
The Medical Assumption at the Foundation of Roe v. Wade & Its Implications for Women's Health

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ABSTRACT: Too little attention has been paid over the past forty years to the complete lack of a factual record in *Roe v. Wade* and *Doe v. Bolton*, and to the Court's fundamental assumption that drove the outcome. The decision and opinions were driven by the medical claim that "abortion was safer than childbirth," which was raised for the first time in the briefs in the Supreme Court without any lower court record.

This medical premise directly and profoundly shaped virtually every major aspect of *Roe* and *Doe*, including the creation of the trimester system and the prohibition of health and safety regulations in the first trimester. Because of this medical assumption, the Justices extended the right to abortion throughout pregnancy. It was key to the Court's historical rationale

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for a “right” to abortion. Because of this notion, the Justices gave abortion providers complete discretion to manage any issues of health and safety, and they prohibited public health officials from regulating abortion in the first trimester. This medical assumption was the most consequential factual assumption of the abortion decisions of 1973 and it has been assumed to be true in subsequent abortion decisions by the Court.

The notion that “abortion is safer than childbirth” has become even less tenable for at least five reasons: (1) the dysfunctional abortion data reporting system in the United States that relies completely on *voluntary* reporting; (2) the incomparability of the published abortion mortality rate and the published maternal (childbirth) mortality rate; (3) medical data on the increasing rate of maternal mortality in the second trimester; (4) the growing body of international medical studies finding long-term risks to women from abortion; and (5) maternal mortality data from countries with superior abortion recordkeeping collection and reporting systems, which find a higher rate of abortion mortality than childbirth mortality.

These concerns and the growth in international medical data over the past two decades should counsel the Supreme Court to give greater deference to the states in their attempt to protect maternal health.

I. Introduction

The Supreme Court’s abortion decisions in *Roe v. Wade*¹ and *Doe v. Bolton*² have been subjected to extensive criticism over the past forty years.³ Scholars have criticized

¹ 410 U.S. 113 (1973).

² 410 U.S. 179 (1973).

³ See generally Clarke D. Forsythe & Stephen B. Presser, *Restoring Self-Government on Abortion: A Federalism Amendment*, 10 TEX. REV. L. & POL. 301, 306-20 (2006) (collecting sources); Dennis J. Horan et al., *Two Ships Passing in the Night: An Interpretivist Review of the White-Stevens Colloquy on Roe v. Wade*, 6 ST. LOUIS U. PUB. L. REV. 229, 230 n.8 (1987) (collecting sources).

the Court's mistreatment of: common law history,⁴ American legal history,⁵ the abortion statutes of the nineteenth century,⁶ the use of sociological evidence that was not part of any record,⁷ the Hippocratic Oath,⁸ existing prenatal injury, wrongful death and fetal

⁴ See generally JOSEPH W. DELLAPENNA, *DISPELLING THE MYTHS OF ABORTION HISTORY* 135 (2006) ("The common law, in its early centuries, treated abortion as a crime in principle because it involved the killing of an unborn child—a tradition that continued with elaboration, but without interruption, until *Roe* changed it."); Gregory J. Roden, *Roe v. Wade and the Common Law: Denying the Blessings of Liberty to Our Posterity*, 35 *UWLA L. REV.* 212, 220-39 (2003) ("The earliest compilations of English law reflect the fact that abortion was regarded as homicide."); Mark S. Scott, *Quickening in the Common Law: The Legal Precedent *Roe* Attempted and Failed to Use*, 1 *MICH. L. & POL. REV.* 199, 200 (1996) (tracing "the intellectual development which gave rise to the English common law view that quickening was the point in gestation at which the unborn child reached a legally-protectable stage," and following "the judicial and statutory use of quickening through its heyday and into the era of modern embryology"); Shelley Gavigan, *The Criminal Sanction as It Relates to Human Reproduction: The Genesis of the Statutory Prohibition of Abortion*, 5 *J. LEGAL HIST.* 20, 21-22 (1984) (discussing the position of the criminal law with respect to abortions procured before quickening); Robert A. Destro, *Abortion and the Constitution: The Need for a Life-Protective Amendment*, 63 *CALIF. L. REV.* 1250, 1267 (1975) (reviewing the common law history of criminal sanctions against abortion and "examining the conclusions the Court drew from its historical excursus"); Robert M. Byrn, *An American Tragedy: The Supreme Court on Abortion*, 41 *FORDHAM L. REV.* 807, 813 (1973) (stating that the Court's "fundamental error" in *Roe*, "refusing to decide the basic factual issue of prenatal humanbeingness," "may have been caused by the Court's misapprehension of the common law of abortion and the motivation behind early American anti-abortion statutes").

⁵ See STEPHEN KRASON, *ABORTION: POLITICS, MORTALITY, AND THE CONSTITUTION* 91 (1984) ("The Court tried to cut out any historical basis for its critics to object to its holding.... Believing it adequately demonstrated a liberty of abortion at common law, it now established the basis for that liberty within the unique confines of the written Constitution...."); John Keown, *Back to the Future of Abortion Law: *Roe's* Rejection of America's History and Traditions*, 22 *ISSUES L. & MED.* 3, 3 (2006) (questioning Justice Blackmun's conclusion "that a constitutional right to abortion was consistent with [the history of abortion in Anglo-American law]" and the historians' claim "that *Roe* was consistent with the nation's history and traditions").

⁶ See Paul Benjamin Linton, *Planned Parenthood v. Casey: The Flight from Reason in the Supreme Court*, 13 *ST. LOUIS U. PUB. L. REV.* 15, 103 (1993) ("The Court's examination of the history of abortion regulation was seriously flawed and failed to take into account the state of medical technology in which the law of abortion evolved."); James S. Witherspoon, *Reexamining *Roe*: Nineteenth-Century Abortion Statutes and the Fourteenth Amendment*, 17 *ST. MARY'S L.J.* 29, 32-34 (1985) (providing a discussion of nineteenth century criminal abortion statutes and their displacement of the common law).

⁷ See Henry J. Friendly, *The Courts and Social Policy: Substance and Procedure*, 33 *U. MIAMI L. REV.* 21, 36-37 (1978) (providing that "no evidence was offered at the hearing before the three-judge court" in *Roe* and that the Court's conclusion in *Roe* "rested entirely on materials not of record in the trial court").

⁸ See Martin Arbagi, *Roe and the Hippocratic Oath*, in *ABORTION AND THE CONSTITUTION: REVERSING *ROE V. WADE* THROUGH THE COURTS* 159, 163 (1987) (discussing how Justice Blackmun did not "cite any primary sources" in the section of *Roe* "dealing specifically with the Hippocratic oath").

homicide law,⁹ existing state and federal court decisions on a right to abortion,¹⁰ precedent,¹¹ and the unborn child's status as a human being or person in the law.¹² Others have criticized the workability of the Court's doctrine¹³ and its impact on women.¹⁴

⁹ See Gregory J. Roden, *Prenatal Tort Law and the Personhood of the Unborn Child: A Separate Legal Existence*, 16 ST. THOMAS L. REV. 207, 208 (2003) (examining "the state of prenatal tort and wrongful death law at the time the Supreme Court decided *Roe v. Wade*"); David Kader, *The Law of Tortious Prenatal Death Since Roe v. Wade*, 45 MO. L. REV. 639, 640 (1980) ("The ideological history of prenatal injury law, and the more recent development of prenatal death law has consistently moved toward the affirmation of the unborn as a 'person' in the law, with a parallel history evidenced in criminal abortion legislation."); William J. Maledon, Note, *The Law and the Unborn Child: The Legal and Logical Inconsistencies*, 46 NOTRE DAME L. REV. 349, 358 (1971) ("Where the child is born alive and then subsequently dies as a result of injuries received prior to birth, the courts which have considered the question are almost unanimous in allowing the child's estate to bring an action for wrongful death."). "Although the cause of action for wrongful death is purely statutory, the child born alive has always been considered a 'person' regardless of how short a time he actually survives." *Id.* For the state of legal protection before *Roe* see Case Comment, *The Role of the Law of Homicide in Fetal Destruction*, 56 IOWA L. REV. 658, 659 n.8 (1971) (citing ten states with statutes "defining feticide as a homicide").

¹⁰ See Richard Gregory Morgan, *Roe v. Wade and the Lesson of Pre-Roe Case Law*, 77 MICH. L. REV. 1724, 1727 (1979) (discussing various state and federal court decisions on a right to abortion).

¹¹ See EDWARD LAZARUS, *CLOSED CHAMBERS: THE FIRST EYEWITNESS ACCOUNT OF THE EPIC STRUGGLES INSIDE THE SUPREME COURT* 367 (1998) (discussing how the Court "failed in its responsibility to justify its ruling or even clarify the source of its authority")

As a precedent-follower, *Roe* simply string cites a series of privacy cases involving marriage, procreation, contraception, bedroom reading, education, and other assorted topics, and then abruptly announces with no doctrinal analysis that this privacy right is "broad enough to encompass" abortion. *Ipse dixit*. But as the Court itself admits a few pages later, the existence of the living fetus makes the case at hand "inherently different"—the italics here are mine—from every single one of these earlier-invoked cases.

Akhil Reed Amar, *Intratextualism*, 112 HARV. L. REV. 747, 778 (1999) (citations omitted)..

¹² See Michael Stokes Paulsen, *The Plausibility of Personhood*, 74 OHIO ST. L.J. 13, 14 (2013) (considering "the constitutional question of the legal personhood status of living human fetuses *in utero*").

¹³ See, e.g., CLARKE D. FORSYTHE, *ABUSE OF DISCRETION: THE INSIDE STORY OF ROE V. WADE* 150-52 (2013) [hereinafter *ABUSE OF DISCRETION*] (discussing the various problems with the *Doe* "health" definition, which expanded the abortion "right" beyond viability); Mary Ann Glendon, *From Culture Wars to Building a Culture of Life*, in *THE COST OF "CHOICE": WOMEN EVALUATE THE IMPACT OF ABORTION* 3, 5 (Erika Bachiochi ed., 2004) ("*Doe's* broad definition of 'health' spelled the doom of statutes designed to prevent the abortion late in pregnancy of children capable of surviving outside the mother's body unless the mother's health was in danger."); Clarke D. Forsythe & Bradley N. Kehr, *A Road Map Through the Supreme Court's Back Alley*, 57 VILL. L. REV. 45, 46 (2012) ("The main obstacle to effective health and safety regulations is not a lack of majority support, but rather the Supreme Court's abortion doctrine, which was misguided in its inception and has been contradictory in its application."); James Bopp, Jr., & Richard E. Coleson, *The Right to Abortion: Anomalous, Absolute, and Ripe for Reversal*, 3 BYU J. PUB. L. 181, 183 (1989) ("The special treatment for the abortion right violates the principles underlying the rule of law, the foundation stone of our constitutional system."). See generally JOHN T. NOONAN, JR., *A PRIVATE CHOICE: ABORTION IN AMERICAN IN THE SEVENTIES* (1979) (discussing twenty inquiries that explore the history and nature of the abortion right).

¹⁴ See Clarke D. Forsythe & Stephen B. Presser, *The Tragic Failure of Roe v. Wade: Why Abortion Should Be Returned to the States*, 10 TEX. REV. L. & POL. 85, 109 (2005) ("The medical and sociological data now make plain that induced abortion has undermined the health of women in myriad ways: physically, psychologically, medically, and relationally."); Glendon, *supra* note 13, at 10 ("Where abortion is concerned, medical and psychological consequences abound."); Helen M. Alvare, *Gonzales v. Carhart: Bringing Abor-*

Recently, Professor Randy Beck has published several articles that focus on the arbitrary nature of the viability rule that the Court has never adequately justified,¹⁵ a focus shared by others before him.¹⁶ Professor Stephen Gilles has analyzed how the Court has never justified or explained its life-or-health exception after viability.¹⁷ Others have criticized the search for a new rationale for the Court's abortion doctrine, whether it is found in the Equal Protection Clause¹⁸ or the Nineteenth Amendment.¹⁹

tion Law Back into the Family Law Fold, 69 MONT. L. REV. 409, 412 (2008) (arguing that abortion law should be harmonized with the rest of family law).

¹⁵ See Randy Beck, *The Essential Holding of Casey: Rethinking Viability*, 75 UMKC L. REV. 713, 725 (2007) (considering and rejecting "three possible explanations for the viability standard"). Beck argues that "[t]he inadequacy of these three rationales shows that the Court has failed to present a principled defense of viability as the controlling line." *Id.*; see also Randy Beck, *Gonzales, Casey, and the Viability Rule*, 103 NW. U. L. REV. 249, 252 (2009) ("Under the reasoning of *Casey*, if the Court cannot offer a principled constitutional rationale for requiring the ability to survive *ex utero* as a condition for state protection, then the Court should abandon the viability rule as an illegitimate and arbitrary line, inappropriate for judicial imposition."); Randy Beck, *Self-Conscious Dicta: The Origins of Roe v. Wade's Trimester Framework*, 51 AM. J. LEGAL HIST. 505, 520 (2011) (providing a discussion of the issue of the duration of abortion rights from a cover memorandum that accompanied Justice Blackmun's second draft of *Roe*); Memorandum from Justice Harry A. Blackmun to the Conference, Re: No. 70-18—*Roe v. Wade* (Nov. 21, 1972) (quoting Justice Blackmun as saying "[y]ou will observe that I have concluded that the end of the first trimester is critical. This is arbitrary, but perhaps any other selected point, such as quickening or viability, is equally arbitrary") (on file at the Library of Congress, in the Harry A. Blackmun Papers, Manuscript Division, Box 151, Folder 6); Randy Beck, *State Interests and the Duration of Abortion Rights*, 44 McGEORGE L. REV. 31, 38 (2013) ("While the Court alluded to 'logical and biological justifications' for 'State regulation protective of fetal life after viability,' it nowhere explained those justifications or why they took on added weight at the point when the fetus crossed the viability threshold.").

¹⁶ See Mark Tushnet, *Two Notes on the Jurisprudence of Privacy*, 8 CONST. COMMENT. 75, 80 (1991) (stating that the coherence of the distinction between viability and non-viability is rarely examined and that the concept of viability is problematic); John Hart Ely, *The Wages of Crying Wolf: A Comment on Roe v. Wade*, 82 YALE L.J. 920, 924-25 (1973) (discussing the inadequacy of the viability rule).

¹⁷ See Stephen G. Gilles, *Roe's Life-or-Health Exception: Self-Defense or Relative-Safety?*, 85 NOTRE DAME L. REV. 525, 527 (2010) ("As formulated in *Roe*, the exception turns out to be deeply ambiguous in rationale and scope.").

¹⁸ See Erika Bachiochi, *Embodied Equality: Debunking Equal Protection Arguments for Abortion Rights*, 34 HARV. J.L. & PUB. POL'Y 889, 897 (2011) ("In applying equal protection reasoning to questions of abortion law, the Court could, in effect, take a step that Congress, by declining to pass the Freedom of Choice Act, has thus far refused: invalidate laws regulating abortion throughout the fifty states."); Mary Catherine Wilcox, *Why the Equal Protection Clause Cannot "Fix" Abortion Law*, 7 AVE MARIA L. REV. 307, 320-21 (2008) ("[C]lassification on the basis of pregnancy is not a classification on the basis of gender, and thus the Equal Protection Clause cannot be used to strike down abortion statutes on the basis that they discriminate against women as a class."); Kristina M. Mentone, *When Equal Protection Fails: How the Equal Protection Justification for Abortion Undercuts the Struggle for Equality in the Workplace*, 70 FORDHAM L. REV. 2657, 2685 (2002) (arguing "that the equal protection argument for abortion perpetuates stereotypical views of women and makes true gender equality more difficult to achieve").

¹⁹ See Michael Stokes Paulsen, *The Text, the Whole Text, and Nothing but the Text, So Help Me God: Un-Writing Amar's Unwritten Constitution*, 81 U. CHI. L. REV. (forthcoming 2014) (reviewing Akhil Reed Amar's *America's Unwritten Constitution*).

II. The Medical Premise of *Roe v. Wade*

Too little attention, however, has been paid over the past forty years to the complete lack of a factual record in *Roe v. Wade* and *Doe v. Bolton*, and to the Court's fundamental medical assumption that drove the outcome.²⁰ The decision and opinions were driven by the medical claim that "abortion was safer than childbirth," which was raised for the first time in the briefs in the Supreme Court and without any lower court record.²¹ That assumption was at the very heart of the deliberations and decisions in the abortions cases. The Court in *City of Akron v. Akron Center for Reproductive Health*²² specifically referred to it as "Roe's factual assumption"²³ and said that "the State retains an interest in ensuring the validity" of the assumption.²⁴

The medical premise directly and profoundly shaped virtually every major aspect of *Roe* and *Doe*, including the creation of the trimester system²⁵ and the prohibition of health and safety regulations in the first trimester.²⁶ Because of this medical assumption, the Justices extended the right to abortion throughout pregnancy.²⁷ It was key to the Court's historical rationale for a "right" to abortion.²⁸ Because of this notion, the Justices gave abortion providers complete discretion to manage any issues of health and

²⁰ But see David C. Reardon et al., *Deaths Associated with Abortion Compared to Childbirth—A Review of New and Old Data and the Medical and Legal Implications*, 20 J. CONTEMP. HEALTH L. & POL'Y 279, 281 (2004) ("Thirty years later, the best available evidence now contradicts the 'established medical fact' relied upon in *Roe*."); Robert A. Destro, *Abortion and the Constitution: The Need for a Life-Protective Amendment*, 63 CALIF. L. REV. 1250, 1296-1303 (1975) (criticizing medical data that the Court relied upon).

²¹ See *Roe v. Wade*, 410 U.S. 113, 149 (1973) ("Appellants and various amici refer to medical data indicating that abortion in early pregnancy, that is, prior to the end of the first trimester, although not without its risk, is now relatively safe.").

²² 462 U.S. 416 (1983).

²³ *Id.* at 430 n.12.

²⁴ *Id.*

²⁵ See *Roe*, 410 U.S. at 163 (providing that the state's interest in regulating abortion becomes "compelling" "at approximately the end of the first trimester").

²⁶ *Id.*:

With respect to the State's important and legitimate interest in the health of the mother, the 'compelling' point, in light of present medical knowledge, is at approximately the end of the first trimester. This is so because of the now-established medical fact, referred to above at 149, that until the end of the first trimester mortality in abortion may be less than mortality in normal childbirth.

²⁷ See *id.* at 163-64 ("If the State is interested in protecting fetal life after viability, it may go so far as to proscribe abortion during that period [after viability], except when it is necessary to preserve the life or health of the mother.").

²⁸ See *id.* at 148-49 & n.44 ("Mortality rates for women undergoing early [legal] abortions ... appear to be as low as ... rates for normal childbirth. Consequently, any interest of the State in protecting the woman from an inherently hazardous procedure, except when it would be equally dangerous for her to forgo it, has largely disappeared."); *Id.* at 151 ("Because medical advances have lessened this concern, at least with respect to abortion in early pregnancy, they argue that with respect to such abortions the laws can no longer be justified by any state interest. There is some scholarly support for this view of original purpose.").

safety,²⁹ and they prohibited public-health officials from regulating abortion in the first trimester.³⁰ This medical assumption was the most consequential factual assumption of the abortion decisions of 1973, and it has been assumed to be true in subsequent abortion decisions by the Court.³¹

A. *The Impact of Roe and Doe*

Of course, what the public knows as “*Roe v. Wade*” is really two cases, *Roe v. Wade* and *Doe v. Bolton*. The companion case of *Doe v. Bolton* has been regularly ignored over the past forty years, despite its significant impact on abortion policy in the United States. The Court held that *Roe* and *Doe* “are to be read together.”³² In *Roe*, the Court held that the states could prohibit abortion after fetal viability, “except where it is necessary... for the preservation of the life or health of the mother.”³³ Then, in *Doe*, the Justices defined “health” as “all factors—physical, emotional, psychological, familial, and the woman’s age—relevant to the well-being of the patient.”³⁴ The “health exception” after viability swallowed the supposed prohibition after viability. For forty years, the “health exception” after viability has meant emotional well-being without limits.³⁵ Though some dispute that the “health” exception is a constitutional requirement,³⁶ federal courts have imposed it as a constitutional requirement to invalidate abortion laws, including post-viability regulations.³⁷ As Laurence Tribe wrote shortly after the decisions, “in [*Roe*

²⁹ See *id.* at 163:

This means, on the other hand, that, for the period of pregnancy prior to this ‘compelling’ point, the attending physician, in consultation with his patient, is free to determine, without regulation by the State, that, in his medical judgment, the patient’s pregnancy should be terminated. If that decision is reached, the judgment may be effectuated by an abortion free of interference by the State.

