar to the tone taken when referring to those seeking abortion in other studies – where abortion regulators are positioned as the protectors of women. [21, 25, 34]

The current state of analysis of abortion legislation discourse is varied. While there is a wealth of information analyzing different aspects of abortion legislation and language, there is limited research that combines those two. This study will build on the existing literature by combining the methods of several pieces of previous literature (lexical analysis and abortion legislation itself). Additionally, much of the existing literature studies abortion in the context of Europe, Latin America, and Canada. Therefore, it may be beneficial to study language used to legislate on abortion within the context of the United States. This is a somewhat unique context as abortion regulations vary state-to-state in the US. With the current onslaught of abortion legislation in the United States, it is imperative that the language being used to regulate access to essential healthcare is analyzed and determined to be appropriate.

Manuscript:

Background:

Language dictates how people receive and perceive a message. Foucault's Discourse Theory, as interpreted by Aylett and Barnes, states that "discourse functions at the level of taken-for-granted presuppositions about reality. As a result, discourses produce a reality by establishing what an individual can think, say, or do." [1] Language therefore shapes our reality. Therefore, an immense amount of power lies in political discourse. [2] The conversation around abortion in the United States (US) is no exception to this theory. As Gordon aptly put, "the stories a society tells – and the way they represent different social practices – are often the soil from which specific political policies and legal decision grow." [3] Since abortion was legally protected following the US Supreme Court's decision in the case of *Roe v Wade* in 1973, the language used by both sides of the abortion debate to amplify their messages has become increasingly

contentious. [4-7] As with many complex topics, the debate on abortion is often broken into simplified paradigms – choice and life, fetus and baby, mother and woman. [8] These terms are commonly used by either side of the public abortion debate later finding their way into court documents, legislative debates, and state regulations on abortion. [9-10]

In the decades since *Roe* was decided, this debate and language has seeped into the legislative branches of all fifty states. [4, 11] As the anti-choice movement has gained momentum, there have been over one thousand pieces of legislation attempting and sometimes successfully chipping away at a pregnant individual's protected right to access abortion. [12] Because each state has the right to decide on legislation that controls, regulates and defines abortion within its own state's borders, there is extreme variability between state regulations on abortion resulting in variability in abortion access from state to state. [12, 13]

NARAL Pro-Choice America, a non-profit that engages in abortion policy advocacy, has grouped abortion regulations in five categories ranging from" severely restricted access" to "highly protected access." [14] There are twenty-five states whose policies severely restrict access, two whose policies restrict access, six whose state policies allow for some access, seven protect access and ten strongly protect access to abortion. A majority of states whose policies strongly protect access to abortion are concentrated in the Northeast and West Coast of the United States. Therefore, access to abortion services may largely depend on geographic location. Many states that fall into the "severely restricted access" have abortion laws that use typical "anti-choice" language such as "child" or "baby" to refer to a fetus. [15-16] In 2021 Texas' Senate Bill 8, the Texas Heartbeat Act, attempted to restrict abortion access after detection of a fetal heartbeat. [15] This bill is mired with anti-choice language using the word "child" twenty-one times and "fetus" only three times. This type of anti-choice language is present in other

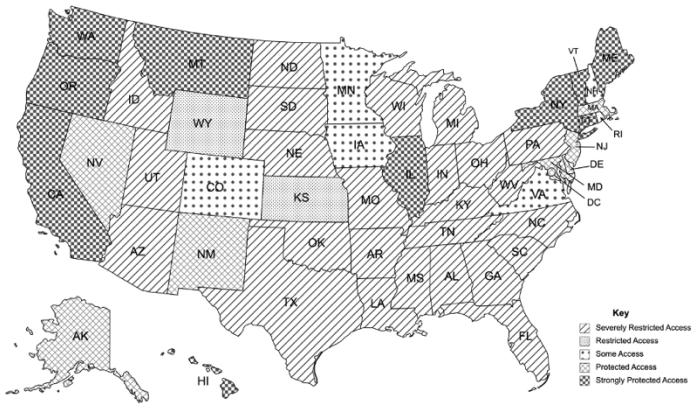
states with “severely restricted access” such as Georgia. In Georgia’s House Bill 481, the Living Infants and Fairness Act, the word “child” is mentioned fifty-nine times and “fetus” is not mentioned once. [16] These two bills draw a stark comparison to the 2019 New York State (highly protected access) Senate Bill 240, the Reproductive Health Act, which only mentions the word “child” twice, only one of which is a reference to pregnancy. [17] However, states like New York – where abortion access is highly protected – are not in the majority and there are an overwhelming number of anti-choice restrictions sweeping across the country. According to the Guttmacher Institute, a pro-choice research and policy organization, since the beginning of 2021, 561 abortion restrictions have been introduced across 47 states. [18] Many of these 47 states have been working to actively engrain anti-choice ideals into laws controlling abortion. Commonly included in these codes are “partial-birth abortion” bans, “dismemberment abortion” bans, false or misleading information on the risks and consequences associated with abortion, and mandatory waiting periods ranging from twenty-four to seventy-two hours often involving the process of “informed voluntary consent.” [19] It is those severely restrictive state codes that include this type of language that are of interest.

While researchers have extensively analyzed the public discourse on abortion ranging the analysis of legislative hearings, news media, and social media, there is less work analyzing the language used in actual laws that regulate abortion in the United States. [10, 20-25] The purpose of this study is to characterize the language used in ten states with severely restricted access according to NARAL Pro-Choice America.

Methods:

Design:

This study used a qualitative lexical analysis inquiry followed by a thematic analysis design. Qualitative lexical analysis is a process that involves searching selected documents for specific words or phrases. [35] The phrases or words in the qualitative lexical analysis were selected before the analysis took place. Word and phrases commonly associated with the anti-abortion and pro-choice movements were both selected in order to understand best the language used in each state's statutes. These words and phrases included: conception, consent, crime/criminal, dismemberment, elective/nontherapeutic, felony, fetal pain/pain capable/pain, fetus, heartbeat, mother, psychological, abortion reversal/reversal, unborn child, unborn human, waiting period/hour, woman, dilation and evacuation, electric vacuum aspiration/aspiration, embryo, postabortion care, pregnant person and safety. A purposive sample was selected based on inclusion criteria which included only states with "severely restricted access" to abortion by NARAL. [14] By using these inclusion criteria, only states with the most restrictive abortion statutes with the most extreme anti-choice language were analyzed. Thematic analysis is "a method for identifying, analyzing, organizing, describing, and reporting themes found within a data set." [36] This type of analysis is a translator that allows to communicate with one another researchers using both



Map of United States by Legislative Restriction on Abortion
Source: NARAL Pro-Choice America

qualitative and quantitative analysis [37] In this study, thematic analysis analyzed data collected from the qualitative lexical analysis of each state's abortion statutes.