³⁰ See *id.* at 164 (“For the stage prior to approximately the end of the first trimester, the abortion decision and its effectuation must be left to the medical judgment of the pregnant woman’s attending physician.”).

³¹ The medical assumption has influenced the Justices in several cases. See, e.g., *Planned Parenthood of Cent. Mo. v. Danforth*, 428 U.S. 52, 76 (1976) (“[T]he mortality rate for normal childbirth exceeds that where saline amniocentesis is employed.”); *City of Akron v. Akron Ctr. for Reprod. Health, Inc.*, 462 U.S. 416, 429 n.11 (1983) (“The comparison between abortion and childbirth mortality rates may be relevant only where the State employs a health rationale as a justification for a complete prohibition on abortions in certain circumstances.”); *Planned Parenthood of Se. Pa. v. Casey*, 505 U.S. 833, 929 (1992) (Blackmun, J., concurring in part) (citing comparative mortality rates); *Stenberg v. Carhart*, 530 U.S. 914, 923-24 (2000) (citing mortality rates).

³² *Roe v. Wade*, 410 U.S. 113, 165 (1973).

³³ *Id.* at 164-65.

³⁴ *Doe v. Bolton*, 410 U.S. 179, 192 (1973).

³⁵ See *id.* (“[T]he medical judgment may be exercised in the light of all factors ...relevant to the well-being of the patient.”).

³⁶ See *Women’s Med. Prof’l Corp. v. Voinovich*, 130 F.3d 187 (6th Cir. 1997), cert. denied, 523 U.S. 1036, 1037 (1998) (Thomas, J., dissenting) (“Our conclusion that the statutory phrase at issue in *Doe* was not vague because it included emotional and psychological considerations in no way supports the proposition that, after viability, a mental health exception is required as a matter of federal constitutional law.”).

³⁷ See *Am. Coll. of Obstetricians & Gynecologists v. Thornburgh*, 737 F.2d 283, 299 (3d Cir. 1984) (“It is clear from the Supreme Court cases that ‘health’ is to be broadly defined. As the Court stated in *Doe*

and *Doe*]... [the Court] carried that doctrine [of substantive due process] to lengths few observers had expected, imposing limits on permissible abortion legislation so severe that no abortion law in the United States remained valid."³⁸

B. The Mistake that Left the Justices with No Record

Roe and *Doe* actually began as a procedural mistake that left the Justices with no evidentiary record. The Court took the two cases in April 1971, when Justices Black and Harlan were still on the Court, not to decide the abortion issue but to decide the application of *Younger v. Harris*³⁹ and, to a lesser extent, *Dombrowski v. Pfister*⁴⁰ to the procedural aspects of *Roe* and *Doe*.⁴¹

Then, in September 1971, Justices Black and Harlan abruptly retired due to ill health.⁴² That flipped the balance of the Court, and a temporary majority of four Justices—Douglas, Brennan, Stewart, and Marshall—resolved or disregarded the *Younger* issue and decided to use the two cases to declare a right to abortion before the Black and Harlan vacancies could be filled.⁴³ That is how the Justices ended up with two cases that had no trial or any evidentiary record on abortion or its implications, disregarding a long line of cases holding that the Court will not decide constitutional questions without an adequate record.⁴⁴

v. Bolton, the factors relating to health include those that are 'physical, emotional, psychological, familial, [as well as] the woman's age.'"), *aff'd*, *Thornburgh v. Am. Coll. of Obstetricians & Gynecologists*, 476 U.S. 747 (1986); see also Michael J. Tierney, *Post-Viability Abortion Bans and the Limits of the Health Exception*, 80 NOTRE DAME L. REV. 465, 470 (2004) ("While there are many places to look for guidance, the Sixth Circuit was wrong to look to *Vuitch* and *Doe* to establish that a mental health exception was constitutionally mandated. Both of these decisions were statutory interpretations and not constitutional mandates."); Brian D. Wassom, Comment, *The Exception that Swallowed the Rule? Women's Medical Professional Corporation v. Voinovich and the Mental Health Exception to Post-Viability Abortion Bans*, 49 CASE W. RES. L. REV. 799, 800 (1999) ("Federal courts, however, have been wary to uphold such laws unless they contain an unambiguous health exception—one that, in the view of many courts, must allow doctors almost limitless discretion to determine what 'health' means in any given context.").

³⁸ ABUSE OF DISCRETION, *supra* note 13, at 1.

³⁹ 401 U.S. 37 (1971).

⁴⁰ 380 U.S. 479 (1965).

⁴¹ See ABUSE OF DISCRETION, *supra* note 13, at 19 ("*Younger* intersected with the abortion cases filed in federal court against state laws from 1969 to 1972 because a doctor who was prosecuted for abortion in state court might file a case in federal court to block the state prosecution--the kind of scenario with which *Younger* was concerned.").

⁴² See *id.* at 37 ("One of the decisive moments came in September 1971, about three months before the first oral arguments, when Justices Black and Harlan abruptly retired, within a week of each other, due to poor health.").

⁴³ See *id.* at 43. ("The Black and Harlan vacancies gave the four Justices who favored striking down the abortion laws—Brennan, Douglas, Marshall, and Stewart—a great incentive to decide *Roe* and *Doe* without the votes of Powell and Rehnquist.").

⁴⁴ See, e.g., *Renne v. Geary*, 501 U.S. 312, 321-22 (1991) ("We possess no factual record of an actual or imminent application of [the statute] sufficient to present the constitutional issues in 'clean-cut and concrete form.'" (citations omitted)); *Kleppe v. New Mexico*, 426 U.S. 529, 546 (1976) ("We have often declined to decide important questions regarding 'the scope and constitutionality of legislation' in the absence of 'an adequate and full-bodied record.'" (citations omitted)); *Pub. Affairs Assocs. v. Rickover*, 369

Justice Blackmun told this story to at least two people, and it is confirmed by the briefs, the Justices' papers, and the oral arguments. Justice Blackmun wrote to Chief Justice Rehnquist in 1987:

I remember that the old Chief [Warren Burger] appointed a screening committee, chaired by Potter [Stewart], to select those cases that could (it was assumed) be adequately heard by a Court of seven. I was on that little committee. We did not do a good job. Potter pressed for *Roe v. Wade* and *Doe v. Bolton* to be heard and did so in the misapprehension that they involved nothing more than an application of *Younger v. Harris*. How wrong we were.⁴⁵

With no evidentiary record in either *Roe* or *Doe*, the Justices were left with a large vacuum and the temptation to rely upon their personal experiences, prejudices, and hunches in deciding the abortion cases. And, in that evidentiary vacuum, the Justices were susceptible to *untested* theories of law, history, and medicine.⁴⁶

C. The Source of the Medical Mantra

One of those untested theories was the medical notion that “abortion was safer than childbirth.” Up through the 1950s, neither leading abortion advocates nor Planned Parenthood claimed that “abortion was safer than childbirth.”⁴⁷

The source of the claim is apparently an April 1961 report by Christopher Tietze in the *Journal of the American Medical Association* (JAMA).⁴⁸ Thereafter, attorneys for abortion advocates made the claim in numerous cases in the 1960s in an attempt to influence the courts to legalize abortion.⁴⁹ Eventually, Tietze's paper made its way into

U.S. 111, 113 (1962) (per curiam) (“Adjudication of such problems, certainly by way of resort to a discretionary declaratory judgment, should rest on an adequate and fullbodied record. The record before us is woefully lacking in these requirements.”); *Associated Press v. NLRB*, 301 U.S. 103, 132 (1937) (“Courts deal with cases upon the basis of the facts disclosed, never with nonexistent and assumed circumstances.”); *City of Hammond v. Schappi Bus Line*, 275 U.S. 164, 171-72 (1927) (“Before any of the questions suggested, which are both novel and of far reaching importance, are passed upon by this Court, the facts essential to their decision should be definitely found by the lower courts upon adequate evidence.”).

⁴⁵ Letter from Justice Blackmun, U.S. Supreme Court, to Chief Justice Rehnquist (July 16, 1987) (on file at the Library of Congress, Harry A. Blackmun Papers, Box 151, Folder 3, and Box 1407, Folder 13); see also ABUSE OF DISCRETION, *supra* note 13, at 18 (quoting Justice Blackmun's July 20 letter to Justice Rehnquist).

⁴⁶ Federal Judge Richard Posner recently suggested that he erred in *Crawford v. Marion County* when he upheld a state voter identification law despite the insufficiency of the record. Judge Posner said: “I think we did not have enough information. And of course it illustrates the basic problem that I emphasize in [my new] book. We judges and lawyers, we don't know enough about the subject matters that we regulate, right?” Josh Gerstein, *Judge: My Voter ID Ruling Was Wrong*, JOSH GERSTEIN BLOG (Oct. 11, 2013, 6:04 PM), <http://politi.co/165Y0qQ> (last visited Jan. 22, 2014) (on file with the *Washington and Lee Law Review*).

⁴⁷ See ABUSE OF DISCRETION, *supra* note 13, at 159 (discussing where “the mantra” came from).

⁴⁸ See Christopher Tietze, *Legal Abortion in Eastern Europe*, 175 J. AM. MED. ASS'N 1149, 1149 (1961) (“These low [abortion] death rates compare favorably with mortality from all complications of pregnancy, childbirth, and the puerperium . . .”).

⁴⁹ See, e.g., *Poe v. Menghini*, 339 F. Supp. 986, 994 n.24 (D. Kan. 1972) (stating that “Plaintiffs' evidence indicates that the abortion procedure is among the safest of surgical procedures,” citing, without reference, “a survey” that revealed that abortion “is 2.7 times safer than childbirth”); *Babbitz v. McCann*, 310 F. Supp. 293, 301 (E.D. Wis. 1970) (citing the *Belous* decision, not any medical study); *People v.*

court decisions. The California Supreme Court's 1969 decision in *People v. Belous*,⁵⁰ the first state court decision to invalidate a state abortion law, was the first court to make the claim.⁵¹ That decision actually cited three of the medical sources that the Supreme Court later cited in *Roe* and *Doe*.⁵² By the time the Court considered *Roe* and *Doe*, the claim that "abortion is safer than childbirth" was so frequently repeated that it had become a mantra.

D. No Factual Record in the Abortion Cases

Both *Roe* and *Doe* were decided without trials or evidentiary records.⁵³ The factual records consisted merely of a complaint, an affidavit, and motions to dismiss that addressed legal, not factual, issues. In two hour-long hearings, the judges addressed procedural and jurisdictional issues more than they addressed substantive questions.⁵⁴ And then a direct appeal to the Supreme Court was made without any intermediate appellate review.⁵⁵

Realizing that *Doe's* lack of any evidentiary record was a problem,⁵⁶ Sarah Weddington's co-counsel in the Supreme Court, Roy Lucas, stressed the need to fill that vacuum at a strategy meeting of attorneys in Manhattan in July 1971, as historian David

Belous, 458 P.2d 194, 200-01 n.7 (Cal. 1969) (stating "[i]t is now safer for a woman to have a hospital therapeutic abortion during the first trimester than to bear a child" (citing Tietze, *supra* note 48, at 1152)); Vera Kolblova, *Legal Abortion in Czechoslovakia*, 196 J. AM. MED. ASS'N 371 (1966); K. Mehland, *Combating Illegal Abortion in the Socialist Countries of Europe*, 13 WORLD MED. J. 84 (1966).

⁵⁰ 458 P.2d 194 (Cal. 1969).

⁵¹ See *id.* at 206 (invalidating section 274 of the California Penal Code, which made it a crime to perform an abortion unless it was necessary to preserve the woman's life); *Abortion*, 64 NW. J. CRIM. L. & CRIMINOLOGY 393, 394 (1973) (providing that *People v. Belous* "was the first decision to declare a criminal abortion statute unconstitutional").

⁵² Compare *Belous*, 458 P.2d at 201 n.7 (citing Tietze, *supra* note 48, at 1152; Kolblova, *supra* note 49; Mehland, *supra* note 49), with *Roe v. Wade*, 410 U.S. 113, 149 n.44 (1973) (citing Tietze, *supra* note 48, at 1152), and *Doe v. Bolton*, 410 U.S. 179, 216 n.5 (1973) (citing Tietze, *supra* note 48, at 1152; Kolblova, *supra* note 49; Mehland, *supra* note 49).

⁵³ See *Roe v. Wade*, 314 F. Supp. 1217, 1224 (N.D. Tex. 1970) (holding "that the motions for summary judgment of the plaintiff *Roe* and plaintiff-intervenor *Hallford* should be granted as to their request for declaratory judgment" and finding "the Texas Abortion Laws unconstitutional for vagueness and overbreadth"); *Doe v. Bolton*, 319 F. Supp. 1048, 1051 (N.D. Ga. 1970) (providing that "Plaintiffs seek an order declaring Georgia's Abortion Statute unconstitutional and enjoining its enforcement on various grounds").

⁵⁴ See ABUSE OF DISCRETION, *supra* note 13, at 160 (discussing the lack of a factual record in *Roe* and *Doe*).

⁵⁵ See *Roe v. Wade*, 410 U.S. 113, 113 (1973) ("Appellants directly appealed to this Court on the injunctive rulings, and appellee cross-appealed from the District Court's grant of declaratory relief to *Roe* and *Hallford*."); see also *Doe v. Bolton*, 410 U.S. 179, 179 (1973) ("The appellants, claiming entitlement to broader relief, directly appealed to this Court.").

⁵⁶ See DAVID J. GARROW, LIBERTY AND SEXUALITY: THE RIGHT TO PRIVACY AND THE MAKING OF *ROE V. WADE* 493 (1994) (providing that Lucas "emphasized how regrettable it was that *Doe's* crucial but as yet unsuccessful challenge to the Georgia statute's hospitalization requirement was going forward without any extensive trial court evidentiary record having been developed").

Garrow recounts.⁵⁷ Lucas sought to rectify the lack of a factual medical record by filing “a supplementary appendix of more than four dozen prior court rulings and medical journal papers that all-told came to an imposing 477 pages, far larger than the brief itself,” as Garrow has described it.⁵⁸ He filled the “supplemental appendix” with sixty articles, fifteen of which dealt with “medical” and “sociological” issues.⁵⁹ Nine articles addressed medicine. But none of these nine articles claimed that abortion was safer than childbirth.⁶⁰ And none of these was among those that the Court eventually cited.⁶¹ Many of the articles were not peer-reviewed;⁶² some were not even published;⁶³ and none was part of the record.⁶⁴ So, the mantra was first presented in the briefs filed in the Supreme Court in the summer of 1971 before the first oral arguments on December 13, 1971. The truth of the claim that “abortion was safer than childbirth” was directly disputed at oral argument, and it was repeatedly pointed out that neither *Roe* nor *Doe* had any record.⁶⁵

⁵⁷ See *id.* (“Data on New York’s now almost one-year-old experience with nonhospital procedures might be a potentially persuasive substitute if it was featured prominently enough in the *Doe* briefs, Lucas advised.”).

⁵⁸ *Id.* at 500.

⁵⁹ See *id.* at 500-01 (“Lucas included former Justice Tom Clark’s law review essay as well as medical studies by supportive doctors such as Bob Hall and Christopher Tietze . . .”).

⁶⁰ See ABUSE OF DISCRETION, *supra* note 13, at 160 (discussing medical articles and essays that Roy Lucas included in the supplemental appendix in *Doe*).

⁶¹ The nine medical articles were: Robert E. Hall, *Abortion in American Hospitals*, 57 AM. J. PUB. HEALTH 1933 (1967); Robert E. Hall, *Therapeutic Abortion, Sterilization, and Contraception*, 91 AM. J. OBSTETRICS & GYNECOLOGY 531 (1965); Alan Margolis et al., *Therapeutic Abortion Follow-Up Study*, 110 AM. J. OBSTETRICS & GYNECOLOGY 243 (1971); George Walter, *Psychologic and Emotional Consequences of Elective Abortion*, 36 OBSTETRICS & GYNECOLOGY 482 (1970); Christopher Tietze, *Mortality with Contraception and Induced Abortion*, 45 STUD. FAM. PLAN. 6 (1969); Alan Margolis & Edmund Overstreet, *Legal Abortion Without Hospitalization*, 36 OBSTETRICS & GYNECOLOGY 479 (1970); H. Harvey & B. Pyle, *On the Healthiness of Four Thousand Abortions in a Free-Standing Clinic* (unpublished manuscript); Sadja Goldsmith & Alan Margolis, *Aspiration Abortion Without Cervical Dilatation*, 9 J. REPROD. MED. 237 (1972); A. Jefferson Penfield, *Abortion Under Paracervical Block*, 71 N.Y. ST. J. MED. 1185 (1971). None of these were among the seven cited by the Court, which were: *Abortion Mortality*, 20 MORBIDITY & MORTALITY WKLY. REP. 208 (1971); Christopher Tietze, *Mortality with Contraception and Induced Abortion*, 45 STUD. FAM. PLAN. 6 (1969); Christopher Tietze, *Legal Abortion in Eastern Europe*, 175 J. AM. MED. ASS’N 1149 (1961); Vera Kolblova, *Legal Abortion in Czechoslovakia*, 196 J. AM. MED. ASS’N 371 (1966); K. Mehland, *Combating Illegal Abortion in the Socialist Countries of Europe*, 13 WORLD MED. J. 84 (1966); Malcom Potts, *Postconceptive Control of Fertility*, 8 INT’L J. OF G. & O. 957 (1970); Christopher Tietze, *United States: Therapeutic Abortions, 1963 to 1968*, 59 STUD. FAM. PLAN. 5 (1970).

⁶² Tietze, *supra* note 48; See Forsythe & Kehr, *supra* note 13, at 52 (“It is not an analysis of data, must less a peer-reviewed study, but a report on conference papers addressing statistics from the 1940s and 1950s from Eastern European countries.”).

⁶³ Harvey & Pyle, *supra* note 61.

⁶⁴ See ABUSE OF DISCRETION, *supra* note 13, at 160 (discussing the lack of record).

⁶⁵ *Id.*; see also *id.* at 161 (“The Justices never questioned the truthfulness of the mantra or of the proffered medical data, though it was disputed by the attorneys for Texas and Georgia.”).