Sample:

This study used ten states with abortion policies deemed to have "severely restricted access" by NARAL for analysis to gain a deeper understanding of the impact of anti-choice language on legislation. [14] States were selected from each geographic region of the country. [38] Although severely restricted access to abortion is present across all five geographic regions, lack of access is much more prevalent in certain regions. In the Southeast, all states except Virginia have severely restricted access to abortion. In the Southwest, all states except New Mexico have severely restricted access to abortion. In the Midwest, four of the twelve states (Illinois, Minnesota, Iowa, and Kansas) do not have the designation severely restricted access. In the Northeast and Western regions of the country, access is much more variable. In the Northeast, access is mainly protected (with the exception of Pennsylvania and New Hampshire, in which it is severely restricted and some access, respectively). In the West, only two of nine states have severely restricted access (Idaho and Utah).

Map of the United States by Geographic Region

Source: National Geographic

Due to the high number of states with severely restricted access in the Southeast, Midwest, and Southwest compared to the other two regions, a larger number of states from the Southeast, Midwest, and Southwest, were selected for this analysis. Additionally, only one state from the Northeast was selected as it is the only state in that region to be labeled by NARAL to

have “severely restricted access.” [14] The one Northeastern state selected was Pennsylvania. The three Southeastern states selected include Alabama, Arkansas, and Mississippi. The three Midwestern states selected include Ohio, North Dakota, and South Dakota. The two Southwestern states selected include Arizona and Oklahoma. The one Western state selected was Idaho. Publicly available codes and statutes regulating abortion were examined using qualitative lexical and thematic analysis from these selected states.

Procedure:

I utilized publicly available state codes and statutes on state legislature and other legal websites (FindLaw.com) to gather state-specific laws on abortion. Statutes pertaining specifically to abortion were found using the search function in state legislature or other legal websites (FindLaw.com). Each website was searched using the single keyword, “abortion.” After performing a search of state code, each search response was read and checked for relevancy. Relevant codes —namely statutes that regulated abortion in any way within the state —were copied or downloaded into separate documents. After downloading all relevant abortion codes, the information was reviewed for spelling or other clerical errors and condensed into one document per state. This analysis included all ten states. All original substantive information, including statute numbers, remained unaltered and were included in the final condensed state documents. Collated statutes collected ranged in length from 14 pages (North Dakota) to 116 pages (Oklahoma).

Table 1. State Statute Length and Sources

State	**Statute Length (pages)**	**Source**
Alabama	38	Alabama Legislature Session

		Information on ALISON [39]
Arizona	29	Arizona State Legislature Revised Statutes [40]
Arkansas	78	Code of Arkansas Public Access [41]
Idaho	40	Idaho State Legislature Statutes [42]
Mississippi	37	FindLaw, Codes, Mississippi, Title 41 [43]
North Dakota	14	North Dakota Legislative Branch Century Code [44]
Ohio	59	Ohio Laws and Administrative Rules Legislative Service Commission [45]
Oklahoma	116	Oklahoma State Legislature Statutes Text Search and Retrieval System [46]
Pennsylvania	23	Pennsylvania General

		Assembly Consolidated Statutes [47]
South Dakota	37	South Dakota Legislature Legislative Research Council Codified Laws [48]

Lexical Analysis:

The condensed statute documents were uploaded to MAXQDA 2020 and grouped into geographic regions before analysis took place. Once grouped, a lexical search for several anti-choice words or phrases used *a priori* deductive coding. This analysis used words selected from commonly used anti-choice arguments. Commonly used terms included those often found in news headlines and National Right to Life campaigns. [49] The anti-choice words selected for this lexical analysis included: conception, consent, crime/criminal, dismemberment, elective/nontherapeutic, felony, fetal pain/pain capable/pain, fetus, heartbeat, mother, psychological, abortion reversal/reversal, unborn child, unborn human, waiting period/hour and woman. These terms encapsulated common anti-choice arguments such as: life begins at conception, abortion is elective or nontherapeutic, referring to a fetus as an unborn child, abortion is a crime, an unborn child in the womb can feel pain. Additionally, previous newsworthy anti-choice legislation (fetal heartbeat bills, mandatory waiting periods, informed consent laws) was also used to select words included in this lexical analysis.

This lexical analysis also included words used in pro-choice arguments to compare the language used in laws regulating abortion. The pro-choice arguments used in the selection of words for this lexical analysis included language found in the WHO's "Safe Abortion: technical

and policy guidance for health systems." [29] Additional pro-choice language from inclusive legislation regulating abortion such as the US Senate Bill S1645, Women's Health Protection Act, were also coded for comparison and analysis. [29, 50] Words from these two sources included: dilation and evacuation, electric vacuum aspiration/aspiration, embryo, postabortion care, pregnant person, and safety.

A codebook with definitions of each term was created prior to lexical analysis to maintain the consistency and integrity of data collected in this analysis. Table 2 provides select excerpts from this codebook.