The mantra was based on abortion mortality numbers from Soviet Bloc countries.⁶⁶ But there were no reliable data from these countries, and no reliable data that these rates were comparable or that they showed that “abortion was safer than childbirth.” No existing text book on obstetrics and gynecology claimed that “abortion was safer than childbirth.”⁶⁷ Nevertheless, Justices Blackmun and Douglas ended up citing seven medical references between them to support the mantra in *Roe* and *Doe*.⁶⁸ All except one of the seven sources relied on 1950s statistics from Soviet Bloc countries; but even those were not peer-reviewed studies, just raw numbers.⁶⁹ They cited, for example, Tietze’s 1961 JAMA article, but this was merely a report of an international conference on abortion from May 1960 and conversations by the author, Christopher Tietze, with a “Dr. Herschler” about Hungarian data.⁷⁰ Another is merely a letter to the editor.⁷¹ Several of the articles do not even claim to compare childbirth mortality and abortion mortality.⁷² Finally, there were data from New York City, derived from ten months of New York State’s legalization of abortion after July 1970.⁷³ But this was hotly disputed for one key reason: 55.5% of the abortions in those months were performed on out-of-state residents who were lost to follow-up, making it impossible to monitor their condition.⁷⁴ A one-page clerk’s memo in Justice Blackmun’s papers acknowledged this criticism, concluding that it was “devastating.”⁷⁵ But Justice Blackmun merely corrected the clerk’s grammar, as he was known to do,⁷⁶ and proceeded to cite the New York numbers in his final *Roe*

⁶⁶ See *Roe v. Wade*, 410 U.S. 113, 149 n.44 (1973) (citing Tietze, *supra* note 61 (Japan, Czechoslovakia, Hungary) and Tietze, *supra* note 48, at 1152 (Eastern Europe)); *Doe v. Bolton*, 410 U.S. 179, 216 n.5 (1973) (citing Kolblova, *supra* note 49; Mehland, *supra* note 49). See ABUSE OF DISCRETION, *supra* note 13, at 163-70, for a critical analysis of these articles.

⁶⁷ See ABUSE OF DISCRETION, *supra* note 13, at 170 n.60. (“But no textbooks are cited in *Roe* to support the mantra because the existing obstetrical textbooks published before 1972 never made the claim . . .”).

⁶⁸ See *Roe*, 410 U.S. at 149 n.44 (citing medical articles in majority opinion of Justice Blackmun); *Doe*, 410 U.S. at 216 n.5 (citing medical articles in concurring opinion of Justice Douglas).

⁶⁹ That article was Malcom Potts, *Postconceptive Control of Fertility*, 8 INT’L J. OF GYNECOLOGY & OBSTETRICS 957 (1970). This article “contains no data and no supporting studies,” and “[v]irtually all assertions on data are undocumented and have no citations whatsoever.” Forsythe & Kehr, *supra* note 13, at 53.

⁷⁰ Tietze, *supra* note 48.

⁷¹ Kolblova, *supra* note 49. Vera Kolblova’s “article” is really a six-paragraph letter to the editor” in which she “comments on Czech abortion law since 1957.” Forsythe & Kehr, *supra* note 13, at 53.

⁷² See *Roe v. Wade*, 410 U.S. 113, 149 n.44 (1973) (citing Potts, *supra* note 69, at 967; Christopher Tietze, *United States: Therapeutic Abortions, 1963 to 1968*, 59 STUD. FAM. PLAN. 5, 7 (1970)); *Doe v. Bolton*, 410 U.S. 179, 216 n.5 (1973) (citing Kloblova, *supra* note 66; Mehland, *supra* note 66).

⁷³ *Abortion Mortality*, 20 MORBILITY & MORTALITY WKLY. REP. 208, 208 (1971).

⁷⁴ See Forsythe & Kehr, *supra* note 13, at 53 (discussing the arguments that critics made regarding “a June 1971 report on data from New York City supposedly documenting the city’s experience since New York legalized abortion on July 1, 1970”).

⁷⁵ Memorandum from Law Clerk to Justice Blackmun (on file with the *Washington and Lee Law Review*).

⁷⁶ See LINDA GREENHOUSE, *BECOMING JUSTICE BLACKMAN: HARRY BLACKMUN’S SUPREME COURT JOURNEY* 107 (2005) (“And he himself reviewed his clerks’ work, not only correcting their spelling and punctuation but also checking the accuracy of the citations in the opinions they drafted for him. No other justice engaged in this level of detailed review.”).

opinion.⁷⁷ The mantra—and the data from the Soviet Bloc countries—were challenged as unreliable by the attorneys for Texas and Georgia in their briefs and at the oral arguments in December 1971, and the rearguments in October 1972.⁷⁸

E. Impact of the Medical Mantra

Unfortunately, the adoption of the medical mantra by the Court in *Roe* that “abortion was safer than childbirth” has had at least four negative results.

1. The public health vacuum

From the 1960s to the 1980s, Henry J. Friendly was considered one of the greatest federal judges to *never* sit on the U.S. Supreme Court.⁷⁹ Friendly served on the U.S. Court of Appeals in Manhattan from 1959 until his death in March 1986.⁸⁰ Judge Richard Posner has written that “Friendly’s opinions and academic writings, in field after field, proposed revisions and clarifications of doctrines that time after time the Supreme Court gratefully adopted.”⁸¹ Both Justices William Brennan and John Paul Stevens considered Friendly one of the greatest federal judges.⁸² So, it was significant that Friendly was assigned in 1969 to hear a federal court challenge to the New York State abortion law,⁸³ one of twenty plus cases filed in the federal courts between 1969 and 1972 to challenge state abortion laws.⁸⁴ Friendly, who favored the legalization of abortion by the state legislature, drafted an opinion in April and May 1970, which rejected the extension of *Griswold v. Connecticut*⁸⁵ to abortion.⁸⁶ He would have upheld the constitutionality of the New York State abortion law.⁸⁷

⁷⁷ See *Roe v. Wade*, 410 U.S. 113, 149 n.44 (1973) (citing *Abortion Mortality*, 20 MORBIDITY & MORTALITY WKLY. REP. 208, 209 (1971)).

⁷⁸ See ABUSE OF DISCRETION, *supra* note 13, at 170-71 (discussing how the contrary data was ignored by the Court).

⁷⁹ See DAVID M. DORSEN, HENRY FRIENDLY: GREATEST JUDGE OF HIS ERA 356 (2012) (“Many, including Justices John Paul Stevens and Antonin Scalia, have coupled Friendly with Hand as the two greatest lower-court federal judges who never sat on the Supreme Court.”).

⁸⁰ See A. Raymond Randolph, *Administrative Law and the Legacy of Henry J. Friendly*, 74 N.Y.U. L. REV. 1, 2 (1999) (providing a timeline of Henry Friendly’s education and career).

⁸¹ Judge Richard A. Posner, *Foreword* to DAVID M. DORSEN, HENRY FRIENDLY: GREATEST JUDGE OF HIS ERA, at xii (2012).

⁸² See DORSEN, *supra* note 79, at 356 (discussing “the many extravagant, but warranted, compliments paid to Friendly”).

⁸³ See *Hall v. Lefkowitz*, 305 F. Supp. 1030, 1031 (1969) (challenging “New York State’s abortion laws on various grounds of constitutional infirmity”).

⁸⁴ See A. Raymond Randolph, Circuit Judge, United States Court of Appeals for the District of Columbia Circuit, Address at the Barbara K. Olson Memorial Lecture: Before *Roe v. Wade*: Judge Friendly’s Draft Abortion Opinion (Nov. 11, 2005), in 29 HARV. J.L. & PUB. POL’Y 1035, 1036 (2006) (discussing how Judge Friendly was one of the judges assigned to a three-judge district court to hear the case brought by Roy Lucas in *Hall v. Lefkowitz*).

⁸⁵ 381 U.S. 479 (1965).

⁸⁶ See Randolph, *supra* note 84, at 1038 (“Judge Friendly viewed abortion as another matter entirely, having nothing to do with privacy of the *Griswold* variety.”).

⁸⁷ See *id.* at 1040 (“For we cannot say the New York legislature lacked a rational basis for considering that abortion causes such harm.”).

But Friendly's draft opinion never saw the light of day.⁸⁸ When New York State legalized abortion in May 1970, the case was dismissed as moot, and Friendly's opinion was left in his personal papers for thirty-six years, apparently open to the public but little noticed until 2006.⁸⁹ Friendly's draft opinion stated:

[T]he decision what to do about abortion is for the elected representatives of the people, not for three, or even nine, appointed judges The legislature can make choices among [various abortion policies], observe the results, and act again as observation may dictate. Experience in one state may benefit others In contrast a court can only strike down a law, leaving a vacuum in its place.⁹⁰

That's exactly what *Roe v. Wade* did.

The Justices' medical assumption was directly responsible for the Justices' prohibition of health and safety regulations in the first trimester, when ninety percent of abortions are done.⁹¹ After *Roe* and *Doe*, the Justices proceeded between 1974 and 1980 to affirm invalidation or deny certiorari in three cases with clinic regulations.⁹² The implications have been serious, as recent incidents demonstrate:

- Investigative officials in February 2010 found "deplorable and unsanitary" conditions and numerous health and safety violations in the Philadelphia abortion clinic of Dr. Kermit Gosnell. The Philadelphia District Attorney charged Gosnell with murder in the death of an abortion patient. He was tried in March 2013, and convicted on May 13, 2013.⁹³

⁸⁸ See *id.* at 1035 (noting that no one knows "Judge Friendly wrote an opinion in the first abortion-rights case ever filed in federal court" because that opinion was never published).

⁸⁹ See *id.* at 1037 (stating that the *Hall v. Lefkowitz* case was dismissed and no opinion was issued, after the New York legislature amended the statute to allow abortion on demand during the first twenty-four weeks of pregnancy).

⁹⁰ *Id.* at 1040-41.

⁹¹ Forsythe & Kehr, *supra* note 13, at 51.

⁹² See *Friendship Med. Ctr., Ltd. v. Chi. Bd. of Health*, 505 F.2d 1141, 1143 (7th Cir. 1974) (invalidating "regulations which describe in substantial detail conditions, equipment, and procedures that medical facilities offering abortions must comply with, without regard to the trimester of pregnancy involved"), *cert. denied*, 420 U.S. 997 (1975); *Sendak v. Arnold*, 429 U.S. 968 (1976), *aff'd* 416 F. Supp. 22, 22-23 (S.D. Ind.) (declaring unconstitutional the part of the Indiana abortion statute that requires all abortions, including those in the first trimester of pregnancy, to be performed "in a hospital or a licensed health facility"); *Coe v. Gerstein*, 376 F. Supp. 695, 696 (S.D. Fla. 1973) (holding that Florida's "approved facility" requirements "are constitutionally invalid because they make no distinction between the first trimester of pregnancy ... and the latter trimesters where the State may impose regulations reasonably related to the preservation and protection of maternal health"), *appeal dismissed*, 417 U.S. 279 (1974), and *affirming denial of injunction sub nom. Poe v. Gerstein*, 417 U.S. 281 (1974).

⁹³ Jon Hurdle, *Doctor Starts His Life Term in Grisly Abortion Clinic Case*, N.Y. TIMES (May 16, 2013), http://www.nytimes.com/2013/05/16/us/kermit-gosnell-abortion-doctor-gets-life-term.html?_r=0 (last visited Feb. 7, 2014) (on file with the *Washington and Lee Law Review*). See also Forsythe & Kehr, *supra* note 13, at 59, for an analysis of what created the context for Kermit Gosnell's practices.

- After Alexandra Nunez died in January 2010 from a botched abortion by Dr. Robert Hosty at his A-1 Women's Center in Queens, New York, the State of New York finally revoked his license two years later.⁹⁴
- In July 2011, a jury in Orlando, Florida awarded \$36.7 million in damages against abortion provider Dr. James Pendergraft for profound injuries to a child who survived a late-term abortion.⁹⁵
- In the summer of 2011, the *Chicago Tribune* found six deaths and 4,000 injuries in Illinois abortion clinics that were never reported to the Illinois Department of Health.⁹⁶
- Healthy twenty-four-year-old Tonya Reaves died in July 2012, at Northwestern Memorial Hospital after an elective abortion at a clinic on South Michigan Avenue in Chicago. A wrongful death suit was filed and settled by Planned Parenthood.⁹⁷
- A healthy twenty-nine-year-old woman, Jennifer Morbelli, died in January 2013, after an abortion at thirty-three weeks of pregnancy at an abortion clinic in Germantown, Maryland.⁹⁸
- Twenty-two-year-old Lakisha Wilson died on March 28, 2014, after complications from an abortion on March 21, 2014, at the Preterm Clinic on Shaker Boulevard in Cleveland, Ohio.⁹⁹

⁹⁴ Michael J. Feeney et al., *Queens Clinic A1 Medicine Probed After Alexandra Nunez is Fatally Injured While Undergoing Abortion*, NYDAILYNEWS.COM (Jan. 27, 2010), <http://www.nydailynews.com/news/queens-clinic-a1-medicine-probed-alexandra-nunez-fatally-injured-undergoing-abortion-article-1.460728> (last visited Feb. 7, 2014) (on file with the *Washington and Lee Law Review*).

⁹⁵ Anthony Colarossi, *Judge Denies Orlando-Area Abortion Doctor New Trial in \$36 Million Malpractice Case*, ORLANDO SENTINEL (Aug. 15, 2011), http://articles.orlandosentinel.com/2011-08-15/news/os-abortion-doctor-ruling-20110815_1-abortion-doctor-orlando-women-s-center-malpractice-case (last visited Feb. 7, 2014) (on file with the *Washington and Lee Law Review*).

⁹⁶ Megan Twohey, *State Abortion Records Full of Gaps*, CHI. TRIB. (June 16, 2011), http://articles.chicagotribune.com/2011-06-16/news/ct-met-abortion-reporting-20110615_1-abortion-providers-fewer-abortions-national-abortion-federation (last visited Feb. 7, 2014) (on file with the *Washington and Lee Law Review*).

⁹⁷ Alexis Shaw, *Chicago Woman's Family Lawyers Up After Abortion-Related Death*, ABC NEWS (July 24, 2012), <http://abcnews.go.com/US/chicago-womans-family-lawyers-abortion-related-death/story?id=16845276> (last visited Feb. 7, 2014) (on file with the *Washington and Lee Law Review*).

⁹⁸ Dan Morse, *Maryland Officials Probe Possible Abortion Link in Woman's Death*, WASH. POST (Feb. 9, 2013), http://www.washingtonpost.com/local/maryland-officials-probe-possible-abortion-link-in-womans-death/2013/02/09/f6bd74c2-7312-11e2-a050-b83a7b35c4b5_story.html (last visited Feb. 7, 2014) (on file with the *Washington and Lee Law Review*); Dan Morse, *Antiabortion Activists Blame Germantown Clinic for Woman's Death*, WASH. POST (Feb. 11, 2013), http://articles.washingtonpost.com/2013-02-11/local/37040544_1-abortion-clinic-leroy-carhart-late-term (last visited Feb. 7, 2014) (on file with the *Washington and Lee Law Review*).

⁹⁹ Scott Taylor, *Woman Dies After Being Rushed to Hospital Following An Abortion*, 19 ACTION NEWS (Apr. 1, 2014), <http://www.19actionnews.com/story/25133698/woman-dies-after-being-rushed-to-hospital-following-an-abortion> (last visited Apr. 9, 2014) (on file with the *Washington and Lee Law Review*); Brandon Blackwell, *Anti-abortion Group Accuses Cleveland Abortion Clinic of Fatally Botching Procedure on Columbus*

Though the U.S. Courts of Appeals for the Fourth Circuit and the Fifth Circuit have allowed health and safety regulations to go into effect,¹⁰⁰ in forty years, the Supreme Court has yet to approve health and safety regulations in the first trimester.

2. *The expansion to viability (and beyond) and the risks of late-term abortions*

After *Roe* and *Doe* were reargued on October 11, 1972, Justice Blackmun distributed his second draft opinion on November 21, 1972, which emphasized the end of the first trimester (twelve weeks) as the “decisive” limit to the right to abortion.¹⁰¹ The Justices then began to negotiate over the scope of the abortion right they were creating. By early December, Justices Powell and Marshall had persuaded Justice Blackmun to expand the right by sixteen weeks—four whole months—from twelve weeks to twenty-eight weeks of pregnancy.¹⁰² There was never any briefing, or argument, on viability or its medical implications. *The word viability was not mentioned even once during the four hours of argument in December 1971 and October 1972.*¹⁰³

Blackmun’s third draft of December 21, 1972, only four weeks before the decisions were publicly released, expanded the right to viability.¹⁰⁴ The scope of the abortion right that the Justices created in *Roe* and *Doe* isolates the United States as one of only four nations out of 195 in the world that allows abortion for any reason after fetal viability. Those four are China, North Korea, Canada, and the United States.¹⁰⁵ Although Justice Powell played a pivotal role in influencing Justice Blackmun to expand the abortion

Woman, 22, CLEVELAND.COM (Apr. 1, 2014), http://www.cleveland.com/metro/index.ssf/2014/04/pro-life_group_accuses_clevela.html (last visited Apr. 9, 2014) (on file with the *Washington and Lee Law Review*).

¹⁰⁰ See *Greenville Women’s Clinic v. Bryant*, 222 F.3d 157, 159 (4th Cir. 2000) (finding that South Carolina’s regulation establishing standards for licensing abortion clinics “serves a valid state interest”), *cert. denied*, 531 U.S. 1191 (2001); *Greenville Women’s Clinic v. Comm’r, S.C. Dep’t of Health & Envtl. Control*, 317 F.3d 357, 371 (4th Cir. 2002) (finding constitutional South Carolina’s reporting and licensing requirements for abortion clinics); *Women’s Med. Ctr. of Nw. Hous. v. Bell*, 248 F.3d 411, 423 (5th Cir. 2001) (concluding that the annual 300 abortion threshold set by Texas “for subjecting abortion facilities to licensing bears some rational relationship to the state interest in protecting the health and welfare of Texas abortion patients”).

¹⁰¹ ABUSE OF DISCRETION, *supra* note 13, at 134; see also *id.* at 133-34 (“You will observe that I have concluded that the end of the first trimester is critical. This is arbitrary, but perhaps any other selected point, such as quickening or viability, is equally arbitrary.” (quoting Justice Blackmun’s second draft opinion distributed on November 21, 1972)).

¹⁰² *Id.* at 140-42; see also *id.* at 138-39 (discussing Justices Marshall and Powell’s lobbying, which led to Blackmun’s memo in which he proposed viability and asked for reactions to his suggestion). After Justice Blackmun had received the responses, he “finally responded with another Memo to the Conference dated December 15, 1972, which indicated that he would change the draft to adopt viability.” *Id.* at 139.

¹⁰³ See Forsythe & Kehr, *supra* note 13, at 55-56 (discussing “the Court’s arbitrary expansion of the abortion right to viability,” and collecting sources that point out that “the viability rule was complete dictum in *Roe*”); Oral Argument, *Roe v. Wade*, 410 U.S. 113 (1973) (No. 70-18), available at http://www.oyez.org/cases/1970-1979/1971/1971_70_18/argument (providing a full transcript of the argument).

¹⁰⁴ See GARROW, *supra* note 56, at 585-86 (“Here I have tried to recognize the dual state interests of protecting the mother’s health and of protecting potential life.” (quoting Justice Blackmun’s December 21, 1972 cover memo) (internal quotation marks omitted)).

¹⁰⁵ ABUSE OF DISCRETION, *supra* note 13, at 126 nn.4-5.

right to viability, Justice Powell later told his biographer that *Roe* and *Doe* were “the worst opinions I ever joined.”¹⁰⁶

It is important to recognize that the viability rule is directly connected to the state’s interest in fetal life.¹⁰⁷ The viability rule is about the size and significance of the fetus. But the viability rule was not formulated with any serious consideration of maternal health or the implications for maternal health.¹⁰⁸ There is almost no discussion in *Roe* or *Doe* of the implications of expanding the right to viability for maternal health, and there was no evidentiary record to assess the maternal health implications, though the attorney for the Georgia plaintiffs told the Justices that “mortality and complications for late abortions are three times greater, after twelve weeks.”¹⁰⁹ And, in the twenty-nine or so abortion cases considered by the Supreme Court on the merits since *Roe*, there has been little consideration of the maternal health implications of the viability rule or of late-term abortions.¹¹⁰

3. “Health” considerations in Supreme Court abortion cases have been a “one-way ratchet.”

After adopting the mantra that “abortion is safer than childbirth,” the Justices have operated since *Roe* with the assumption that “health” concerns are a “one-way ratchet” in favor of access to abortion, based on the assumption that there are only risks from delaying an abortion, and none from abortion itself. Only in 2007 in *Gonzales v. Car-*

¹⁰⁶ JOHN C. JEFFRIES, JUSTICE LEWIS F. POWELL, JR.: A BIOGRAPHY 341 (1994).

¹⁰⁷ See *Roe v. Wade*, 410 U.S. 113, 163 (1973) (“With respect to the State’s important and legitimate interest in potential life, the ‘compelling’ point is at viability.”).

¹⁰⁸ See ABUSE OF DISCRETION, *supra* note 13, at 145 (“The shift to viability ignored the medical statistics that the Justices had, indicating that the immediate medical risks to women grew considerably after the first trimester.”).

¹⁰⁹ Transcript of First Oral Argument at 6, *Doe v. Bolton*, 410 U.S. 179 (1973) (No. 70-40), available at <http://www.aul.org/doe-v-bolton-transcripts/>.

¹¹⁰ See generally, *Gonzales v. Carhart*, 550 U.S. 124 (2007); *Ayotte v. Planned Parenthood of N. New England*, 546 U.S. 320 (2006); *Stenberg v. Carhart*, 530 U.S. 914 (2000); *Mazurek v. Armstrong*, 520 U.S. 968 (1997); *Lambert v. Wicklund*, 520 U.S. 292 (1997); *Leavitt v. Jane L.*, 518 U.S. 137 (1996); *Dalton v. Little Rock Family Planning Servs.*, 516 U.S. 474 (1996); *Planned Parenthood of Se. Pa. v. Casey*, 505 U.S. 833 (1992); *Rust v. Sullivan*, 500 U.S. 173 (1991); *Ohio v. Akron Ctr. for Reprod. Health*, 497 U.S. 502 (1990); *Hodgson v. Minnesota*, 497 U.S. 417 (1990); *Webster v. Reprod. Health Servs.*, 492 U.S. 490 (1989); *Thornburgh v. Am. Coll. of Obstetricians & Gynecologists*, 476 U.S. 747 (1986); *Simopoulos v. Virginia*, 462 U.S. 506 (1983); *Planned Parenthood Ass’n of Kansas City, Mo., Inc. v. Ashcroft*, 462 U.S. 476 (1983); *City of Akron v. Akron Ctr. for Reprod. Health, Inc.*, 462 U.S. 416 (1983); *H.L. v. Matheson*, 450 U.S. 398 (1981); *Williams v. Zbaraz*, 448 U.S. 358 (1980); *Harris v. McRae*, 448 U.S. 297 (1980); *Bellotti v. Baird*, 443 U.S. 622 (1979) (*Bellotti II*); *Colautti v. Franklin*, 439 U.S. 379 (1979); *Poelker v. Doe*, 432 U.S. 519 (1977); *Maher v. Roe*, 432 U.S. 464 (1977); *Beal v. Doe*, 432 U.S. 438 (1977); *Bellotti v. Baird*, 428 U.S. 132 (1976) (*Bellotti I*); *Singleton v. Wulff*, 428 U.S. 106 (1976); *Planned Parenthood of Cent. Mo. v. Danforth*, 428 U.S. 52 (1976); *Connecticut v. Menillo*, 423 U.S. 9 (1975).

hart¹¹¹ was this “one-way ratchet” finally questioned and largely shelved in favor of a more even-handed examination of health considerations and health data.¹¹²

4. Shielding the justices from new medical data and developments

Justice O’Connor wrote in her *Akron* dissent in 1983: “[a]s today’s decision indicates, medical technology is changing, and this change will necessitate our continued functioning as the Nation’s *ex officio* medical board with powers to approve or disapprove medical and operative practices and standards throughout the United States.”¹¹³ With *Roe* and *Doe*, the Justices assumed the role of the national abortion control board, but they have no means to monitor the public health impact, as public health officials normally do.¹¹⁴ The Justices cannot regulate or intervene in public health crises. They cannot monitor new technological developments or review the FDA’s approval of RU-486.¹¹⁵ The Justices are completely passive and dependent on litigation—cases that are selectively appealed to them.¹¹⁶ And since *Gonzales*, there has been a concerted effort by abortion advocates to keep abortion cases away from the Supreme Court.¹¹⁷

III. Maternal Mortality Data

The notion that “abortion is safer than childbirth” has become even less tenable since 1973 for at least five reasons: (1) the dysfunctional abortion data reporting system in the United States that relies completely on *voluntary* reporting,¹¹⁸ (2) the incomparability of the published abortion mortality rate and the published maternal (childbirth)

¹¹¹ 550 U.S. 124 (2007).

¹¹² See *id.* at 163 (providing that states have “wide discretion to pass legislation in areas where there is medical and scientific uncertainty”).

¹¹³ *City of Akron v. Akron Ctr. for Reprod. Health, Inc.*, 462 U.S. 416, 456 (1983) (O’Connor, J., dissenting) (quoting *Planned Parenthood of Cent. Mo. v. Danforth*, 428 U.S. 52, 99 (1976) (White, J., concurring in part and dissenting in part)).

¹¹⁴ See Forsythe & Kehr, *supra* note 13, at 64 (“With disincentives on state officials to create new clinic regulations, the Court is unable to do anything to fill the vacuum it created. As a passive institution, it must wait for a case to reach it . . .”).

¹¹⁵ See *Benten v. Kessler*, 505 U.S. 1084 (1992) (denying application to vacate injunction against importation of RU 486 without full record of the medical implications of RU 486, where two justices would have vacated the injunction).

¹¹⁶ See 28 U.S.C. § 1251 (2012) (providing for the Supreme Court’s original jurisdiction).

¹¹⁷ See, e.g., Emily Bazelon, *The Reincarnation of Pro-Life*, N.Y. TIMES MAG., May 29, 2011, at MM13 (“[L]itigators trying to uphold a woman’s right to an abortion are not running scared. In fact, they are being remarkably shrewd in their case selection.”); Irin Carmon, *Planned Parenthood Takes Texas Abortion Laws to Court*, MSNBC (Sept. 27, 2013), <http://tv.msnbc.com/2013/09/27/planned-parenthood-aclu-take-texas-abortion-laws-to-court/> (last visited Feb. 7, 2014) (“Notably, the groups are not challenging the provision of the law that bans abortion after 20 weeks.”) (on file with the *Washington and Lee Law Review*). The strategic reason to avoid challenging that ban is that “a Texas challenge would go to the conservative Fifth Circuit,” which would potentially uphold the law. *Id.* However, “[s]imilar laws in Arizona and Idaho were twice found unconstitutional in the Ninth Circuit of Appeals, which is considered more liberal.” *Id.* Therefore, the combination of the Ninth Circuit decisions with the Fifth Circuit’s potential decision to uphold the law “would create a split in the circuits that would make the Supreme Court likelier to hear it.” *Id.*

¹¹⁸ See Byron Calhoun, *Systematic Review: The Maternal Mortality Myth in the Context of Legalized Abortion*, 80 LINACRE Q. 264, 264 (2013) (listing “numerous and complicated methodological factors that make

mortality rate;¹¹⁹ (3) medical data on the increasing rate of maternal mortality in the second trimester;¹²⁰ (4) the growing body of international medical studies finding long-term risks to women from abortion;¹²¹ and (5) maternal mortality data from countries with superior abortion recordkeeping collection and reporting systems, which find a higher rate of abortion mortality than childbirth mortality.¹²²

The medical mantra in 1972 was based on the supposed comparison of maternal (childbirth) mortality rates and abortion mortality rates from Soviet Bloc countries.¹²³ Today, the claim that “abortion is safer than childbirth” is based on the mechanical comparison of the official published abortion mortality rate and the official published childbirth (maternal) mortality rate. There are several reasons why these rates are non-comparable.

There are only two national organizations that collect abortion data: the Centers for Disease Control and Prevention (CDC), a federal governmental agency, and the private

a valid scientific assessment of abortion mortality extremely difficult,” including, among others, “incomplete reporting” and “voluntary data collection”).

¹¹⁹ See Byron C. Calhoun, John M. Thorp & Patrick S. Carroll, *Maternal and Neonatal Health and Abortion: 40-Year Trends in Great Britain and Ireland*, 18 J. AM. PHYSICIANS & SURGEONS 42, 42 (2013) (“Abortion statistics, when published officially by governments, often tend to be inaccurate due to underreporting or unsubstantiated estimates due to incomplete data collection.”); Forsythe & Kehr, *supra* note 13, at 60-62 (explaining the noncomparability of the published abortion mortality rate and the published childbirth mortality rate).

¹²⁰ See Linda A. Bartlett et al., *Risk Factors for Legal Induced Abortion-Related Mortality in the United States*, 103 OBSTETRICS & GYNECOLOGY 729, 729 (2004) (“The relative risk (unadjusted) of abortion-related mortality was 14.7 at 13-15 weeks of gestation (95% confidence interval [CI] 6.2, 34.7), 29.5 at 16-20 weeks (95% CI 12.9, 67.4), and 76.6 at or after 21 weeks (95% CI 32.5, 180.8).”).

¹²¹ See John M. Thorp Jr., *Public Health Impact of Legal Termination of Pregnancy in the US: 40 Years Later*, SCIENTIFICA, Dec. 2012, at 5, available at <http://dx.doi.org/10.6064/2012/980812> (detailing long term risks of termination of pregnancy).

¹²² See Priscilla K. Coleman, David C. Reardon, & Byron C. Calhoun, *Reproductive History Patterns and Long-Term Mortality Rates: A Danish, Population-Based Record Linkage Study*, 23 EUR. J. PUB. HEALTH 569, 570 (2013), <http://eurpub.oxfordjournals.org/content/early/2012/09/05/eurpub.cks107.full.pdf> (discussing maternal and abortion mortality rates among Danish women); David C. Reardon & Priscilla K. Coleman, *Short and Long-Term Mortality Rates Associated with First Pregnancy Outcome: Population Register Based Study for Denmark 1980-2004*, 18 MED. SCI. MONITOR 71, 73 (2012) (same); Mika Gissler et al., *Pregnancy-Associated Mortality After Birth, Spontaneous Abortion or Induced Abortion in Finland, 1987-2000*, 18 AM. J. OBSTETRICS AND GYNECOLOGY 422, 424 (2004) (displaying “pregnancy-associated mortality” among Finnish women); David C. Reardon et al., *Deaths Associated with Pregnancy Outcome: A Record Linkage Study of Low Income Women*, 85 S. MED. J. 834, 836-37 (2002) (discussing maternal and abortion mortality rates among Californian women); Mika Gissler et al., *Pregnancy-Associated Deaths in Finland 1987-1994: Definition Problems and Benefits of Record Linkage*, 76 ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA 651, 653 (1997) (discussing maternal and abortion mortality rates among Finnish women).

¹²³ *Supra* note 66 and accompanying text.

Alan Guttmacher Institute (AGI).¹²⁴ Reporting of abortion data to both is *voluntary*.¹²⁵ There is no federal law requiring the reporting of abortion data, or complications, or deaths. Because abortion reporting in the United States is completely voluntary, there are only *estimates* of the number of abortions annually and of the number of abortion deaths.¹²⁶ As one researcher noted in 2008, “[m]any state health departments are able to obtain only incomplete data from abortion providers, and in some states, only forty to fifty percent of abortions are reported.”¹²⁷ Death certificates have been found to be unreliable.¹²⁸ The bottom line is that they are non-comparable because what goes into the numerators and the denominators of each is radically different.¹²⁹ This is explained at length in a medical review article published in the January 2013 issue of the online journal *Scientifica* and in a 2013 article in *The Linacre Quarterly*.¹³⁰

A 2012 article by Raymond and Grimes—perhaps the latest to make the claim that abortion is safer than childbirth—simply repeats the defective and misleading methodology of the past forty years and fails to demonstrate that abortion is safer for several reasons.¹³¹ It is based on U.S. data, which is unreliable because of the dysfunctional data collection and reporting system in the United States that depends completely on volun-

¹²⁴ Rebekah Saul, *Abortion Reporting in the United States: An Examination of the Federal-State Partnership*, GUTTMACHER INSTITUTE, <http://www.guttmacher.org/pubs/journals/3024498.html> (last visited Jan. 24, 2014) (discussing national reporting and noting only two sources, the “CDC’s abortion surveillance system ... [which is] the sole governmental source of abortion data” and “[t]he Alan Guttmacher Institute (AGI), which collects abortion data by surveying providers directly”) (on file with the *Washington and Lee Law Review*).

¹²⁵ See Calhoun, *supra* note 118, at 265 (explaining that the CDC data “base their *estimates* on voluntary submissions” and the “abortion reporting by [A]GI is based on voluntary submissions”).

¹²⁶ See *id.* (“Abortion data are simply not complete and those provided are merely *estimates* with huge variance, and are subject to considerable error.”).

¹²⁷ Rachel K. Jones et al., *Abortion in the United States: Incidence and Access to Services, 2005*, 40 PERSP. ON SEXUAL & REPROD. HEALTH 6, 7 (2008); see also Rachel K. Jones et al., *Underreporting of Induced and Spontaneous Abortion in the United States: An Analysis of the 2002 National Survey of Family Growth*, 38 STUD. IN FAM. PLAN. 187, 189 (2007) (“Although the Guttmacher Institute estimates of numbers of abortions are regarded as the most comprehensive source of abortion statistics in the United States, the estimates may be inaccurate.” (citation omitted)).

¹²⁸ See Isabelle L. Horon et al., *Underreporting of Maternal Deaths on Death Certificates and the Magnitude of the Problem of Maternal Mortality*, 95 AM. J. PUB. HEALTH 478, 478 (2005) (explaining the underestimated magnitude of maternal mortality rates due to inaccurate physician death certificate reporting).

¹²⁹ See Clarke D. Forsythe & Bradley N. Kehr, *A Road Map Through the Supreme Court’s Back Alley*, 57 VILL. L. REV. 45, 60 (2012) (explaining the incomparability of the abortion mortality rates and childbirth mortality rates due to differences in calculation of each ratio).

¹³⁰ See Thorp, *supra* note 121, at 2 (“Moreover, [terminations of pregnancy] cannot be linked to other sources of health data such as birth or death certificates, thereby making precise calculation of mortality rates or subsequent birth outcomes impossible.”); see also Calhoun, *supra* note 118, at 266-72 (explaining the reasons why abortion mortality and maternal mortality measurements are unreliable).

¹³¹ See Elizabeth G. Raymond & David A. Grimes, *The Comparative Safety of Legal Induced Abortion and Childbirth in the United States*, 119 OBSTETRICS & GYNECOLOGY 215, 215-16 (2012) (explaining the materials and calculation methods used for the article).

tary reporting.¹³² It is based on mere *estimates* of the number of abortions, as reported by the CDC, and *estimates* of rates; yet the CDC admits that it undercounts abortions by fifteen percent, because abortion reporting to the CDC is voluntary.¹³³ Consider the fact that several states, like California with one-third of all abortions annually, do not report to the CDC.¹³⁴ Raymond and Grimes claim that “[t]he risk of death associated with childbirth is approximately fourteen times higher than with abortion.”¹³⁵ But as one careful medical researcher pointed out, “[t]his statement is unsupported by the literature and there is no credible scientific basis to support it.”¹³⁶

In contrast to the unreliable U.S. data, two international studies in the past two years look at maternal mortality data from Chile and Ireland, which both limit abortion. A 2012 study of maternal mortality in Chile relied on fifty years (1957-2007) of official data from Chile’s National Institute of Statistics.¹³⁷ The authors looked at factors likely to affect maternal mortality, such as years of education, per capita income, total fertility rate, birth order, clean water supply, sanitary sewer, and childbirth delivery by skilled attendants.¹³⁸ They also looked at pertinent educational and maternal health policies, including legislation that has prohibited abortion in Chile since 1989, to assess the effects of these policies on maternal mortality.¹³⁹ One of the most striking findings is that, contrary to widely held assumptions, prohibiting abortion in Chile did not result in an increase in maternal mortality.¹⁴⁰ In fact, maternal mortality declined after Chile’s 1989 abortion prohibition was enacted.¹⁴¹ From 1957 to 2007, the overall Maternal Mortality Ratio or MMR (the number of maternal deaths related to childbearing divided by the number of live births) declined by 93.8%, from 270.7 deaths per 100,000 live births in 1957 to 18.2 deaths per 100,000 live births in 2007.¹⁴² After abortion was

¹³² Thorp, *supra* note 121, at 3 (“Because this system is voluntary, and also due to the inherent reluctance of surgeons to disclose serious complications such as death, underreporting is a major problem.”).

¹³³ *Id.*; see also Karen Pazol, et al., *Abortion Surveillance—United States, 2010*, MORBIDITY & MORTALITY WKLY. REP., Nov. 29, 2013, at 11 (noting CDC reporting and counting practice “inflates abortion statistics for reporting areas” with high percentages of out-of-state abortion recipients and “undercounts abortions for states with limited abortion services,” high legal restrictions, or “geographic proximity to services in another state”).

¹³⁴ See Calhoun, *supra* note 118, at 265 (“Current incidence *estimates* exclude abortion in California . . .”).

¹³⁵ Raymond & Grimes, *supra* note 131, at 216.

¹³⁶ Calhoun, *supra* note 118, at 264.

¹³⁷ Elard Koch & John Thorp et al., *Women’s Education Level, Maternal Health Facilities, Abortion Legislation and Maternal Deaths: A Natural Experiment in Chile from 1957 to 2007*, PLOS ONE, May 2012, at 2, <http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0036613&representation=PDF> (noting the Chilean data extraction from 1957 to present).

¹³⁸ See *id.* at 2, 7 (explaining the factors considered including graphs of maternal mortality ratios based on these factors).

¹³⁹ See *id.* at 9 (discussing abortion legislation and its effects on maternal mortality).

¹⁴⁰ See *id.* at 3 (charting the decline in maternal mortality rate in Chile).

¹⁴¹ See *id.* at 9 (“After abortion became illegal in 1989, a decreasing trend in [Maternal Mortality Rate] was observed, from 41.3 to 12.7 in 2003 (69.2% reduction).”).

¹⁴² *Id.* at 3.

made illegal in 1989, the MMR continued to decline—from 41.3 to 12.7 per 100,000 live births (-69.2%).¹⁴³ Chile has the lowest maternal mortality ratio in Latin America.¹⁴⁴

A 2012 study of Irish data compared maternal mortality and maternal health trends in Ireland with those in England, Scotland, and Wales.¹⁴⁵ The study compared the populations living in the Republic of Ireland and in Northern Ireland with those in Scotland and England, and examined women's health trends between 1969 and 2009.¹⁴⁶ The report examined numerous women's health factors, including fertility, premature birth rates, stillbirth rates, mental health resource usage, medication usage for mental health, breast cancer rates, and immunological disorders.¹⁴⁷ Among the most significant findings are that the rates of stillbirths in the Republic and Northern Ireland are significantly less than similar rates in England and Scotland. Rates of stillbirth per 1,000 live births were 3.8/1,000 in the Irish Republic and 4.1/1,000 in Northern Ireland, compared to 4.9 in England, and 5.1 in Scotland.¹⁴⁸

The study found similar contrasts in the rates of low-birth weight infants. Low birth weight infants (<2,500 grams) were increased in England and Scotland compared to the Irish Republic (39.7/1,000 live births in the Irish Republic, 56.3/1,000 in England, and 52.3/1,000 in Scotland).¹⁴⁹ These findings are consistent with previous studies that have found higher rates of stillbirths, premature births, and low-birth-weight infants in women with a history of induced abortion.¹⁵⁰

The Irish study also looked at maternal mortality in Ireland compared to England, Scotland and Wales. Maternal death rates per 100,000 live births were significantly higher in the English/Welsh populations and Scottish populations (10/100,000 in England/

¹⁴³ *Id.* at 5, 9; see also Elard Koch et al., *Fundamental Discrepancies in Abortion Estimates and Abortion-Related Mortality: A Re-Evaluation of Recent Studies in Mexico with Special Reference to the International Classification of Diseases*, 4 INT'L J. WOMEN'S HEALTH 613, 618 (2012) (showing declining graphed maternal mortality ratios in Chile).