Table 2. Select Excerpts from Codebook

Term	Definition	Example	Non-Example
Conception	The code conception referred to any mention of the word "conception" referencing the action of conceiving a child	"'Conception' means the fertilization of the ovum of a female individual by the sperm of a male individual." [51]	Reference to contraceptives as a method of preventing conception: "Abortion does not include birth control devices, oral contraceptives used to inhibit or prevent ovulation, conception or the implantation of a fertilized ovum in the uterus or the use of any means to save the life or preserve the health of the unborn child, to preserve the life or health of the child after a live birth, to terminate an ectopic pregnancy or to remove a dead fetus." [52]

Consent	The code consent referred to any mention of the word "consent" when referring to state required pre-procedure informed consent regulations, required consent of parent or guardian for minors seeking to obtain abortions and the reporting of such consent	"An abortion shall not be performed or induced without the voluntary and informed consent of the woman on whom the abortion is to be performed or induced." [53]	Reference to consent in civil court case proceedings and litigation: "In the absence of written consent of the woman upon whom an abortion has been performed or attempted, anyone, other than a public official, who brings an action under the provisions of section 18-508, Idaho Code, shall do so under a pseudonym." [54]
Unborn Child	The code unborn child referred to any mention of the words "unborn child" as referring to a fetus within state abortion statutes	"'Unborn child' or 'fetus' means an individual organism of the species homo sapiens from fertilization until live birth." [55]	Reference to unborn child outside of context of abortion mentioned in definition: "No person shall sell a child, an unborn child or the remains of a child or an unborn child resulting from an abortion. No person shall experiment upon the remains of a child or an unborn child resulting from an abortion." [56]
Waiting Period/Hour	The code waiting period/hour referred to any mention of the words "waiting period" or "hour" which referenced time periods pregnant persons seeking	"At least seventy-two (72) hours before the abortion, the physician who is to perform the abortion or the referring physician has informed the woman,	Reference to hour as hours of operation for facilities or hotlines: "... including telephone numbers, in which they might be contacted, or, at the

	abortion were required to wait before being able to legally receive an abortion	orally and in person, of the following: (A) The name of the physician who will perform the abortion; (B) Medically accurate information that a reasonable patient would consider material to the decision concerning whether or not to undergo the abortion…" [57]	option of the department, printed materials including a toll-free, 24-hour a day telephone number which may be called to obtain, orally, such a list and description of agencies in the locality of the caller and of the services they offer…" [58] Reference to hour or waiting period as an exception to a medical emergency: "'Medical emergency' means that condition which, on the basis of the physician's best clinical judgment, so complicates a pregnancy as to necessitate an immediate abortion to avert the death of the mother or for which a twenty-four-hour delay will create grave peril of immediate and irreversible loss of major bodily function." [59]

After each lexical search, the searched word or phrase was saved as an auto-code segment on each document. Data from these individual auto-coded segments were tallied (total across all ten states) and analyzed as part of the thematic analysis. Inductive thematic analysis

then identified categories and themes. A review of each auto-coded segment ensured segments were relevant to the analysis. This review included ensuring each auto-coded segment was related to abortion. For example, a review of auto-coded segments yielded in a search for the term "conception" was done to confirm they were related to abortion and not access to contraceptives and birth control methods. If the auto-coded segment was not related to abortion, it was labeled “not-relevant” and excluded from “refined” counts.

After refining auto-coded segments as described above, each auto-coded segment was then analyzed using the context surrounding the segment (analysis of the paragraph or sentences around each auto-coded segment to understand the context of each segment). Each auto-coded segment was then grouped into color-coded categories. Table 3 lists these categories and descriptions below.

Table 3. Auto-coded Segment Categories

Category	**Description**	**Example**
Procedural	Pertaining to both pre-abortion procedural requirements such as informed consent, during abortion procedural requirements and post-abortion procedural requirements	*Auto-coded segment: consent* “Physicians shall use a form created by the Department of Health to obtain the consent required prior to performing an abortion on a pregnant woman.” [60]
Criminality	Pertaining to crimes, penalties, offenses related to abortion	*Auto-coded segment: dismemberment* “Whoever violates division (B) of this section is guilty of dismemberment feticide, a felony of the fourth degree.” [61]
Reporting	Pertaining to required reporting to the state	*Auto-coded segment: fetus*

	department of health on abortion	"The abortion is due to fetal health considerations, including the fetus being diagnosed with at least one of the following…" [62]
Definitions	Pertaining to abortion any labeled definitions in statutes to do with abortion	*Auto-coded segment: unborn child* "'Unborn child' means the unborn offspring of human beings from the moment of conception, through pregnancy, and until live birth including the human conceptus, zygote, morula, blastocyst, embryo and fetus." [63]
Minor-Specific	Pertaining to any aspect of abortion involving a minor)	*Auto-coded segment: waiting period/hour* "No abortion may be performed upon an unemancipated minor or upon a female for whom a guardian has been appointed because of a finding of incompetency, until at least forty-eight hours after written notice of the pending operation has been delivered in the manner specified in this section." [64]
Printed Materials	Pertaining to printed materials and signage requirements from state department of health related to abortion	*Auto-coded segment: consent* "A licensed facility where abortions are performed shall post a sign conspicuously … The sign shall display the following text: 'It is against the law for anyone, regardless of his or her relationship to you, to force you to have an abortion. You have the right to contact any local or state law enforcement or any social service agency to receive

		protection from any actual or threatened physical, emotional, or psychological abuse. It is against the law to perform, induce, prescribe for, or provide you with the means for an abortion without your voluntary consent.'" [65]
Legislative Findings	Pertaining to any opinions, findings, or beliefs of the legislative body of each state that was related to abortion and included in the statutes	*Auto-coded segment: fetal pain/pain* "Consequently, there is substantial medical evidence that an unborn child is capable of experiencing pain by twenty (20) weeks after fertilization…" [66]
Titles or Headings	Including titles or headings to each section of statutes	*Auto-coded segment: heartbeat* "Subchapter 13: Arkansas Human Heartbeat Protection Act… Title: this subchapter shall be known and may be cited as the "'Arkansas Human Heartbeat Protection Act'" [67]
Other	Pertaining to coded segments that did not fit into the above-mentioned categories but were still relevant to abortion	*Auto-coded segment: psychological* [In reference to exclusion of psychological harm in medical emergency exception] "If the probable postfertilization age was determined to be twenty (20) or more weeks, the basis of the determination that the pregnant woman had a condition that so complicated her medical condition as to necessitate the abortion of her pregnancy to avert her death or to avert serious risk of substantial and irreversible physical impairment

		of a major bodily function, not including psychological or emotional conditions, or the basis of the determination that it was necessary to preserve the life of an unborn child." [68]

This process occurred for all twenty-two auto-coded segments. Data from each state included all auto-coded segments found in that state's document. These auto-coded segments were tallied and recorded for further thematic analysis. Maintenance of the above-listed categories (Table 3) ensured consistency throughout the analysis. This process was done for all ten states. Visualization aids developed include a table denoting numerical counts of each auto-coded segment by total and by state (Table 4).

Table 4: All Coded Segment Count by State, Refined

		Northeast	Southeast			Midwest			Southwest		West	
		Pennsylvania	Alabama	Arkansas	Mississippi	Ohio	North Dakota	South Dakota	Oklahoma*	Arizona	Idaho	Total
Coded Segment	Conception	1	2	9	1	2	2	0	7	5	1	30
	Consent	28	32	54	16	20	18	32	71	27	25	323
	Crime/Criminal	2	6	11	3	1	0	0	4	0	10	37
	Dilation and Evacuation	0	0	0	0	0	0	0	1	0	0	1
	Dismemberment	0	6	11	4	7	4	0	8	0	0	40
	Elective/Nontherapeutic	0	0	10	0	2	0	0	19	1	0	32
	Electric Vacuum Aspiration/Aspiration	0	0	1	0	0	0	0	1	2	1	5
	Embryo	0	0	3	0	1	0	3	4	24	3	38
	Felony	3	11	6	2	16	6	12	11	1	9	77
	Fetal Pain/Pain Capable/Pain	0	13	26	2	5	1	17	40	0	16	120
	Fetus	4	8	26	7	21	8	11	18	48	21	172
	Heartbeat	0	2	20	4	26	8	2	22	7	20	111
	Mother	6	40	17	14	12	9	118	79	16	31	342
	Postabortion Care	0	0	0	0	0	0	0	0	0	0	0
	Pregnant Person	0	0	0	0	0	0	0	0	0	0	0
	Psychological	2	6	14	0	0	2	11	16	1	10	62
	Reversal	0	0	7	0	0	3	0	0	0	1	11
	Safety	1	8	3	0	0	0	2	2	7	3	26
	Unborn Child	26	105	116	31	44	44	63	148	46	39	662
	Unborn Human	0	0	17	0	12	1	2	0	0	0	32
	Waiting Period/Hour	3	3	13	4	8	9	11	20	9	4	84
	Woman	99	110	350	60	147	70	59	166	104	97	1262
	Total	175	350	705	147	322	183	343	630	293	290	3,438

Thematic Analysis:

Due to the predominance of anti-choice language found in state codes through the lexical analysis, the thematic analysis that followed focused mainly on the anti-choice language, how it was used to restrict access to abortion services, and how it described those seeking abortion services. Thematic analysis was conducted by doing multiple close reads of each state's statutes regulating abortion. This analysis was performed in MAXQDA 2020 using the same legislative documents included in the lexical analysis, meaning the auto-coded segments were also present on each document while doing thematic analysis. This allowed for a deeper understanding of the context in which each auto-coded segment.

While conducting close reads, memos was recorded in MAXQDA on commonalities in language or regulations on abortion used across states. For example, memos were made marking extreme similarity in language used across states to prohibit "dismemberment abortion" and mandate "informed consent" requirements. Memos were also used to mark similarities in language of sections of "legislative intent and findings" across state statutes. These sections illustrate the beliefs of those crafting state legislature regulating abortion. This included beliefs like, "the life of a human being begins at fertilization", "terminating the life of an unborn child impose risks to the life and health of the pregnant woman", "the capacity to become pregnant and the capacity for mature judgment concerning the wisdom of an abortion are not necessarily related", "pain receptors (nociceptors) are present throughout the unborn child's entire body by no later than sixteen (16) weeks after fertilization." Additionally, US Supreme Court Cases were referenced across several states, such as *Leavitt v. Jane L* (1996) which rules on severability, *Planned Parenthood v. Casey* 1992 in the context of states having a "profound interest" in preserving life. [69, 13]

Results:

A total of 4,122 segments are auto-coded using the lexical search analysis before refining the data. This total includes both anti-abortion language and pro-choice language. Of these 4,122 unrefined auto-coded segments, 3,835 are anti-abortion auto-coded segments and 251 pro-choice segments. The states with the highest number of unrefined auto-coded segments are Oklahoma (863), Arkansas (826) and Alabama (400). After refining the auto-coded segments, there are a total count of 3,438 auto-coded segments (Table 6). This included 3,367 anti-abortion auto-coded segments and 144 pro-choice auto-coded segments. The states with the highest number of refined auto-coded segments are Arkansas (705), Oklahoma (630), and Alabama (350).

Table 5. Unrefined Code Matrix

		Auto-Coded Segment							
		Woman	Unborn Child	Mother	Consent	Fetal Pain, Pain Capable, Pain	Psychological	Postabortion Care, Post Abortion Care	Pregnant Person, Pregnant Individual
States	Alabama - Southeast	110	105	40	32	14	10	0	0
	Arkansas - Southeast	350	116	17	54	0	8	0	0
	Arizona - Southwest	104	46	16	27	58	17	0	0
	Idaho - West	97	39	31	25	32	19	0	0
	Mississippi - Southeast	60	31	14	16	9	2	0	0
	North Dakota - Midwest	70	44	9	18	1	2	0	0
	Ohio - Midwest	147	44	12	20	5	0	0	0
	Oklahoma - Southwest	166	148	79	71	18	10	0	0
	Notheast\Pennsylvania_Combined_Final	99	26	6	28	0	2	0	0
	South Dakota - Midwest	59	63	118	32	17	16	0	0
	SUM	1262	662	342	323	154	86	0	0

The word or phrase with the highest number of auto-coded segments is “woman,” with 1,262 instances (Table 7). The word or phrase with the second highest number of auto-coded segments is “unborn child” with 662 instances after being refined. “Mother” is third followed by “consent” with refined totals of 342 and 323, respectively.