¹⁴⁴ See Koch, *supra* note 143, at 618 ("The findings of this study confirm that [Maternal Mortality Rate] in Chile has steadily and consistently decreased, reaching the lowest rate in Latin America . . .").

¹⁴⁵ See Byron C. Calhoun, John M. Thorp & Patrick S. Carroll, *Maternal and Neonatal Health and Abortion: The 40-Year Experience in Great Britain and Ireland*, 18 J. AM. PHYSICIANS & SURGEONS 42, 46 (2013), <http://www.jpands.org/vol18no2/calhoun.pdf> (detailing a comparative study of abortion and maternal mortality rates in Ireland, Scotland, England, and Wales).

¹⁴⁶ See *id.* at 46 ("Over the 40 years of legalized abortion in the UK there has been a consistent pattern in which higher abortion rates have run parallel to higher incidence of stillbirths, premature births, low birth-weight neonates, cerebral palsy, and maternal deaths as sequelae of abortion.")

¹⁴⁷ *Id.* at 44.

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ See 135 *Statistically Significant Studies: Abortion—Preterm Birth and/or Low Birth Weight Links 60s-12*, PHYSICIANSFORLIFE.ORG (Dec. 1, 2012), <http://www.physiciansforlife.org/content/view/2305/26/> (last visited Jan. 25, 2014) (listing studies that show an increased risk of pre-term birth among women with prior induced abortion) (on file with the *Washington and Lee Law Review*).

Wales, and 10-12/100,000 in Scotland), compared to the Irish population (1-2/100,000 live births in the Irish Republic).¹⁵¹

The study also looked at demographic trends in Ireland. While the fall in fertility throughout Europe since 1968 has impacted Ireland, the Republic of Ireland and Northern Ireland continue to show higher fertility rates.¹⁵² The Total Fertility Rate (TFR) is near to 2.0 in both Irish jurisdictions. (This corresponds to a family of two children.) That rate is much higher than the average European TFR (around 1.4) and close to the replacement level of 2.07 TFR.¹⁵³ As a result, Ireland has a substantially younger population.

The Irish study suggests, at the very least, that the claim that legal abortion is necessary for improved maternal health is dubious.¹⁵⁴

Another maternal mortality study published in 2013 looked at all Danish women born between 1962 and 1993.¹⁵⁵ The study found a protective effect from childbirth and found that the higher the number of abortions, the higher the mortality risk for women.¹⁵⁶

¹⁵¹ See Calhoun et al., *supra* note 145, at 43 (“These rates are instructive since they demonstrate a relatively low [Total Abortion Rate] in both Irish jurisdictions compared with England, Wales, and Scotland (Great Britain).”).

¹⁵² See *id.* at 76 (noting that for Northern Ireland “the latest [Total Fertility Rate] is 1.87” and for the Republic of Ireland “Forecasting used the ... [Total Fertility Rate] of 1.86”).

¹⁵³ See *id.* at 75 (charting the eight European countries against the “Replacement Level 2.07”).

¹⁵⁴ The notion that the tragic death of Savita Halappanavar in Ireland in October 2012 shows the dangers of abortion prohibitions is not based on reliable data. RTE, Ireland’s “NPR,” reported that the Health Information and Quality Authority (HIQA) “report on Savita Halappanavar case finds ‘basic care’ failures.” See *HIQA Report on Savita Halappanavar Case Finds ‘Basic Care’ Failures*, RTE, <http://www.rte.ie/news/2013/10/09/479282-savita-halappanavar/> (last updated Oct. 10, 2013) (last visited Dec. 30, 2013) (on file with the *Washington and Lee Law Review*). The main documents in the case are the inquest results (HSE report) and the HIQA report. SABARATNAM ARULKUMARAN, FINAL REPORT: INVESTIGATION OF INCIDENT 50278 FROM TIME OF PATIENT’S SELF-REFERRAL TO HOSPITAL ON THE 21ST OF OCTOBER 2012 TO THE PATIENT’S DEATH ON THE 28TH OF OCTOBER, 2012, at 1 (June 2013), <http://cdn.thejournal.ie/media/2013/06/savita-halappanavar-hse-report.pdf>; *Patient Safety Investigation Report Published by Health Information and Quality Authority*, HEALTH INFO. & QUALITY AUTH. (Oct. 9, 2013), <http://www.hiqa.ie/press-release/2013-10-09-patient-safety-investigation-report-published-health-information-and-qualit> (last visited Dec. 30, 2013) (on file with the *Washington and Lee Law Review*).

They show that the death of Savita Halappanavar was due to “inevitable miscarriage” at seventeen weeks and the failure to properly diagnose and treat sepsis (infection), and had nothing to do with the legal status of abortion in Ireland. HEALTH INFO. AND QUALITY AUTH., INVESTIGATION INTO THE SAFETY, QUALITY AND STANDARDS OF SERVICES PROVIDED BY THE HEALTH SERVICE EXECUTIVE TO PATIENTS, INCLUDING PREGNANT WOMEN, AT RISK OF CLINICAL DETERIORATION, INCLUDING THOSE PROVIDED IN UNIVERSITY HOSPITAL GALWAY, AND AS REFLECTED IN THE CARE AND TREATMENT PROVIDED TO SAVITA HALAPPANAVAR (Oct. 7, 2013), <http://static.rasset.ie/documents/news/hiqareport.pdf>. If the hospital would have recognized the life-threatening situation they could have evacuated the woman’s uterus, but they did not recognize that she had sepsis. More than anything, the case is a medical malpractice case.

¹⁵⁵ See Coleman, Reardon & Calhoun, *supra* note 122, at 569 (“In this Danish population-based study, records of women born between 1962 and 1993... were examined to identify associations between patterns of pregnancy resolution and mortality rates across 25 years.”).

¹⁵⁶ See *id.* at 4 (“[T]hose who had experienced induced abortion(s) and natural loss(es) had more than three times the risk of death compared with women who had only experienced birth(s).”).

Another study published in 2013 looked at maternal mortality data in Mexico.¹⁵⁷ The authors sought to clarify the data that goes into the numerators and denominators of mortality rates over the past twenty years (1990-2008) in Mexico.¹⁵⁸ They found a substantial drop in maternal deaths and a substantial reduction in abortion-related mortality in Mexico between 1990 and 2010 and that “approximately ninety-eight percent of maternal deaths are related to causes other than illegal induced abortion in Mexico.”¹⁵⁹

Thus, these three recent medical studies, of abortion prohibitions in Ireland, Chile, and Mexico, suggest that countries with abortion prohibitions have lower maternal mortality rates, better women’s health trends, and better demographic trends than countries with widely-accessible abortion.

IV. International Medical Data on the Risks of Induced Abortion

In the twenty years since the Supreme Court’s decision in *Planned Parenthood of Southeastern Pennsylvania v. Casey*,¹⁶⁰ the number of international, peer-reviewed medical studies on the risks from abortion has grown significantly. Medical studies over the last two decades have created substantial data finding significant increased risks after abortion, as a January 2013, medical review article in *Scientifica* describes in detail.¹⁶¹

It is important to handle these data carefully. First, the studies focus on “increased risk” after abortion, which is not the same thing as causation, though increased risk and other indicators may eventually prove causation.¹⁶² Second, some medical studies have found no increased risk after abortion.¹⁶³ They need to be taken into consideration.

A. Increased Risk of Pre-Term Birth (PTB) After Induced Abortion

Nevertheless, there are now more than 140 peer-reviewed studies that have found a statistically significant increased risk in pre-term birth (PTB) after abortion.¹⁶⁴ This has particular relevance for African-American women, who have an “almost two-fold higher

¹⁵⁷ Koch et al., *supra* note 143, at 613.

¹⁵⁸ See *id.* at 615-16 (noting discrepancy in “calculating the numerator of [the Abortion Mortality Ratio]” and “discrepancy [relating] to the calculation of the denominator”).

¹⁵⁹ *Id.* at 622.

¹⁶⁰ 505 U.S. 833 (1992).

¹⁶¹ See Thorp, *supra* note 121, at 4-5 (explaining the short and long-term harms of termination of pregnancy); see also 135 *Statistically Significant Studies: Abortion—Preterm Birth and/or Low Birth Weight Links 60s-12*, *supra* note 150 (listing studies finding an increased risk of preterm birth and low birth weight following abortion).

¹⁶² *Id.* at 5.

¹⁶³ See Julia R. Steinberg et al., *Fatal Flaws in a Recent Meta-Analysis on Abortion and Mental Health*, 86 *CONTRACEPTION* 430, 430 (Nov. 2012), <http://www.ncbi.nlm.nih.gov/pubmed/22579105> (last visited Feb. 5, 2014) (suggesting that there is no increased risk of mental trauma after abortion) (on file with the *Washington and Lee Law Review*); Claire Oliver-Williams et al., *Changes in Association Between Previous Therapeutic Abortion and Preterm Birth in Scotland, 1980 to 2008: A Historical Cohort Study*, *PLOS MED.* 10 (July 2013), <http://www.plosmedicine.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pmed.1001481&representation=PDF> (suggesting no increased risk of pre-term birth after abortion in recent years with new methods).

¹⁶⁴ 135 *Statistically Significant Studies: Abortion—Preterm Birth and/or Low Birth Weight Links 60s-12*, *supra* note 150.

rate of preterm births.”¹⁶⁵ These studies found an increased risk of PTB after induced abortion among women from more than thirty-five countries, including: Wales, Egypt, the United States, China, Japan, Hungary, Poland, Greece, Britain, Thailand, Australia, Norway, Germany, Finland, France, Italy, Ireland, the Netherlands, Scotland, the Czech Republic, Spain, Slovenia, Romania, Russia, Denmark, Brazil, Botswana, Togo, Taiwan, Nigeria, Iraq, India, Pakistan, Kuwait, Korea, Canada, and Turkey.¹⁶⁶

A PLOS Medicine study published in July 2013 by Oliver-Williams et al. has been reported as claiming that the increased risk of pre-term birth after induced abortion has been eliminated by modern methods of abortion.¹⁶⁷ But the actual study falls short of making that claim and seems to suffer from a number of methodological flaws. (The authors start by admitting what has been denied by so many for so long: “Numerous studies have demonstrated that therapeutic termination of pregnancy (abortion) is associated with an increased risk of subsequent preterm birth”).¹⁶⁸ The abortions were self-reported from personal interviews (not drawn from medical record data or linked to the specific patient).¹⁶⁹ That seems unusual for data from Scotland, where the government pays for abortions and keeps individual records.¹⁷⁰ The abortion methods (chemical v. surgical) were not actually connected with the individual women, preventing the researchers from knowing which type of abortion the women had or even whether they experienced PTB.¹⁷¹ So, the authors’ conclusion that shifting from surgical to chemical abortions eliminated the risk of PTB is no more than a guess and not a finding drawn from scientifically observed evidence. The authors emphasize the technique of pre-treating of the cervix prior to abortion as supposedly reducing the risk of PTB, but there was no data to connect this.¹⁷² It was merely the authors’ hunch. Consequently,

¹⁶⁵ Thomas F. McElrath, *Unappreciated But Not Unimportant: Health Disparities in the Risk of Cervical Insufficiency*, 25 HUM. REPROD. 2891, 2891 (2010); see also Emmanuel A. Anum et al., *Health Disparities in Risk for Cervical Insufficiency*, 25 HUM. REPRO. 2894, 2899 (2010) (discussing the increased risk of African-American women for “cervical insufficiency” which is a cause of pre-term birth). This is magnified by a “dose effect” if a woman has had two, three, or four prior terminations of pregnancy (TOPs). McElrath, *supra* note 165, at 2892.

¹⁶⁶ See 135 *Statistically Significant Studies: Abortion—Preterm Birth and/or Low Birth Weight Links 60s-12*, *supra* note 150.

¹⁶⁷ See Oliver-Williams et al., *supra* note 163, at 10 (suggesting that “[modernizing] methods of abortion... may significantly reduce the subsequent burden of morbidity and mortality related to preterm births”).

¹⁶⁸ *Id.* at 1.

¹⁶⁹ See *id.* at 2 (explaining the methodology of the study, which relied on self-reported data).

¹⁷⁰ *Abortion*, NAT’L HEALTH SERVS., <http://www.nhs.uk/conditions/abortion/pages/Introduction.aspx> (last updated Dec. 6, 2012) (last visited Jan. 25, 2014) (noting that the National Health Service is funded by taxes in Europe and “[i]n some areas, the [National Health Service] will pay for abortions at private clinics”) (on file with the *Washington and Lee Law Review*).

¹⁷¹ Oliver-Williams et al., *supra* note 163, at 2.

¹⁷² See *id.* at 1 (noting that the association between previous abortion and pre-term birth disappeared by 2000 in Scotland, “paralleled by increasing use of medical abortion and cervical pre-treatment...”). Although these trends were possibly related, “we could not test this directly as the data on the method of prior abortions were not linked to individuals in the cohort.” *Id.*

the Oliver-Williams study hardly dispels the findings of more than 140 international studies from more than thirty countries finding an increased risk of PTB after abortion.

B. Increased Risk of Mental Trauma After Induced Abortion

Whether negative mental health outcome is associated with induced abortion is one of the most hotly debated questions in medicine today. There are studies on both sides of the question.¹⁷³ The studies and the data have to be handled carefully. No one study settles a medical question. And association does not mean causation.

Nevertheless, many would be surprised to learn that there at least ninety-nine international, peer-reviewed, statistically significant studies that have found an increased risk of mental trauma after induced abortion.¹⁷⁴ A 2013 forty-year review essay published in *Scientifica* reviewed the existing data on three reputed long-term risks of induced abortion: pre-term birth, breast cancer, and mental trauma.¹⁷⁵ The author cited the numerous studies that have found an increased risk of mental trauma after induced abortion.¹⁷⁶

A study published in September 2011 in the *British Journal of Psychiatry* (BJP) critically reviewed the results of twenty-two previous studies on abortion and mental health published between 1995 and 2009.¹⁷⁷ The results revealed a moderate to high increased risk of mental health problems after abortion.¹⁷⁸ This study has sparked a contentious debate in the literature.¹⁷⁹

¹⁷³ Compare Francesco Bianchi-Demicheli et al., *Termination of Pregnancy and Women's Sexuality*, 53 GYNECOLOGICAL & OBSTETRIC INVESTIGATION 48, 50 (2002) (explaining the increased psychological impact, and sexual dysfunction of termination of pregnancy), with Anne Nordal Broen et al., *The Course of Mental Health After Miscarriage and Induced Abortion: A Longitudinal, Five-Year Follow-Up Study*, 3 BMC MED. 17, 17 (2005) ("Women who had experienced a miscarriage had more mental distress at ten days and six months after the pregnancy termination than women who had undergone an abortion.").

¹⁷⁴ See *infra* Appendix B; see also WE CARE EXPERTS, PSYCHOLOGICAL, RELATIONSHIP, AND BEHAVIORAL IMPLICATIONS OF ABORTION: BIBLIOGRAPHY OF PEER-REVIEWED STUDIES, <http://www.wecareexperts.org/sites/default/files/articles/Bibliography%20of%20Peer%20Reviewed%20Studies%20on%20Psychology%20of%20Abortion.pdf> (listing international peer-reviewed studies on psychological implications of abortion).

¹⁷⁵ See Thorp, *supra* note 121, at 5 (noting pre-term birth, breast cancer, and mental health problems as three conditions "in which the literature is more comprehensive in reporting links between [termination of pregnancy] and the health outcome in question").

¹⁷⁶ See *id.* at 13-16 (listing several studies reviewing mental trauma and its connection to abortion).

¹⁷⁷ See Priscilla K. Coleman, *Abortion and Mental Health: Quantitative Synthesis and Analysis of Research Published, 1995-2009*, 199 BRIT. J. PSYCH. 180, 182 (2011) ("After applying the inclusion criteria and rules... the sample consisted of 22 peer-reviewed studies."). This study has sparked a vigorous debate in the literature, including a response by the Royal College of Psychiatrists. ACAD. OF MED. ROYAL COLLS., INDUCED ABORTION AND MENTAL HEALTH 125 (2011), http://www.nccmh.org.uk/reports/ABORTION_REPORT_WEB%20FINAL.PDF

¹⁷⁸ See ACAD. OF MED. ROYAL COLLS., *supra* note 177, at 180 (noting that "the results revealed a moderate to highly increased risk of mental health problems after abortion").

¹⁷⁹ See *Responses to This Article*, BRITISH J. OF PSYCHIATRY, <http://bjp.rcpsych.org/content/199/3/180.abstract#responses> (last visited Jan. 2, 2014) (providing access to responses to Priscilla Coleman's article titled *Abortion and Mental Health*) (on file with the *Washington and Lee Law Review*); see also David M. Fergusson et al., *Does Abortion Reduce the Mental Health Risks of Unwanted or Unintended Pregnancy? A Re-Appraisal of the Evidence*, 47 AUSTL. N.Z. J. OF PSYCHIATRY 819, 819-27 (2013) (considering whether abortion has therapeutic benefits to mitigate the mental health risks of abortion). This study was recently criticized

Two possible objections to studies finding an increased risk are that they fail to include appropriate comparison group(s) and that they fail to control for pre-existing conditions, and much of the debate centers on these factors.¹⁸⁰ Four subsequent studies and reviews, by Charles,¹⁸¹ Robinson,¹⁸² one written for the Royal College of Psychiatrists (RCP),¹⁸³ and by Steinberg¹⁸⁴ have challenged the 2011 BJP study. But each has weaknesses of its own.

A 2013 study by researcher David Fergusson reviewed the 2011 BJP study and other studies published since 2011 criticizing the BJP study.¹⁸⁵ Fergusson concluded that “there is no available evidence to suggest that abortion has therapeutic effects in reducing the mental health risks of unwanted unintended pregnancy. There is suggestive evidence that abortion may be associated with small to moderate increases in risks of some mental health problems.”¹⁸⁶ Despite the ongoing debate, there remain a number of well-done studies that have found an increased risk of mental trauma after abortion.

C. Increased Risk of Breast Cancer from the Loss of the Protective Effect of a First Full-Term Pregnancy

The claim that abortion increases the risk of breast cancer is also vigorously debated. It has long been acknowledged that a first full-term pregnancy provides a measure of protection against breast cancer.¹⁸⁷

in an essay. See Steinberg, *supra* note 163, at 430 (noting that the authors “strongly question the quality of this meta-analysis of 22 papers... just as the reliability, validity and replicability of some of the studies... in the meta-analysis have been questioned”).

¹⁸⁰ See Steinberg et al., *supra* note 163, at 431-32 (noting the “seven significant errors in the methods, analyses and reasoning of Coleman’s meta-analysis”).

¹⁸¹ See Vignetta E. Charles et al., *Abortion and Long-Term Mental Health Outcomes: A Systematic Review of the Evidence*, 78 *CONTRACEPTION* 436, 436 (2009) (identifying methodological issues in studies that found an “abortion trauma syndrome”).

¹⁸² See Gail E. Robinson et al., *Is There An ‘Abortion Trauma Syndrome’? Critiquing the Evidence*, 17 *HARV. R. PSYCHIATRY* 268, 268 (2009) (suggesting that the most accurate studies found no, or few risks of mental health caused by abortion).