Table 6. Auto-Coded Segment by Category

		Most Frequent Auto-Coded Segments			
		Woman	Unborn Child	Mother	Consent
States	Alabama	110	105	40	32
	Arkansas	350	116	17	54
	Arizona	104	46	16	27
	Idaho	97	39	31	25
	Mississippi	60	31	14	16
	North Dakota	70	44	9	18
	Ohio	147	44	12	20
	Oklahoma	166	148	79	71
	Pennsylvania	99	26	6	28
	South Dakota	59	63	118	32
	Total	1,262	662	342	323

Thematic Analysis:

Theme 1: State statutes contain medically inaccurate or disputed information

All state statutes contain at least one piece of medically disputed or medically inaccurate information. These includes antiquated tropes about the health consequences of surgical abortion including increased risk of breast cancer in the statutes from Idaho, North Dakota and Mississippi (Table 8). [42-45] Information on adverse psychological effects following an abortion are present in all statutes except those from Ohio and Mississippi (Table 8). [39-42, 44, 46-48] In addition, unfounded claims of "abortion reversal" appear in the statutes from Arkansas, North Dakota and Idaho. [41, 42, 44] Widely disputed medical claims that suggest the gestational age of fetal pain is below 24 weeks gestation appear in all state statutes except Arizona and Pennsylvania. [39, 41-46, 48] The information found in these sections often contradicts widely documented medical evidence. [91, 92]

With the exception of the statutes from Ohio and Mississippi, all states cite psychological distress and psychological conditions as a serious consequence of having an abortion (Table 8). [42-45] Several states' departments of health, including those of South Dakota, North Dakota, and Oklahoma, publish material that states that cite, "post-abortion psychological and emotional complications" and the "possible adverse psychological effects associated with an abortion." [70-72]

Table 7. State statutes contain medically inaccurate or disputed information

State	Medically Disputed or Inaccurate Claim	Illustrative Example
Idaho Mississippi North Dakota	Abortion creates increased risk of breast cancer	"Surgical abortion is an invasive procedure that can cause severe physical and psychological complications for women, both short-term and long-term, including [...] an increased risk for developing breast cancer, psychological or emotional complications such as depression, suicidal ideation, anxiety and sleeping disorders, and death." (Idaho SC §39-9502)
Alabama Arkansas Arizona Idaho North Dakota Oklahoma Pennsylvania South Dakota	Increased adverse psychological effects following an abortion	""Studies indicate that choosing to terminate a pregnancy can pose severe long-term psychological risks for a woman, including the risk of post-traumatic stress, depression, and anxiety." (Arkansas SC §20-16-2302)
Arkansas Idaho North Dakota	Unfounded claims of "abortion reversal"	"'Notice to Patients Having Medication Abortions That Use Mifepristone: Mifepristone, also known as 'RU-486' or 'Mifeprex', alone is not always effective in ending a pregnancy. It may be possible to reverse its intended effect if the second pill or tablet has not been taken or administered. If you change your mind and wish to try to continue the pregnancy, you can locate immediate help by searching the term 'abortion pill reversal' on the internet.'" (Arkansas SC §

		20-16-1703)
Alabama Arkansas Idaho Mississippi North Dakota Ohio Oklahoma South Dakota	Suggestion of fetus capable of feeling pain at gestation before “viability”	“By eight weeks after fertilization, the unborn child reacts to touch. After 20 weeks, the unborn child reacts to stimuli that would be recognized as painful if applied to an adult human, for example by recoiling. [...] In the unborn child, application of such painful stimuli is associated with significant increases in stress hormones known as the stress response. [...] Consequently, there is substantial medical evidence that an unborn child is capable of experiencing pain by 20 weeks after fertilization.” (Alabama SC § 26-23B-2)

Additionally, three of ten states (Arkansas, North Dakota and Idaho) clearly state the possibility of "abortion reversal" as an outcome of medical abortion within their state code (Table 8.). [41, 42, 44] Arkansas state code dictates that the Department of Health publishes information to inform an individual seeking an abortion of their ability to seek professional medical assistance in "reversing" a medical abortion or, if this is not possible, a simple google search of "abortion pill reversal" on the internet is suggested. [57] Similarly, but with slightly more guidance on who to consult if abortion "reversal" is desired, North Dakota's state code requires that individuals seeking an abortion be shown materials informing the patient where to obtain more guidance from a medical professional who can assist in the reversal at least twenty-four hours prior to scheduling an abortion. [73] This information further urges that, "it may be possible to reverse the effects of an abortion-inducing drug if she changes her mind, but time is of the essence." [73]

Using the language of another hotly contested abortion debate, eight of ten state statutes (excluding Arizona and Pennsylvania) contain language dictating procedure and criminality of abortion based on "fetal pain." [39, 41-46, 48] These codes include language setting strict guidance on abortion once a fetus is capable of feeling pain. The codes also dictate criminal charges for providers and patients involved in abortion taking place past the point a fetus can feel pain (Table 8). Alabama, Arkansas, Oklahoma and Idaho all have nearly identical language in sections named the "Pain-Capable Unborn Child Protection Act." [39, 41, 46] These sections dictate the belief that a fetus has the physical structures "necessary to experience pain" at twenty-weeks. [39, 41, 46] These sections also state what constitutes an indication of fetal pain such as the presence of certain neuroreceptors, neural tubes, and stimuli response. [39, 41, 46] Additionally, abortion except in cases of a medical emergency is prohibited beyond 20-weeks

gestation and penalties for those in violation of the prohibitions are mentioned. [39, 41, 46] Alabama and Oklahoma's codes also mandate printed information stating that, "there is substantial medical evidence that an unborn child is capable of experiencing pain by 20-weeks after fertilization." [39, 46] Oklahoma and Arkansas both have an additional section titled the "Unborn Child Pain Awareness and Prevention Act" which dictates several requirements that must be completed prior to an abortion whose probable gestational age is twenty weeks or more. [41, 46] This includes the review of printed materials containing medically disputed information under the supervision of the physician performing the abortion prior to the abortion being performed. Oklahoma requires viewing of this material at least 72 hours before performance of an abortion. [46] Arkansas requires viewing of this material 24 hours before performance of an abortion. [41] An additional written certification of this viewing is to be signed by the person seeking the abortion. [41, 46]

Theme 2. Pregnant people are identified/valued based on their gender as female or ability to parent

Ideals that tie the identity of woman to motherhood were ever present in the state statutes on abortion. After refining the coded segments, the words "woman" and "mother" appeared 1,262 and 342 times respectively in the ten documents (Table 9). [39-48] The terms "pregnant person" and "pregnant individual" appeared zero times. South Dakota and Oklahoma both refer to the pregnant person on whom an abortion was performed solely as "mother" in reporting requirements outlined in state code. [46, 48] The term "mother" appears 19 times on South Dakota's physician reporting form and 48 time on Oklahoma's Individual Abortion Report form. [46, 48] These descriptions place a pregnant person into a clearly defined box ("motherhood") even as they seek to terminate a pregnancy.