¹⁸³ See *ACAD. OF MED. ROYAL COLLS.*, *supra* note 177, at 17 (“No details of any quality assessment process were included in the Coleman review.”).

¹⁸⁴ Steinberg et al., *supra* note 163, at 430 (presenting a “summary of the most serious and significant errors of [the Coleman] meta-analysis because policy, practice and the public have been misinformed”).

¹⁸⁵ Fergusson et al., *supra* note 179, at 821 (noting that the Coleman study “fail[s] to provide a formal review of the therapeutic benefits of abortion”).

¹⁸⁶ *Id.* at 819.

¹⁸⁷ See, e.g., Julie Lecarpentier et al., *Variation in Breast Cancer Risk Associated with Factors Related to Pregnancies*, 14 *BREAST CANCER RESEARCH* 1 (2012) (finding a protective effect against breast cancer for women when they experienced a full-term pregnancy).

Yet, there have been seventy international, peer-reviewed studies that have addressed the association since at least 1957.¹⁸⁸ At least thirty-three have found an increased risk of breast cancer after induced abortion.¹⁸⁹

All of these preceded the Huang study. A November 2013 study by Huang et al. of Chinese women published in *Cancer Causes & Controls* looked at the association between abortion and breast cancer.¹⁹⁰ The meta-analysis by Huang et al. examined the findings and quality of thirty-six studies (consisting of two cohort studies and thirty-four case control studies) from fourteen provinces in China that had been previously published.¹⁹¹ The authors acknowledged that “Chinese females historically had a lower risk of breast cancer compared to their counterparts in the USA and other Western countries.”¹⁹² Citing a 2012 Chinese study by Li, the authors noted that “the incidence of breast cancer in China had increased at an alarming rate over the past two decades”¹⁹³ and that this “marked change in breast cancer incidence was paralleled [sic] to the one-child-per-family policy,” citing a 2002 Chinese study by Qiao.¹⁹⁴ This new study was undertaken, at least in part, due to conflicting results in prior studies by Brind (1996) and Beral (2004) and due to conflicting results in prior Chinese studies.¹⁹⁵

Citing three studies by Russo & Russo (1987), Kelsey (1979), and Kelsey (1981), the authors noted that prior “experimental data” provided a plausible biological reason for an association between induced abortion and an increased risk of breast cancer:

During the first trimester of pregnancy, hormonal changes propel newly produced breast cells through a state of differentiation, a natural maturing process which greatly reduces the risk of breast cancer in the future. An interruption of this process by

¹⁸⁸ See *Epidemiologic Studies: Induced Abortion and Breast Cancer Risk*, BREAST CANCER PREVENTION INST., http://www.bcpinstitute.org/epidemiology_studies_bcpi.htm (last updated Nov. 2013) (last visited Mar. 17, 2014) (listing studies comparing abortion to risk of breast cancer) (on file with the *Washington and Lee Law Review*).

¹⁸⁹ See *infra* Appendix C.

¹⁹⁰ See Yubei Huang et al., *A Meta-Analysis of the Association Between Induced Abortion and Breast Cancer Risk Among Chinese Females*, *CANCER CAUSES & CONTROL* (Nov. 2013), <http://link.springer.com/article/10.1007%2Fs10552-013-0325-7#page-1> (last visited Mar. 17, 2014) (“Compared to people without any history of [induced abortion], an increased risk of breast cancer was observed among females who had at least one [induced abortion].”) (on file with the *Washington and Lee Law Review*).

¹⁹¹ *Id.*

¹⁹² *Id.* at 2.

¹⁹³ *Id.*; see also Ai-Ren Jiang et al., *Abortions and Breast Cancer Risk in Premenopausal and Postmenopausal Women in Jiangsu Province of China*, 13 *ASIAN PAC. J. CANCER PREVENTION* 33, 33 (2012) (noting a “marked increase” in the rates of breast cancer in China in recent years).

¹⁹⁴ *Id.* (citing Qiao, *Analysis of Induced Abortion of Chinese Women*, 26 *POPULATION RES.* 16 (2002))

¹⁹⁵ Compare Joel Brind et al., *Induced Abortion as an Independent Risk Factor for Breast Cancer: A Comprehensive Review and Meta-Analysis*, 50 *J. EPIDEMIOLOGY & COMMUNITY HEALTH* 481, 494 (1996) (noting a “significant positive association between induced abortion and breast cancer incidence”), with Valerie Beral et al., *Breast Cancer and Abortion: Collaborative Reanalysis of Data from 53 Epidemiological Studies, Including 83,000 Women with Breast Cancer from 16 Countries*, 363 *THE LANCET* 1007, 1014 (2004) (noting “the aggregate relative risk of breast cancer associated with having a record of one or more pregnancies that ended as an induced abortion compared with having no such record... [suggests] no significant adverse effects...”).

abortion will arrest this process before differentiation occurs, greatly raising the future risk of breast cancer in the future.¹⁹⁶

The authors were also careful to distinguish induced abortion from spontaneous abortion.¹⁹⁷

The authors concluded that “overall, this systematic review of thirty-six studies with different designs and conducted across a wide range of regions in China revealed that induced abortion (IA) was significantly associated with an increased risk of breast cancer among Chinese females. The risk increased as the number of IA increased.”¹⁹⁸ This is referred to by statisticians as a “dose-response” or “dose-effect”; the stronger the exposure (dose) to the agent, the greater the increased risk.¹⁹⁹ And the authors noted that previous studies supported this dose-effect, finding that the risk increased as the number of abortions increased.²⁰⁰

The Huang study found a “dose-response.”²⁰¹ Thus, one prior induced abortion increased the breast cancer risk by forty-four percent.²⁰² With two prior induced abortions, they found a seventy-six percent increased risk.²⁰³ And with three prior induced abortions, they found an eighty-nine percent increased risk.²⁰⁴ (Each finding was statistically significant, meaning that it was not due to chance alone.)²⁰⁵

The authors noted an important difference between induced abortion in the United States and in China, which may help explain the biological association. Since abortion in the United States is often to prevent a first birth, whereas abortion is used in China to prevent a second birth under the one-child policy, “the protective effects of early childbirth will probably dilute the harmful effect of more IAs [induced abortions].”²⁰⁶ The authors noted that further research was needed because of certain limitations in their study.²⁰⁷

¹⁹⁶ Huang et al., *supra* note 190, at 2.

¹⁹⁷ See *id.* (“[S]tudies focused on spontaneous abortion, and studies with incomplete data of interest were excluded.”)

¹⁹⁸ *Id.* at 7.

¹⁹⁹ See *Glossary of Statistical Terms*, OECD.ORG (Sept. 25, 2001), <http://stats.oecd.org/glossary/detail.asp?ID=671> (last updated Dec. 11, 2001) (last visited Jan. 25, 2014) (“The dose-effect relationship is the relationship between the dose of harm-producing substances or factors and the severity of their effect on exposed organisms or matter.”) (on file with the *Washington and Lee Law Review*).

²⁰⁰ Huang et al., *supra* note 190, at 8.

²⁰¹ *Id.*

²⁰² *Id.* at 4.

²⁰³ *Id.* at 6.

²⁰⁴ *Id.*

²⁰⁵ See *Glossary of Statistical Terms*, OECD.ORG (May 26, 2002), <http://stats.oecd.org/glossary/detail.asp?ID=3904> (last updated Aug. 11, 2005) (last visited Jan. 25, 2014) (“An effect is said to be significant if the value of the statistic used to test it lies outside acceptable limits, that is to say, if the hypothesis that the effect is not present is rejected.”) (on file with the *Washington and Lee Law Review*).

²⁰⁶ Huang et al., *supra* note 190, at 8.

²⁰⁷ See *id.* (noting that “future prospective cohort studies with more adequate reference group were needed to investigate the association further” because of possible overstated positive associations between induced abortions and breast cancer in the studies reviewed).

D. Placenta Previa

Placenta previa is the condition when the placenta settles low in the mother's uterus, covering the cervical canal.²⁰⁸ If it remains in this position in late pregnancy, it can have serious risks for mother, including hemorrhaging, and for the child, including increased risk of sudden infant death syndrome and risks from prematurity if a premature delivery is required.²⁰⁹ A 2003 review of the literature located three studies that found an increased risk of placenta previa after abortion.²¹⁰ A fourth study was published in 2003, which found an increased risk of placenta previa after abortion.²¹¹

These studies do not settle these medical and scientific questions, though they provide evidence of increased risks of various kinds. At the same time, no studies have yet refuted the findings of increased risk of pre-term birth, or mental trauma, or breast cancer after an abortion. More studies are clearly needed, and more can be expected from various countries with better abortion data recordkeeping and collection than exists in the United States.

V. *Isaacson v. Horne*, the Medical Assumption, and the Viability Rule

The mistakes made by the Justices during the deliberations in *Roe* and *Doe*, including the notion that "abortion is safer than childbirth," are directly relevant to the Court's consideration of state abortion regulations in future abortion cases. The Court in *Gonzales v. Carhart*²¹² in 2007 upheld the constitutionality of the federal Partial-Birth Abortion Ban Act (PBABA).²¹³ But, as a number of scholars have pointed out, the Court expressed concern with late-term abortions and, in dictum, suggested that the states should have greater deference to limit late-term abortions.²¹⁴ The Court's dicta gave

²⁰⁸ See *Diseases and Conditions: Placenta Previa*, MAYO CLINIC (Jun. 2, 2011), <http://www.mayoclinic.org/diseases-conditions/placenta-previa/basics/definition/con-20032219> (last visited Jan. 26, 2014) ("Placenta Previa occurs when a baby's placenta partially or totally covers the mother's cervix . . .") (on file with the *Washington and Lee Law Review*).

²⁰⁹ See *id.* ("One of the biggest concerns with placenta previa is the risk of severe vaginal bleeding (hemorrhage)," which can be "heavy enough to be life-threatening" and "may prompt an emergency C-section before [the] baby is full term.").

²¹⁰ See John M. Thorp, Jr., Katherine E. Hartmann & Elizabeth Shadigian, *Long-Term Physical and Psychological Health Consequences of Induced Abortion: A Review of the Evidence*, 58 *OBSTETRICS & GYNECOLOGY SURVEY* 67, 74 (2003), http://content.silaspublishers.com/156/41045/156_41045_shadigian.1.pdf ("Three studies were found exploring induced abortion and placenta previa," all of which found a "positive association").

²¹¹ L.G. Johnson, B.A. Mueller & J. R. Daling, *The Relationship of Placenta Previa and History of Induced Abortion*, 81 *INT'L J. GYNECOL. & OBSTETRICS* 191 (2003).

²¹² 550 U.S. 124 (2007).

²¹³ Partial Birth Abortion Ban Act, 18 U.S.C. § 1531 (2012).

²¹⁴ See *Gonzales*, 550 U.S. at 128 (noting that "[t]he Act's stated purposes are protecting innocent human life from [partial-birth abortion] and protecting the medical community's ethics and reputation" and that "Casey reaffirmed that the government may use its . . . regulatory authority to show its profound respect for the life within the women (citation omitted)").

greater deference to the states and concluded that the states have “wide discretion to pass legislation in areas where there is medical and scientific uncertainty.”²¹⁵

The twenty-week limit in *Isaacson v. Horne*²¹⁶ might have given the Court the opportunity to apply *Gonzales* and review the factual assumption that “abortion is safer than childbirth,” because medical data show that the maternal mortality rate from abortion increases significantly in the second trimester.²¹⁷ *Horne* could have given the Court the opportunity to reassess its factual assumption that drove the superstructure of *Roe* in light of contemporary medical data in the context of late-term abortions.

In the approximately thirty abortion cases that the Court has decided on the merits since 1973, the Court has rarely addressed the risks to women from abortion based on medical evidence in a trial record.²¹⁸ Instead, the Court has stated that the public has an interest in protecting maternal health, but only in the abstract, as in the *Casey* decision in 1992, where the Court said that “[r]egulations designed to foster the health of a woman seeking an abortion are valid if they do not constitute an undue burden.”²¹⁹ Future cases may create an opportunity for the Supreme Court to review a real record on the risks of abortion to women, and the unregulated public health vacuum that the Court has allowed for forty years.²²⁰

Reexamination of the medical mantra in *Roe* also raises some larger questions about the future of the Supreme Court and abortion. There are now four challenges to the mantra that “abortion is safer than childbirth”: (1) fundamental challenges to the dysfunctional abortion reporting system here in the United States where all data reporting is voluntary,²²¹ (2) maternal mortality data showing an increasing rate of maternal mortality from abortion after the first trimester,²²² (3) the growing body of international data on the long-term risks to women from abortion,²²³ and (4) maternal mortality data from other countries with better data collection and recordkeeping that show a higher rate of abortion mortality than maternal mortality.²²⁴

Those challenges set up some possible paradigm shifts. How will the maternal mortality data and long-term risks data affect the consideration of maternal “health”? Will some sort of analysis balancing the risks of “delay” with the risk to women from the abortion be required? Will providers be required to demonstrate that the risks of

²¹⁵ *Id.* at 163.

²¹⁶ 884 F. Supp. 2d 961, 971 (D. Ariz. 2012), *rev'd*, 716 F.3d 1213 (9th Cir. 2013), *petition for cert. filed*, (U.S. Sep. 27, 2013) (No. 13-402) (concluding the statute survives a facial constitutional challenge), *rev'd*, 716 F.3d 1213 (9th Cir. 2013), *cert. denied*, 82 U.S.L.W. 3404 (U.S. 2014).

²¹⁷ See Bartlett, *supra* note 120.

²¹⁸ See Forsythe & Presser, *supra* note 14, at 90 (describing the original Jane Roe’s Rule 60(b) motion in *McCorvey v. Hill* where Circuit Judge Edith Jones reviewed the Court’s abortion jurisprudence and its lack of consideration of medical developments).

²¹⁹ *Planned Parenthood of Se. Pa. v. Casey*, 505 U.S. 833, 878 (1992).

²²⁰ See Forsythe & Kehr, *supra* note 13.

²²¹ *Supra* note 118 and accompanying text.

²²² *Supra* notes 119-19 and accompanying text.

²²³ *Supra* note 121 and accompanying text.

²²⁴ *Supra* note 122 and accompanying text.

not having the abortion outweigh the risks of having the abortion? If advocates contend that the principle underlying *Roe* is autonomy, not the relative safety of abortion, will the Supreme Court dismiss the data on the relative risks from abortion? Or will the Court allow the states to regulate or prohibit abortion at some gestational stage if providers cannot demonstrate that the risks of not having the abortion outweigh the risks of having the abortion? Unfortunately, the new paradigm will not be addressed in *Horne*, which was denied certiorari by the Supreme Court in January of 2014.²²⁵

VI. Conclusion

Federal Judge Henry Friendly put his finger on the Supreme Court's errors in 1978 when he criticized the Court for the use of medical data in *Roe* and *Doe* that were not part of any record. He wrote:

[T]he main lesson I wish to draw from the abortion cases relates to procedure—the use of social data offered...for the first time in the Supreme Court itself... The Court's conclusion in *Roe* that 'mortality rates for women undergoing early abortions, where the procedure is legal, appear to be as low as or lower than the rates for normal child-birth' rested entirely on materials not of record in the trial court, and *that conclusion* constituted the underpinning for the holding that the asserted interest of the state 'in protecting the woman from an inherently hazardous procedure' during the first trimester *did not exist*.²²⁶

Friendly continued,

If an administrative agency, even in a rulemaking proceeding, had used similar materials without having given the parties a fair opportunity to criticize or controvert them at the hearing stage, reversal would have come swiftly and inexorably.... The Court should set an example of proper procedure and not follow a course which it would condemn if pursued by any other tribunal.²²⁷

These concerns, and the growth in international medical data over the past two decades since *Casey*, should counsel the Supreme Court to give greater deference to the states in their attempt to protect maternal health.

²²⁵ *Isaacson v. Horne*, 716 F.3d 1213 (9th Cir. 2013), *cert. denied*, No. 13-402, 2014 WL 102430 (2014).

²²⁶ Henry J. Friendly, *The Courts and Social Policy: Substance and Procedure*, 33 U. MIAMI L. REV. 21, 36-37 (1978) (emphasis added).

²²⁷ *Id.* at 37-38.

Appendix A: List of 140+ Medical Studies Finding an Increased Risk of Pre-Term Birth After Abortion

1. G. Barsy & J. Sarkany, *Impact of Induced Abortion on the Birth Rate and Infant Mortality*, 6 DEMOGRAFIA 427 (1963).
2. K. Miltenyi, *On the Effects of Induced Abortion*, 7 DEMOGRAFIA 73 (1964).
3. Y. Furusawa & Y. Koya, *The Influence of Artificial Abortion on Delivery*, in HARMFUL EFFECTS OF INDUCED ABORTION 74 (Y. Koya ed., 1966).
4. A. Arvay, M. Gorgey & L. Kapu, *La Relation Entre les Avortements (Interruptions de la Grossesse) et le Accouchements Prematures*, 62 REV. FR. GYNECOL. OBSTET. 81 (1967).
5. A. Czeizel et al., *Changes in Mean Birth Weight and Proportion of Low-Weight Births in Hungary*, 24 BRIT. J. OF PREVENTIVE & SOC. MED. 146 (1970).
6. A. Dolezal et al., *Interruption of Pregnancy and Their Relation to Premature Labours and Hyptrophic Foetuses*, 36 CESK GYNEKOL 331 (1970).
7. P. Drac & Z. Nekvasilova, *Premature Termination of Pregnancy After Previous Interruption of Pregnancy*, 35 CESK GYNEKOL 332 (1970).
8. Hungarian Central Statistical Office, *The Effect of the Number of Abortions on Premature Births and Perinatal Mortality in Hungary, Budapest* (1972).
9. S. von Lembrych, *Schwangerschafts—Geburts—und Wochenbett verlaufnach kunstlicher Unterbrechung der Ersten Graviditat*, 94 ZENTRABL GENAECOL 164 (1972).
10. W. Dziewulska, *Abortion in the Past Versus the Fate of the Subsequent Pregnancy: State of the Newborn*, 44 GINEKOL POL 1143 (1973).
11. Monique Kaminski et al., *Prediction of Low Birthweight and Prematurity by a Multiple Regression Analysis with Maternal Characteristics Known Since the Beginning of the Pregnancy*, 2 INT'L J. EPIDEMIOLOGY 195 (1973).
12. M. Mikolas, *The Effect of the Legalization of Abortion on Public Health and Some of its Social Concomitants in Hungary*, 16 DEMOGRAFIA 70 (1973).
13. S.N. Pantelakis, G.C. Papadimitriou G.C. & S.A. Doxiadis, *Influence of Induced and Spontaneous Abortions on the Outcome of Subsequent Pregnancies*, 116 AM. J. OBSTETRICS & GYNECOLOGY 799 (1973).
14. G. Papaevangelou et al., *The Effect of Spontaneous and Induced Abortion on Prematurity and Birthweight*, 80 BRIT. J. OBSTETRICS & GYNECOLOGY 418 (1973).
15. J. Chabada et al., *Interruptions of Gravidity as a Cause of Premature Labour*, 49 CESK GYNEKOL 329 (1974).
16. S. Harlap & A. Davies, *Late Sequelae of Induced Abortion: Complications and Outcome of Pregnancy and Labor*, 102 AM. J. EPIDEMIOLOGY 219 (1975).
17. O. Pohanka et al., *The Impact of Abortion on the Birth Weight of Newborns*, 116 ORB HETIL 1983 (1975).
18. J. Fredrick, *Antenatal Identification of Women at High Risk of Spontaneous Preterm Birth*, 83 BRIT. J. OBST. GYN. 351 (1976).
19. Z. Bognar & A. Czeizel, *Mortality and Morbidity Associated with Legal Abortions in Hungary 1960-1973*, 66 AM. J. PUB. HEALTH 568 (1976).