Table 8. State statutes where pregnant people are identified/valued based on their gender as female or ability to parent

State	Gendered language referring to pregnant person	Illustrative Example
Alabama Arkansas Arizona Idaho Mississippi North Dakota Ohio Oklahoma Pennsylvania South Dakota	Woman	"It is the intention of the General Assembly of the Commonwealth of Pennsylvania to protect hereby the life and health of the woman subject to abortion and to protect the life and health of the child subject to abortion. It is the further intention of the General Assembly to foster the development of standards of professional conduct in a critical area of medical practice, to provide for development of statistical data and to protect the right of the minor woman voluntarily to decide to submit to abortion or to carry her child to term." (Pennsylvania SC §3202)
Alabama Arkansas Arizona Idaho Mississippi North Dakota Ohio Oklahoma Pennsylvania South Dakota	Mother	"There exists in South Dakota a number of pregnancy help centers, as defined in § 34-23A-53, which have as their central mission providing counseling, education, and other assistance to pregnant mothers to help them maintain and keep their relationship with their unborn children, and that such counseling, education, and assistance provided by these pregnancy help centers is of significant value to the pregnant mothers in helping to protect their interest in their relationship with their children. [...] It is a necessary and proper exercise of the state's authority to give precedence to the mother's fundamental interest in her

		relationship with her child over the irrevocable method of termination of that relationship by induced abortion." (South Dakota SC §34-23A-54)

Theme 3. Voluntary informed consent is used as a tool to redirect people away from abortion care

The third theme that appears upon analyzing state codes regulating abortion was a stringent procedural requirement of voluntary informed consent. The ten state codes analyzed contained lengthy sections outlining the process and reporting of voluntary informed consent. [39-48] After refining coded segments, the term "consent" appeared 323 times in all ten documents. [39-48] The process of voluntary informed consent often combined mandatory waiting periods with the mandatory presentation and review of state supplied pamphlets informing individuals about abortion. States' subsections regulating informed consent utilize similar language. For example, Arizona's code stated:

> *"At least 24 hours before the abortion, the physician who is to perform the abortion, the referring physician or a qualified physician, physician assistant, nurse, psychologist or licensed behavioral health professional to whom the responsibility has been delegated by either physician has informed the woman, orally and in person, that: Medical assistance benefits may be available for prenatal care, childbirth and neonatal care. [...] The father of the unborn child is liable to assist in the support of the child, even if he has offered to pay for the abortion. In the case of rape or incest, this information may be omitted [...] Public and private agencies and services are available to assist the woman during her pregnancy and after the birth of her child if she chooses not to have an abortion, whether she chooses to keep the child or place the child for adoption."* (Arizona SC §36-2153)

Part from time of waiting period (Oklahoma - 72 hours; Alabama - 48 hours; AR - 72 hours) and one addition on the part of Alabama, the above-mentioned section is nearly identical to that of South Dakota, North Dakota, Oklahoma, Alabama, Arkansas, Pennsylvania, and Mississippi's state statutes. [39-48]

In addition to these prerequisites for an abortion, there are also nine states whose codes require an ultrasound to detect a "fetal heartbeat" before an abortion. [39-46, 47, 48] Mississippi's statute, similar to the other eight, mandates that "fetal ultrasound imaging and auscultation of fetal heart tone services" be performed on the individual undergoing the abortion.

[43] The patient is then offered “an opportunity to view the active ultrasound image of the unborn child and hear the heartbeat of the unborn child if the heartbeat is audible” and be provided with “a physical picture of the ultrasound image of the unborn child.” [43] The patient is then to sign a certification stating that “they have been given the opportunity to view the active ultrasound image and hear the heartbeat of the unborn child if the heartbeat is audible, and that [they have] been offered a physical picture of the ultrasound image.” [43]

Study Limitations:

One potential limitation of this study may be that the geographic groups could have created homogeneity within the state statutes. It is possible that states bordering one another share similar state codes such as North and South Dakota. This narrow analysis of bordering states may have led to a less diverse look at restrictive state codes than is generalizable. Additionally, only one state was selected from the Northeast and West geographic regions of the United States. In the Northeast, Pennsylvania is the only state listed as “severely restricted”, so this was the only state eligible for analysis. However, one other severely restricted state was available in the West but was not selected. It may have been beneficial to include the state of Utah to give a more meaningful comparison of geographic regions.

Discussion:

This research revealed a large number of medically inaccurate or disputed information that is contained in state’s informed consent laws. Gendered language linking abortion to parenthood is also observed. Likewise, the excessive burden created by state requirements including requirements to view pre-abortion ultrasounds and informed consent policies do not respect body autonomy for the individual seeking an abortion.

All ten states from the severely restricted sample contain medically inaccurate or disputed information in their state codes regulating abortion. States frequently use negative psychological effects of abortion as a paternalistic reason to restrict abortion. [33, 85] Increased adverse psychological effects following an abortion are cited in eight out of ten states in this analysis. [39-42, 44, 46-48] This indicates that anti-choice legislation perpetuates a belief that abortion increases risk of depression, suicide, and other severe and long-lasting emotional trauma. In this respect, abortion is harmful to the person who receives it, and restrictions are put in place to alleviate that potential harm. [33, 85] As the anti-choice movement evolves, framing of abortion restrictions shifts to "protective" and "pro-woman." [85] By using the context of protection – here the protection of the psychological wellbeing of a woman seeking an abortion – those who oppose abortion are seen as defenders of those seeking an abortion. [87]

This oft-used argument from anti-choice groups overlooks the importance of understanding the underlying mental health status of individual patients. In the late 1980's, following a wave of attempts to validate anti-choice claims that abortion causes significant psychological effects, the American Psychiatric Association convened a panel to review the argument's validity. [88] This APA review found that legally terminating an unwanted pregnancy "does not pose a psychological hazard for most women." [86] In 2019, as one of many pieces of research that stemmed from University of California San Francisco's Turnaway Study, Biggs et al. found that, "compared with having an abortion, being denied an abortion may be associated with greater risk of initially experiencing adverse psychological outcomes." [89] Another study by Biggs et al. reported that, "women denied an abortion initially reported lower self-esteem and life satisfaction than women who sought and obtained an abortion." [90] These studies suggest that rather than having an adverse effect of mental state fulfillment of patient's

desires concerning pregnancy outcome may be more beneficial than being denied access to abortion services when desired.

Disputed medical information in abortion legislation is not exclusive to language regarding the individual seeking an abortion. There is also a substantial amount of misinformation surrounding the development of a fetus. State-mandated information on the development of a fetus often contains misinformation on the time frame of when a fetus is capable of feeling pain. The argument laid out in several state statutes is disputed by the American College of Obstetricians and Gynecologists (ACOG) and by the Royal College of Obstetricians and Gynecologists. ACOG has stated that, "a human fetus does not have the capacity to experience pain until after viability," which is usually around 24 weeks of gestation. [91] The scientific explanations given for structures in place that allow a fetus of twenty weeks gestation to feel pain in the state statutes analyzed are in direct contradiction with that of the Royal College of Obstetricians and Gynecologists who state that,

> "[...] *it was apparent that connections from the periphery to the cortex are not intact before 24 weeks of gestation and, as most neuroscientists believe that the cortex is necessary for pain perception, it can be concluded that the fetus cannot experience pain in any sense prior to this gestation.*" [92]

The notion of pre-viability fetal pain is disputed and appears to be a tactic to divert those seeking abortion.

The sole use of the term "mother" as a descriptor for a pregnant individual seeking an abortion strips that person of their identity outside of their pregnancy and binds them to their "unborn child." In analyzed statutes, womanhood is linked specifically to pregnancy and the ability to serve a reproductive purpose. Referring to a pregnant individual as a "mother" — especially in the context of seeking abortion care— takes autonomy away from that individual. The autonomy of a pregnant person to choose when and if to continue a pregnancy is a crucial

part of abortion rights in the United States. [4, 12] By endowing this individual with language associated with parenthood ("mother"), anti-choice legislation infers that all pregnancies result in motherhood and negates the entire notion of choice. [8] When language like "mother" describes an individual seeking an abortion, it highlights a perceived disjuncture between the social norm of motherhood and the individual person's behavior reinforcing abortion stigma. A pregnant person is by default a "mother" whether or not the pregnancy results in a live birth.

Language usages of gendered terms like "mother" and "woman" create boundaries and frame the use of discourse and debate in the discussion of abortion. [74] Not only does this language place cisgender women in the role of motherhood, but it also excludes pregnant-capable groups, like transgender men and non-gender-binary individuals, from the abortion debate. The description of a pregnant individual in state codes as woman and mother is increasingly problematic as public awareness of and social norms relating to gender fluidity begin to shift and the need to move towards more inclusive language and away from "traditional" gender roles becomes clear. Although in recent years, the visibility of the transgender community has increased dramatically, providing transgender-specific abortion care is inadequate. [75, 83]

Low quality of care, gendered health environments, and discrimination are barriers to care for transgender and non-binary individuals. [75-76] In particular, lack of gender-affirming clinics and misconceptions about unplanned pregnancy risk and fertility were cited as major barriers for transgender, gender non-binary, and gender-expansive individuals seeking abortion care; transgender individuals report higher odds of discrimination in a healthcare setting, lower rates of health insurance enrollment, and higher risk of mental and sexual health diseases. [75-79] Poor quality of care may be due to stigma, lack of healthcare providers' awareness, and

insensitivity to the unique needs of this community. [75-76,78, 84] One overlooked need of this community is abortion care. [80-81]. Abortion is not only a "women's health" issue - nonbinary people and transgender men can get pregnant and need abortion care too. [80-81] Although findings indicate that there were 462 and 530 transgender and non-binary abortion patients nationwide in 2017, the language used to discuss pregnancy and abortion remains stagnant. [83] The same study found that only 23% of clinics find transgender-specific care. [83] In order to improve accessibility and quality of abortion care for transgender, non-binary, and gender-expansive populations, providers need to adopt gender-neutral and affirming language. [84]

In addition to medically inaccurate and disputed information, restrictive abortion regulations place a heavy burden on those seeking abortion and invade their privacy. *Casey v Planned Parenthood*, a landmark Supreme Court case decided in 1992, opened the door for states to regulate access to abortion within their state boundaries. [13] The main question in the case was can a state require a pregnant person seeking an abortion to obtain informed consent and other pre-abortion requirements without infringing on their right to abortion guaranteed by *Roe*? [13] Ultimately, the court upheld *Roe* and a majority of the Pennsylvania regulations. By reaching this decision, the standard of undue burden was formed. An undue burden arises if "the purpose or effect of the state restriction on abortion has placed a substantial obstacle on a someone seeking an abortion of a non-viable fetus." [93] If the burden outweighs the benefit, the law is unconstitutional. Additional Court cases have reviewed state laws regulating abortion such as *Whole Women's Health v. Hellerstedt*. [94] The 2016 case re-examined aspects of the undue burden standard spawned from *Casey* to evaluate whether or not a law should actually serve the government's stated interest in promoting health. The majority ruling in *Whole Women's Health*

found that the law in question did not "confer medical benefits that are sufficient to justify the burdens they impose." [94]

Pre-abortion ultrasounds are one tactic used by state legislatures looking to place an undue burden on those seeking abortion. Although pre-abortion ultrasounds appear in nearly all analyzed state codes, they are not considered medically necessary according to the WHO's Safe Abortion: Technical and Policy Guidance for Health Systems, which cites a low quality of evidence based on RCT and observational studies. [29] Within state statutes, the pre-abortion ultrasound requirement is often tied to waiting periods, delaying abortion procedures. Because such pre-abortion ultrasounds have no medical benefit, they ultimately just delay abortion care and put individuals seeking abortion at risk [29, 97] Several studies have found that mandatory viewing of a pre-abortion ultrasound image has little effect on the decision to abort. [95, 96] Requiring ultrasounds can also add financial cost ranging from $50 to $200. [98] On top of travel costs and payment for the actual abortion procedure, this extra cost can put access to abortion out of reach for many. [99] Abortion costs in 2014 on average varied from $500 at 10 weeks gestation to about $1,200 at 20 weeks. [99] The Turnaway Study found that more than half of the women involved in their study who received an abortion, the cost was equivalent to one-third of their monthly income. [100] Abortion also tends to cost more in states with more restrictive policies. According to the Kaiser Family Foundation, while abortion rates have dropped generally, abortion among low-income, young, and racial minorities remains high. In 2014, 75% of abortions were on low-income patients. [99] Policies that add any additional cost to an already costly procedure are harming the most vulnerable populations.