20. P. Knarre, *Influence of Abortions and Interruptions of Pregnancies on Subsequent Deliveries. II. Course of Labor*, 98 ZENTRALBL GYNAKOL 591 (1976).
21. Michael P. Link & Anita Wichmann, *Pregnancy in Adolescents*, 98 ZENTRALBL GYNAKOL 682 (1976).
22. J.A. Richardson & G. Dixon, *Effect of Legal Termination on Subsequent Pregnancy*, 1 BRIT. MED. J. 1303 (1976).
23. L.H. Roht et al., *The Association of Multiple Induced Abortions with Subsequent Prematurity and Spontaneous Abortion*, 23 ACTA OBSTET GYNAECOL JPN 140 (1976).
24. O. Koller & S. Eikhom, *Late Sequelae of Induced Abortion in Primigravidae: The Outcome of the Subsequent Pregnancies*, 56 ACTA OBSTET GYNAECOL SCAND 311 (1977).
25. T. Lean, C.J.R. Hogue & J. Wood, Presentation at the 105th Annual Meeting of the American Public Health Association, Washington D.C.: Low Birth Weight After Induced Abortion in Singapore (Oct. 31, 1977).
26. H. Kreiblich & E. Ehring, *Effect of Abortion on Subsequent Fertility with Special Reference to the Abortion Process*, 100 ZENTRALBL GYNAKOL 1254 (1978).
27. F. Macku et al., *Artificial Interruption of Pregnancy in Primigravidae as a Risk Factor in Future Pregnancies*, 43 CESK GYNEKOL 340 (1978).
28. J.W. Van Der Slikke & P.E. Treffers, *Influence of Induced Abortion on Gestational Duration in Subsequent Pregnancies*, BRIT. MED. J. 270 (1978).
29. WORLD HEALTH ORGANIZATION, SPECIAL PROGRAMME OF RESEARCH, DEVELOPMENT AND RESEARCH TRAINING IN HUMAN REPRODUCTION: SEVENTH ANNUAL REPORT, GENEVA (NOV. 1978).
30. B. Grindel et al., *Induced Abortion in Primigravidae and Subsequent Pregnancy, with Particular Attention of Underweight*, 101 ZENTRALBL GYNAKOL 1009 (1979).
31. E. Obel et al., *Pregnancy Complications Following Legally Induced Abortion with Special Reference to Abortion Technique*, 58 ACTA. OBSTET. GYNECOL. SCAND. 147 (1979).
32. G. Ratten & N. Beischer, *The Effect of Termination of Pregnancy on Maturity of Subsequent Pregnancy*, 1 MED. J. AUSTR. 479 (1979).
33. World Health Organization Task Force on Sequelae of Abortion, *Gestation, Birth-Weight, and Spontaneous Abortion in Pregnancy After Induced Abortion*, 1 LANCET 142 (1979).
34. C. Zwahr et al., *Multidimensional Investigations to Elucidate Relationships Between Case Histories of Interruption of Pregnancy and Premature Deliveries and Low Birth Weight*, 101 ZENTRALBL GYNEKOL 1502 (1979).
35. H. Kreibich & A. Ludwig, *Early and Late Complications in Induced Abortions of Primigravidae (Including Suggested Measures)*, 74 Z AERZTL FORTBILD (Jena) 311 (1980).
36. V. LEGRILLO ET AL, EFFECT OF INDUCED ABORTION ON SUBSEQUENT REPRODUCTIVE FUNCTION: FINAL REPORT TO NICHD, ALBANY, NY: NEW YORK STATE HEALTH DEPARTMENT (1980).
37. A. Levin, *Association of Induced Abortion with Subsequent Pregnancy Loss*, 243 J. AM. MED. ASS'N 2495 (1980).
38. E.B. Obel, *Long-Term Sequelae Following Legally Induced Abortion*, 27 DANISH MED. BULL. 61 (1980).
39. C. Zwahr et al., *Relationships Between Interruptions Abortion, and Premature Birth and Low Birth Weight*, 102 ZENTRALBL GYNAKOL 738 (1980).

40. L.G. Lampe et al., *Effects of Smoking and of Induced Abortion on Pregnancy Outcome*, 15 IPPF MED. BULL. 3 (1981).
41. Gertrud Svala Berkowitz, *An Epidemiologic Study of Preterm Delivery*, 113 AM. J. EPIDEMIOLOGY 81 (1981).
42. R.C. LERNER & A.O. VARMA, PROSPECTIVE STUDY OF THE OUTCOME OF PREGNANCY SUBSEQUENT TO PREVIOUS INDUCED ABORTION. FINAL REPORT, CONTRACT NO. N01-HD-62803. New York: Downstate Medical Center, SUNY (Jan. 1981).
43. C. Madore et al., *A Study on the Effects of Induced Abortion on Subsequent Pregnancy Outcome*, 139 AM. J. OBSTETRICS & GYNECOLOGY 516 (1981).
44. P.E. Slater et al., *The Effect of Abortion Method on the Outcome of Subsequent Pregnancy*, 26 J. REPROD. MED. 123 (1981).
45. Shai Linn, Stephen Schoenbaum & R.R. Monson et al., *No Association Between Coffee Consumption and Adverse Outcomes of Pregnancy*, 306 NEW ENG. J. MED. 141 (1982).
46. N.M. Pompe-Tansek, L. Andolsek & B. Tekovcic, *Jugosl*, 22 GINEKOL OPSTET 118 (1982).
47. J. Puyenbroek & L. Stolte, *The Relationship Between Spontaneous and Induced Abortions and the Occurrence of Second-Trimester Abortion in Subsequent Pregnancies*, 14 EUR. J. OBSTETRICS, GYNECOLOGY & REPROD. BIOLOGY 299 (1983).
48. C. Zwahr & M. Voigt, *The Effect of Various Parameters on the Incidence of Premature Births*, 105 ZENTRALBL GYNAKOL 1307 (1983).
49. D. Schuler & A. Klinger, *Causes of Low Birthweight in Hungary*, 24 ACTA PAEDIATRICA HUNGARICA 173 (1984).
50. Ruth M. Pickering & John F. Forbes, *Risks of Preterm Delivery and Small-for-Gestational Age Infants Following Abortion: A Population Study*, 92 BRIT J. OBSTETRICS & GYNECOLOGY 1106 (1985).
51. J. Lumley, *Very Low Birth-Weight (less than 1,500g) and Previous Induced Abortion: Victoria 1982-1983*, 26 AUSTR. N.Z. J. OBSTETRICS & GYNAECOLOGY 268 (1986).
52. A. Peterlin & L. Andolsek, *The Effect of Induced Abortion in Adolescence on the Manifestations of Spontaneous Abortion, Premature Labor and Birth Weight*, 26 JUGOSL GINEKOL PERINATOL 49 (1986).
53. Michael G. Ross et al., *A Simplified Risk-Scoring System for Prematurity*, 3 AM. J. PERINATOLOGY 339 (1986).
54. P.H. Shiono & M.A. Llebenoff, *Ethnic Differences in Preterm and Very Preterm Delivery*, 76 AM J. PUB. HEALTH 1317 (1986).
55. G. Krasomski et al., *Fate of Subsequent Pregnancies After Induced Abortion in Primiparae*, 40 WIAD LEK 1593 (1987).
56. E. Lieberman et al., *Risk Factors Accounting for Racial Differences in the Rate of Premature Birth*, 317 NEW ENG. J. MED. 743 (1987).
57. Denise M. Main et al., *Prospective Evaluation of a Risk Scoring System for Predicting Preterm Delivery in Black Inner City Women*, 69 OBSTETRICS & GYNECOLOGY 61 (1987).
58. D.S. Seidman et al., *Child-Bearing After Induced Abortion: Reassessment of Risk*, 42 J. EPIDEMIOLOGY COMMUNITY HEALTH 294 (1988).

59. C. Zwahr et al., *Correlation Between Some Environmental, Anamnestic and Social Markers of Pregnant Patients and the Delivery of Autotrophic Premature and Hypertrophic Newborn Infants*, 110 ZENTRALBL GYNAKOL 479 (1988).
60. Eberhard Mueller-Heubach & David S. Guzick, *Evaluation of Risk Scoring in a Preterm Birth Prevention Study of Indigent Patients*, 160 AM. J. OBSTETRICS & GYNECOLOGY 829 (1989).
61. J.H. Harger et al., *Risk Factors for Preterm Premature Rupture of Fetal Membranes: A Multicenter Case-Control Study*, 163 AM. J. OBSTETRICS & GYNECOLOGY 130 (1990).
62. Vasso Lekea-Karanika et al., *Previous Obstetric History and Subsequent Preterm Delivery in Greece*, 37 EUR J. OBSTETRICS, GYNECOLOGY & REPROD. BIOLOGY 99 (1990).
63. Y.J. Li & Y.S. Zhou, *Study of Factors Associated with Preterm Delivery*, 11 ZHONGJIA LIU XING BING XUE ZA CHI 229 (1990).
64. James A. McGregor et al., *Antenatal Microbiologic and Maternal Risk Factors Associated with Prematurity*, 163 AM. J. OBSTETRICS & GYNECOLOGY 1465 (1990).
65. T. Chumnijarakij et al., *Maternal Risk Factors for Low Birth Weight in Thailand*, 75 J. MED. ASS'N THAI. 445 (1991).
66. R.M. Pickering & J.J. Deeks, *Risks of Delivery During the 20th to the 36th Week of Gestation*, 20 INT'L J. EPIDEMIOLOGY 456 (1991).
67. J.H. Gong, *Preterm Delivery and Its Risk Factors*, 27 ZHOUNGHUA FU CHAN KE ZA CHI 22 (1992).
68. M.T. Mandelson et al., *Low Birth Weight in Relation to Multiple Induced Abortions*, 82 AM. J. PUB. HEALTH 391 (1992).
69. Robert Michielutte et al., *A Comparison of Risk Assessment Models for Term and Preterm Low Birthweight*, 21 PREVENTIVE MED. 98 (1992).
70. Jun Zhang & David A. Savitz, *Preterm Birth Subtypes Among Blacks and Whites*, 3 EPIDEMIOLOGY 428 (1992).
71. Charles Algert et al., *Low Birth-Weight in New South Wales, 1987: A Population-Based Study*, 33 AUSTL. N.Z. J. OBSTETRICS & GYNAECOLOGY 243 (1993).
72. Edem E. Ekwo et al., *Previous Pregnancy Outcomes and Subsequent Risk of Preterm Rupture of Amniotic Sac Membranes*, 100 BRIT J. OBSTETRICS & GYNECOLOGY 536 (1993).
73. J. Lumley, *The Epidemiology of Preterm Birth*, 7 BAILLIERE'S CLINICAL OBSTETRICS & GYNAECOLOGY 477 (1993).
74. A. Herceg et al., *Risk Factors and Outcomes Associated with Low Birthweight Delivery in the Australian Capital Territory 1989-90*, 30 J. PAEDIATRICS & CHILD HEALTH 331 (1994).
75. V. Lekea-Karanika & C. Tzoumaka-Bangoula, *Past Obstetric History of the Mother and Its Association with Low Birth Weight of A Subsequent Child: A Population-Based Study*, 8 PAEDIATR PERINAT EPIDEMIOL 173 (1994).
76. Debra Guinn et al., *Risk Factors for the Development of Preterm Premature Rupture of Membranes After Arrest of Preterm Labor*, 173 AM. J. OBSTETRICS & GYNECOLOGY 1310 (1995).
77. Sharon L. Hillier et al., *Association Between Bacterial Vaginosis and Preterm Delivery of a Low-Birth-Weight Infant*, 333 NEW ENG. J. MED 1737 (1995).
78. Khadiga A. Khalil et al., *Pattern of Growth and Development of Premature Children at the Age of Two and Three Years in Alexandria, Egypt*, 1 E. MEDITERRANEAN HEALTH J. 186 (1995).

79. Paul J. Meis et al., *Factors Associated with Preterm Birth in Cardiff, Wales. I. Univariable and Multivariable Analysis*, 173 AM. J. OBSTETRICS & GYNECOLOGY 590 (1995).
80. Chie-Pein Chen et al., *Risk Factors for Preterm Birth in an Upper Middle Class Chinese Population*, 70 EUR. J. OBSTETRICS, GYNECOLOGY & REPROD. BIOLOGY 53 (1996).
81. R. Hagan et al., *Very Preterm Birth—A Regional Study. Part 1: Maternal and Obstetric Factors*, 103 BRIT. J. OBSTETRICS & GYNECOLOGY 230 (1996).
82. Janet M. Lang et al., *A Comparison of Risk Factors for Preterm Labor and Term Small-for-Gestational-Age Birth*, 7 EPIDEMIOLOGY 369 (1996).
83. Geir Jacobsen et al., *Prepregnant Reproductive Risk and Subsequent Birth Outcome Among Scandinavian Parous Women*, 7 NORWEGIAN J. EPIDEMIOLOGY 33 (1997).
84. INFO. & STATISTICS DIV., THE NAT'L HEALTH SERV. IN SCOT., *SMALL BABIES IN SCOTLAND: A TEN YEAR OVERVIEW 1987-1996* (Edinburg 1998).
85. K.S. Lee et al., *Maternal Factors Associated with Premature Rupture of Membrane in the Low Birth Weight Infant Deliveries*, 21 KOREAN J. PREV. MED. 207 (1998).
86. J. Lumley, *The Association Between Prior Spontaneous Abortion, Prior Induced Abortion and Preterm Birth in First Singleton Births*, 3 PRENATAL & NEONATAL MED. 21 (1998).
87. Joachim A. Martius et al., *Risk Factors Associated with Preterm (<37+0 weeks) and Early Preterm Birth (<32+0 weeks): Univariate and Multivariate Analysis of 106 345 Singleton Births from the 1994 Statewide Perinatal Survey of Bavaria*, 80 EUR. J. OBSTETRICS, GYNECOLOGY & REPROD. BIOLOGY 183 (1998).
88. Pierre-Yves Ancel, Marie-Joséphine Saurel-Cubizolles, Gian Carlo Di Renzo, Emile Papiernik & Gerard Breart, *Social Differences of Very Preterm Birth in Europe: Interaction with Obstetric History*, 149 AM. J. EPI. 908 (1999).
89. Pierre-Yves Ancel, Marie-Joséphine Saurel-Cubizolles, Gian Carlo Di Renzo, Emile Papiernik & Gerard Breart, *Very and Moderate Preterm Births: Are the Risk Factors Different?*, 106 BRIT. J. OBSTETRICS & GYNECOLOGY 1162 (1999).
90. Weijin Zhou, Henrik Toft Sorenson & Jorn Olsen, *Induced Abortion and Subsequent Pregnancy Duration*, 94 OBSTETRICS & GYNECOLOGY 948, 948 (1999).
91. Pierre-Yves Ancel, Marie-Joséphine Saurel-Cubizolles, Gian Carlo Di Renzo, Emile Papiernik & Gerard Breart, *Risk Factors for 14-21 Week Abortions: A Case-Control Study in Europe*, 15 HUM. REPROD. 2426 (2000).
92. H. Bettiol et al., *Risk Factors Associated with Preterm Births in Southeast Brazil: A Comparison of Two Birth Cohorts Born 15 Years Apart*, 14 PAEDIATRIC PERINATAL EPIDEMIOLOGY 30 (2000).
93. Laurence Foix-L'Helias, Pierre-Yves Ancel & Beatrice Blondel, *Changes in Risk Factors of Preterm Delivery in France Between 1981 and 1995*, 14 PAEDIATRIC & PERINATAL EPIDEMIOLOGY 314 (2000).
94. Laurence Foix-L'Helias, Pierre-Yves Ancel & Beatrice Blondel, *Risk Factors for Prematurity in France and Comparisons Between Spontaneous Prematurity and Induced Labor: Results from the National Perinatal Survey 1995*, 29 J. GYNECOL. OBSTET. BIO. REPROD. (PARIS) 55 (2000).
95. John Gardosi & Andre Francis, *Early Pregnancy Predictors of Preterm Birth: The Role of a Prolonged Menstruation-Conception Interval*, 107 BJOG 228 (2000).
96. Laurence Henriët & Monique Kaminski, *Impact of Induced Abortions on Subsequent Pregnancy Outcome: The 1995 French National Perinatal Survey*, 108 BJOG 1036 (2001).

97. Gobopamang Letamo & Rolang Majelantle, *Factors Influencing Low Birth Weight and Prematurity in Botswana*, 33 J. BIOSOC. SCI. 391 (2001).
98. B. Balaka et al., *Risk Factors Associated with Prematurity at the University of Lme, Togo*, 95 BULL. SOC. PATHOL. EXOT. 280 (2002).
99. I. Grimmer et al., *Preconceptional Factors Associated with Very Low Birth Weight Delivery: A Case Control Study*, 2 BMC PUB. HEALTH 10 (2002).
100. Amira Y. El-Bastawissi et al., *History of Fetal Loss and Other Adverse Pregnancy Outcomes in Relation to Subsequent Risk of Preterm Delivery*, 7 MATERNAL CHILD HEALTH J. 53 (2003).
101. Wen-Hui Han, Li-Mei Chen & Chung-Yi Li, *Incidences of and Predictors for Preterm Births and Low Birth Weight Infants in Taiwan*, CHINESE ELECTRONIC PERIODICAL SERVICES 131 (2003).
102. Pierre-Yves Ancel et l., *History of Induced Abortion as a Risk Factor for Preterm Birth in European Countries: Results of EUROPOP Survey*, 19 HUM. REPROD. 734 (2004).
103. B. Reime, B.A. Schuecking & P. Wenzlaff, *Perinatal Outcomes of Teenage Pregnancies According to Gravidity and Obstetric History*, 14 ANNALS OF EPIDEMIOLOGY 619 (2004).
104. O.U.J. Umeora et al., *Incidence and Risk Factors for Preterm Delivery in a Tertiary Health Institution in Nigeria*, 24 J. OBSTETRICS GYNAECOLOGY 895 (2004).
105. A. Conde-Agudelo et al., *Effect of the Interpregnancy Interval After an Abortion on Maternal and Perinatal Health in Latin America*, 89 INT. L.J. GYNAECOLOGY & OBSTETRICS (Supp. 1) S34 (2005).
106. S. J. Etuk et al., *Factors Influencing the Incidence of Pre-term Birth in Calabar, Nigeria*, 20 NIGERIAN J. PHYSIOLOGICAL SCI. 63 (2005).
107. Caroline Moreau et al., *Previous Induced Abortions and the Risk of Very Preterm Delivery: Results of the EPIPAGE Study*, 112 BRIT. J. OBSTETRICS GYNAECOLOGY 430 (2005).
108. P. Stang et al., *Induced Abortion Increases the Risk of Very Preterm Delivery; Results from a Large Perinatal Database*, in FERTILITY STERILITY S159 (2005).
109. Samin A. Al-Dabbagh & Wafa Y. Al-Tae, *Risk Factors for Preterm Birth in Iraq: A Case-Control Study*, 6 BMC PREGNANCY & CHILDBIRTH 13 (2006).
110. S.M. Losa et al., *Risk Factors for Preterm Birth*, 49 PROG. OBSTETRICS & GINECOLOGY 57 (2006).
111. K.K. Roy, Jinee Baruah, Sunesh Kumar, Neena Malhotra, A.K. Deorari & J.B. Sharma, *Maternal Antenatal Profile and Immediate Neonatal Outcome in VLBW and ELBW Babies*, 73 INDIAN J. PEDIATRICS 669 (2006).
112. P. Poikkens et al., *Impact of Infertility Characteristics and Treatment Modalities on Singleton Pregnancies After Assisted Reproduction*, 13 REPROD. BIOMED. 135 (2006).
113. Gordon C.S. Smith et al., *Maternal and Biochemical Predictors of Spontaneous Preterm Birth Among Nulliparous Women: A Systematic Analysis in Relation to Degree of Prematurity*, 35 INT'L J. EPIDEMIOLOGY 1169 (2006).
114. Satoshi Teramoto, Atsuhiko Soeda, Yoshihiro Hayashi & Mitsuyoshi Urashima, *Physical and Socioeconomic Predictors of Birth Weight in Japan*, 48 PEDIATRICS INT'L 274 (2006).
115. F. Briunsmas, J. Lumley, J. Tan & M. Quinn, *Precancerous Changes in the Cervix and Risk of Subsequent Preterm Birth*, 114 BJOG 70 (2007).
116. Allison E. Curry, Ida Vogel, Carolyn Drews, Diana Schendel & Kristin Skogstrand et al., *Mid-pregnancy Maternal Plasma Levels of Interleukin 2, 6, and 12, Tumor Necrosis Factor-alpha,*