Informed consent requirements, much like ultrasound requirements, are an overreach and appear to be designed to impede the ability to easily access abortion services. Consent laws,

often called “Women’s Right to Know Acts,” go beyond rigorous and acceptable standards of medical ethics and place patients in an intrusive situation. [39-48, 103] States with restrictive abortion codes largely contained disputed medical information in their informed consent statutes. [91-92, 104] These “Women’s Right to Know” acts are a series of model legislation drafted by Americans United for Life, an anti-abortion law firm and advocacy group, that gained traction in statehouses across the country in the early 2000s and again in 2018. [102] This Act requires providers to gain informed consent by providing medically irrelevant, politically biased information to an individual seeking an abortion prior to receiving one. According to the American Medical Association (AMA), informed consent is the principle that patients have the right to receive relevant, accurate, and sensitive information surrounding a diagnosis, purpose, and the risks of a procedure. [101] The guidance set out in many of the state statutes analyzed here goes beyond the scope of the AMA’s guidelines for informed consent. Providing false and potentially harmful information to patients goes against the principles of medical ethics that hold physicians to “be honest in all professional interactions.” [103] This also violates the AMA’s guidance on informed consent to provide accurate and sensitive information. A 2013 study of twenty-three states’ informed consent laws found that 31% of statements were medically inaccurate. [104]

Restricting or making abortion care more difficult to receive – whether it be through informed consent rules, ultrasounds, waiting periods, gestational limits, or full bans – does not end abortion. According to the Guttmacher Institute, “[a]bortions occur as frequently in the two most-restrictive categories of countries (banned outright or allowed only to save the woman’s life) as in the least-restrictive category (allowed without restriction as to reason)—37 and 34 per

1,000 women, respectively." [105] While abortion demand may not cease when the procedure is restricted, health and safety are compromised. [106-109]

Future Study:

The data and findings presented in this paper provide some guideposts for future research. Future research may want to take a closer look at how the anti-choice movement is shifting its focus to limiting access to medical abortion by influencing state legislation. There may also be room for future research comparing highly protective and severely restricted state codes to compare language. In addition, future study may seek to analyze other states within the geographic regions of the United States. A comparison of language used in abortion legislation cross-regionally and inter-regionally could bring to light similarities or differences in state codes. A global analysis to explore how US abortion policy is being exported or has influenced abortion regulations elsewhere should also be explored as global bans on abortion are becoming more prevalent.

Public Health Implications:

Putting restrictive laws in place does not stop abortion. [110] Highly restrictive environments may increase unsafe abortion or more risky decisions to access abortion. [109-111] Pregnant people seeking abortion may resort to unsafe, unsanitary, or uncertain methods of inducing abortion. [111] This can lead to dangerous and sometimes life-threatening complications. Worldwide, 5 million women a year are hospitalized for abortion-related complications. [111] Restricting access to abortion will harm women and pregnant individuals.

Laws that regulate abortion contain inaccurate medical information which puts abortion providers in violation with their own code of ethics. [91-92, 104-105] Abortion providers must continue to abide by the principles of medical ethics and uphold their oath to do no harm. Due to many states' strict requirements for providers to blindly provide informed consent information, violating these codes may lead to license revocation or professional backlash. If the information is medically inaccurate or disputed, it is necessary that providers tell their patients. If possible, abortion providers should push elected officials and work with lobbying organizations to push for medically inaccurate information to be excluded from legislation regulating abortion. This may be by providing testimony in legislative hearings on abortion legislation within state houses or engaging with district courts where necessary.

Advocates may continue to pressure legislators in both state houses and the federal government to push for progressive, inclusive legislation regulating abortion. Pushing for passage of the Women's Health Protection Act in the US Senate is a critical plan for all abortion advocates. This legislation includes language protecting both those seeking abortion and those providing it. Additionally, this act recognizes that abortion does not only impact women. It states, "access to abortion services is critical to the health of every person capable of becoming pregnant. This Act is intended to protect all people with the capacity for pregnancy—cisgender women, transgender men, non-binary individuals, those who identify with a different gender, and others—who are unjustly harmed by restrictions on abortion services." [50] Just as the language used in this bill is crafted to be inclusive, language used to advocate for abortion must be carefully chosen to include transgender and non-binary individuals when discussing abortion access reflecting the needs of all communities impacted by restrictive abortion laws.

The language used to regulate abortion within states is directly in the hands of elected officials in state houses across the country. Currently, access to abortion in the United States is largely dependent on geographic location. [11, 14] In order to ensure equitable access to abortion, the United States Congress must pass pro-choice, inclusive legislators protecting abortion rights. Additionally, Senators should ensure that their power to approve Supreme Court justices keeps reproductive justice and abortion access in mind. This includes questioning on abortion rights when working through the nomination process. Pro-choice senators should vote against the nomination of any nominated judge that stands against *Roe* or has previously issued anti-abortion opinions.

Conclusion

The state statutes analyzed in this study contain thousands of pieces of anti-choice language. The language used to dictate abortion regulations leads to severely restricted access to safe, legal abortion within those states. Medical inaccuracies and informed consent requirements violate medical ethics and place a burden on those seeking abortion care. Language used to regulate abortion is filled with gendered language and paternalistic sentiment. Disclusion of transgender and non-binary individuals from abortion discourse and legislative protection perpetuates cycles of harm. In order to protect access to abortion for all pregnant-capable people, legislation regulating abortion needs to be use more inclusive language.

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