- Interferon-gamma, and Granulocyte-macrophage Colony-stimulating Factor and Spontaneous Preterm Delivery*, 86 ACTA OBSTETICA ET GYNECOLOGICA 1103 (2007).
117. J.E. Jackson, W.A. Grobman, E. Haney & H. Casele, *Mid-trimester Dilation and Evacuation with Laminaria Does Not Increase the Risk for Severe Subsequent Pregnancy Complications*, 96 INT'L J. GYNECOLOGY & OBSTETRICS 12 (2007).
 118. Chung-Chin Lo, Jenn-Jeih Hsu, Ching-Chang Hsieh, Tsang-T-sang Hsieh & Tai-Ho Hung, *Risk Factors For Spontaneous Preterm Delivery Before 34 Weeks of Gestation Among Taiwanese Women*, 46 TAIWAN J. OBSTETRICS & GYNECOLOGY 389 (2007).
 119. Sareer Badshah, Linda Mason, Kenneth McKelvie, Roger Payne & Paulo JG Lisboa, *Risk Factors for Low Birthweight in the Public Hospitals at Peshawar NWFP-Pakistan*, 8 BMC PUB. HEALTH 197 (2008).
 120. J.S. Brown, T. Adera & S.W. Masho, *Previous Abortion and the Risk of Low Birth Weight and Preterm Births*, 62 J. EPIDEMIOLOGY COMMUN. HEALTH 16 (2008).
 121. Birgit Reime, Beate A. Schuecking & Paul Wenzlaff, *Reproductive Outcomes in Adolescents Who Had a Previous Birth or an Induced Abortion Compared to Adolescents' First Pregnancies*, 8 BMC PREGNANCY & CHILDBIRTH 4 (2008).
 122. J. Visintine, V. Berghella, D. Henning & J. Baxter, *Cervical Length for Prediction of Preterm Birth in Women with Multiple Prior Induced Abortions*, 31 ULTRASOUND OBSTETRICS GYNECOLOGY 198 (2008).
 123. M. Voigt et al., *The Influence of Previous Pregnancy Terminations, Miscarriages, and Still-birth on the Incidence of Babies with Low Birth Weight and Premature Births as well as Somatic Classification of Newborns*, 212 Z. GEBURTSILFHE NEONATOL 5 (2008).
 124. R. Freak-Poli, A. Chan, J. Gaeme & J. Street, *Previous Abortion and Risk of Preterm Birth: A Population Study*, 22 J. MATERNAL-FETAL & NEONATAL MED. 1 (2009).
 125. Manfred Voigt, Wolfgang Henrich, Marek Zygmunt, Klaus Friese, Sebastian Straube, Volker Briese, *Is Induced Abortion a Risk Factor in Subsequent Pregnancy?*, 37 J. PERINATAL MED. 144 (2009).
 126. Ammar M. Alfadhli, Ali M. Hajia, Farida A.K. Mohammed, Hamdiya A. Alfadhli & Medhat K. El-Shazly, *Incidence and Potential Risk Factors of Low Birth Weight Among Full Term Deliveries*, 46 ALEXANDRIA J. MED. 157 (2010).
 127. G. Junli & Z. Weiyue., *Influence of Artificial Abortion on Preterm Labor and Risk in Subsequent Pregnancy*, CHINESE J. OBSTETRICS & GYNAECOLOGY PEDIATRICS 447 (2010).
 128. Lyndsey F. Watson, Jo-Anne Rayner, James King, Damien Jolley, Della Forster & Judith Lumley, *Modeling Prior Reproductive History to Improve Predication of Risk for Very Preterm Birth*, 24 PAEDIATRIC PERINATAL EPIDEMIOLOGY 402 (2010).
 129. Lyndsey F. Watson, Jo-anne Rayner, James King, Damien Jolley, Della Forster & Judith Lumley, *Modeling Sequence of Prior Pregnancies on Subsequent Risk of Very Preterm Birth*, 24 PAEDIATRIC & PERINATAL EPIDEMIOLOGY 416 (2010).
 130. Wei Yuan, Anne M. Duffner, Lina Chen, Linda P. Hunt, Susan M. Sellers & Andres Lopez Bernal, *Analysis of Preterm Deliveries Below 35 Weeks' Gestation in a Tertiary Hospital in the UK. A Case-control Survey*, 3 BMC RESEARCH NOTES 119 (2010).
 131. Gian Carlo Di Renzo, Irene Giardina, Alessia Rosati, Graziano Clerici, Michela Torricelli & Felice Petraglia, *Maternal Risk Factors for Preterm Birth: A Country Based Population Analysis*, 159 EUR. J. OBSTETRICS GYNECOLOGY & REPROD. BIO. 342 (2011).

132. Marcia Furquim de Almeida, Gizelton Pereira Alencar, Daniela Schoeps, Hillegonda Maria Dutilh Novaes, Oona Campbell & Laura C. Rodrigues, *Survival and Risk Factors for Neonatal Mortality in a Cohort of Very Low Birth Weight Infants in the Southern Region of San Paulo City, Brazil*, 27 *CADERNOS DE SAUDE PUBLICA* 1088 (2011).
133. H. Liao, Q. Wei, L. Duan, J. Ge, Y. Zhou & W. Zeng, *Repeated Medical Abortions and the Risk of Preterm Birth in Subsequent Pregnancies*, 289 *ARCH GYNECOLOGY & OBSTETRICS* 579 (2011).
134. Siladitya Bhattacharya et al., *Reproductive Outcomes Following Induced Abortion; A National Register-based Cohort Study in Scotland*. 2 *BMJ OPEN* e000911 (2012), <http://bmjopen.bmj.com/content/2/4/e000911.full.pdf>.
135. R. Klemetti, M. Gissler, M. Niinimaki & E. Hemminki, *Birth Outcomes After Induced Abortion: A Nationwide Register-based Study of First Births in Finland*, *HUM. REPROD.* (2012), available at <http://www.ncbi.nlm.nih.gov/pubmed/22933527>.
136. Ghislain Hardy, Alice Benjamin & Haim A. Abenhaim, *Effects of Induced Abortions on Early Preterm Births and Adverse Perinatal Outcomes*, 35 *J. OBSTETRICS GYNAECOLOGY CANADA* 138 (2013), http://www.jogc.com/abstracts/full/201302_Obstetrics_5.pdf.
137. M. Heaman et al., *Risk Factors for Preterm Birth and Small-for-gestational-age Among Canadian Women*, 27 *PAEDIATRIC PERINATAL EPIDEMIOLOGY* 54 (2013).
138. Fergus P. McCarthy, Ali S. Khashan, Robyn A. North, Muna B. Rahma & James J. Walker et al., *Pregnancy Loss Managed by Cervical Dilatation and Curettage Increases the Risk of Spontaneous Preterm Birth*, in *HUM. REPROD. ADVANCED ACCESS* 1 (2013).
139. Clare Oliver-Williams, Michael Fleming, Kirsten Monteath, Angela M. Wood & Gordon C.S. Smith, *Changes in Association Between Previous Therapeutic Abortion and Preterm Birth in Scotland, 1980 to 2008: A Historical Cohort Study*, 10 *PLOS* 1 (2013), <http://www.plosmedicine.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pmed.1001481&representation=PDF>.
140. Sari Raisanen, Mika Gissler, Juho Saari, Michael Kramer & Seppo Heinon, *Contribution of Risk Factors to Extremely, Very and Moderately Preterm Term Births-Register-Based Analysis of 1,390,742 Singleton Births*, 8 *PLOS ONE* 1 (2013).
141. Brenda L. Scholten et al, *The Influence of Pregnancy Termination on the Outcome of Subsequent Pregnancies: A Retrospective Cohort Study*, 3 *BMJ OPEN* e002803 (2013), <http://bmjopen.bmj.com/content/3/5/e002803.full.pdf+html>.
142. Lyndsey F Watson, Jo-Anne Rayner & Della Forster, *Identifying Risk Factors for Very Preterm Birth: A Reference for Clinicians*, 29 *MIDWIFERY* 434 (2013).
143. Michel A. Makhoulouf et al., *Adverse Pregnancy Outcomes Among Women with Prior Spontaneous or Induced Abortions*, *AM. J. PERINATOLOGY* EFIRST, Dec. 17, 2013.

Appendix B: List of 99 Medical Studies Finding an Increased Risk of Mental Trauma After Abortion

1. D.T. Moseley at al., *Psychological Factors That Predict Reaction to Abortion*, 37 J. CLINICAL PSYCHOL. 276 (1981).
2. H. David, N. Rasmussen & E. Holst, *Postpartum and Postabortion Psychotic Reactions*, 13 FAM. PLANNING PERSPECTIVES 88 (1981).
3. Christine F. Bradley, *Abortion and Subsequent Pregnancy*, 29 CANADIAN J. OF PSYCHIATRY 494 (1984).
4. Arthur Lazarus, *Psychiatric Sequelae of Legalized Elective First Trimester Abortion*, 4 J. PSYCHOSOMATIC OBSTETRICS & GYNECOLOGY 141 (1985).
5. Karen M. Lodl et al., *Women's Responses to Abortion*, 3 J. OF SOC. WORK & HUM. SEXUALITY 119 (1985).
6. A. Lazarus & R. Stern, *Psychiatric Aspects of Pregnancy Termination*, 13 CLINICS OBSTETRICS & GYNAECOLOGY 125 (1986).
7. George M. Burnell & Mary Ann Norfleet, *Women's Self-Reported Responses to Abortion*, 121 THE J. PSYCHOL. 71 (1987).
8. Amy Hittner, *Feelings of Well-Being Before and After an Abortion*, 9 AM. MENTAL HEALTH COUNS. ASS'N J. 98 (1987).
9. Kazuo Yamaguchi & Denise Kandel, *Drug Use and Other Determinants of Premarital Pregnancy and its Outcome: A Dynamic Analysis of Competing Life Events*, 49 J. MARRIAGE & FAM. 257 (1987).
10. Nancy B. Campbell et al., *Abortion in Adolescence*, 23 ADOLESCENCE 813 (1988).
11. Jeanne Parr Lemkau, *Emotional Sequelae of Abortion: Implications for Clinical Practice*, 12 PSYCHOL. WOMEN Q. 461 (1988).
12. S.P. Llewellyn, & R. Pytches, *An Investigation of Anxiety Following Termination of Pregnancy*, 13 J. ADVANCED NURSING 468 (1988).
13. Hortensia Amaro, Barry Zuckerman & Howard Cabral, *Drug Use Among Adolescent Mothers: Profile of Risk*, 84 PEDIATRICS 144 (1989).
14. Brenda Major & Pallas Mueller, *Self-blame, Self-efficacy and Adjustment to Abortion*, 57 J. PERSONALITY & SOC. PSYCHOL. 1059 (1989).
15. Brenda Major et al., *Perceived Social Support, Self-Efficacy, and Adjustment to Abortion*, 59 J. PERSONALITY & SOC. PSYCHOL. 186 (1990).
16. Emil J. Posavac & Todd Q. Miller, *Some Problems Caused by Not Having a Conceptual Foundation for Health Research: An Illustration From Studies of the Psychological Effects of Abortion*, 5 PSYCHOL. & HEALTH 13 (1990).
17. Marijo B. Tamburrino et al., *Postabortion Dysphoria and Religion*, 83 S. MED. J. 736 (1990).
18. Susan C. Turell et al., *Emotional Response to Abortion: A Critical Review of the Literature*, 9 WOMEN & THERAPY 49 (1990).
19. D.R. Urquhart & A.A. Templeton, *Psychiatric Morbidity and Acceptability Following Medical and Surgical Methods of Induced Abortion*, 98 BRIT. J. OBSTETRICS & GYNECOLOGY 396 (1991).
20. Winifred Barnett, Nahid Freudenberg & Reinhard Wille, *Partnership After Induced Abortion: A Prospective Controlled Study*, 21 ARCHIVES OF SEXUAL BEHAVIOR 443 (1992).

21. Wanda Franz & David Reardon, *Differential Impact of Abortion on Adolescents and Adults*, 27 *ADOLESCENCE* 161 (1992).
22. Warren B. Miller, *An Empirical Study of the Psychological Antecedents and Consequences of Induced Abortion*, 48 *J. SOC. ISSUES* 67 (1992).
23. Anne C. Speckhard & Vincent M. Rue, *Postabortion Syndrome: An Emerging Public Health Concern*, 48 *J. SOC. ISSUES* 95 (1992).
24. Gregory H. Wilmoth et al., *Prevalence of Psychological Risks Following Legal Abortion in the U.S.: Limits of the Evidence*, 48 *J. SOC. ISSUES* 37 (1992).
25. G. Kam Congleton & Lawrence G. Calhoun, *Post-Abortion Perceptions: A Comparison of Self-Identified Distressed and Non-Distressed Populations*, 39 *INT'L J. SOC. PSYCHIATRY* 255 (1993).
26. Catherine L. Cohan et al., *Pregnancy Decision Making: Predictors of Early Stress and Adjustment*, 17 *PSYCHOL. WOMEN Q.* 223 (1993).
27. Catherine Cozzarelli, *Personality and Self-Efficacy as Predictors of Coping With Abortion*, 65 *J. PERSONALITY & SOC. PSYCHOL.* 1224 (1993).
28. Philip G. Ney et al., *Relationship Between Induced Abortion and Child Abuse and Neglect: Four Studies*, 8 *PRE & PERINATAL PSYCHOL. J.* 43 (1993).
29. Philip G. Ney et al., *The Effects of Pregnancy Loss on Women's Health*, 38 *SOC. SCI. & MED.* 1193 (1994).
30. Richard Henshaw et al., *Psychological Responses Following Medical Abortion (Using Mifepristone and Gemeprost) and Surgical Vacuum Aspiration: A Patient-Centered, Partially Randomized Prospective Study*, 73 *ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA* 812 (1994).
31. Mary Patricia Conklin & Brian P. O'Connor, *Beliefs About the Fetus as a Moderator of Post-Abortion Psychological Well-Being*, 14 *J. SOC. & CLINICAL PSYCHOL.* 76 (1995).
32. Charlotte Husfeldt et al., *Ambivalence Among Women Applying for Abortion*, 74 *ACTA OBSTETRICIA ET GYNECOLOGIA SCANDINAVICA* 813 (1995).
33. Maggie Jones Patterson et al., *Abortion in America: A Consumer-Behavior Perspective*, 21 *J. CONSUMER RES.* 677 (1995).
34. C. Butler, *Late Psychological Sequelae of Abortion: Questions From a Primary Care Physician*, 43 *J. FAM. PRAC.* 396 (1996).
35. Mika Gissler et al., *Suicides After Pregnancy in Finland, 1987-94: Register Linkage Study*, 313 *BRIT. MED. J.* 1431 (1996).
36. John Lydon et al., *Pregnancy Decision-Making as a Significant Life Event: A Commitment Approach*, 71 *J. PERSONALITY & SOC. PSYCHOL.* 141 (1996).
37. Edith Guilbert & Debra Rotter, *Assessment of Satisfaction With Induced Abortion Procedure*, 131 *J. PSYCHOL.* 157 (1997).
38. Wendy J. Lewis, *Factors Associated With Post-Abortion Adjustment Problems: Implications for Triage*, 6 *THE CANADIAN J. HUM. SEXUALITY* 9 (1997).
39. C. L. Morgan et al., *Suicides After Pregnancy: Mental Health May Deteriorate As a Direct Effect of Induced Abortion*, 314 *BRIT. MED. J.* 902 (1997).
40. Lise Schleiss et al., *Psychological Consequences of Induced Abortion*, 159 *UGESKRIFT LAEGER* 3603 (1997).

41. Hanna Söderberg et al., *Continued Pregnancy Among Abortion Applicants: A Study of Women Having a Change of Mind*, 76 ACT OBSTETRICIA GYNECOLOGICA SCANDINAVIA 942 (1997).
42. Priscilla K. Coleman & Eileen S. Nelson, *The Quality of Abortion Decisions and College Students' Reports of Post-Abortion Emotional Sequelae and Abortion Attitudes*, 17 J. SOC. & CLINICAL PSYCHOL. 425 (1998).
43. T. Kitamura et al., *Single and Repeated Elective Abortions in Japan: A Psychosocial Study*, 19 PSYCHOSOMATIC OBSTETRICS & GYNECOLOGY 126 (1998).
44. Warren B. Miller et al., *Testing a Model of the Psychological Consequences of Abortion*, in THE NEW CIVIL WAR: THE PSYCHOLOGY, CULTURE, AND POLITICS OF ABORTION 235 (L. J. Beckman & S. M. Harvey eds., 1998).
45. Pauline Slade et al., *A Comparison of Medical and Surgical Termination of Pregnancy: Choice, Psychological Consequences, and Satisfaction With Care*, 105 BRIT. J. OBSTETRICS & GYNECOLOGY 1288 (1998).
46. Hanna Söderberg et al., *Emotional Distress Following Induced Abortion: A Study of its Incidence and Determinants Among Abortees in Malm[xF6], Sweden*, 79 EURO. J. OBSTETRICS & GYNECOLOGY & REPROD. BIOLOGY 173 (1998).
47. Brenda Major & Richard H. Gramzow, *Abortion as Stigma: Cognitive and Emotional Implications of Concealment*, 77 J. PERSONALITY & SOC. PSYCHOL. 735 (1999).
48. Marie Törnbohm & Anders Möller, *Repeat Abortion: A Qualitative Study*, 20 J. PSYCHOSOMATIC OBSTETRICS & GYNECOLOGY 21 (1999).
49. Anneli Kero & Ann Lalos, *Ambivalence - A Logical Response to Legal Abortion: A Prospective Study Among Women and Men*, 21 J. PSYCHOSOMATIC OBSTETRICS & GYNECOLOGY 81 (2000).
50. Pierre Lauzon et al., *Emotional Distress Among Couples Involved in First-Trimester Induced Abortions*, 46 CANADIAN FAM. PHYSICIAN 2033 (2000).
51. Brenda Major et al., *Psychological Responses of Women After First Trimester Abortion*, 57 ARCHIVES GEN. PSYCHIATRY 777 (2000).
52. David C. Reardon & P.G. Ney, *Abortion and Subsequent Substance Abuse*, 26 AM. J. DRUG & ALCOHOL ABUSE 61 (2000).
53. Susie Allanson & Jill Astbury, *Attachment Style and Broken Attachments: Violence, Pregnancy, and Abortion*, 53 AUSTRALIAN J. OF PSYCHOL. 146 (2001).
54. Denise Cote-Arsenault & Mary-T. B. Dombeck, *Maternal Assignment of Fetal Personhood to a Previous Pregnancy Loss: Relationship to Anxiety in the Current Pregnancy*, 22 HEALTH CARE FOR WOMEN INT'L 649 (2001).
55. Anneli Kero et al., *Legal Abortion: A Painful Necessity*, 53 SOC. SCI. & MED. 1481 (2001).
56. Truls Ostbye et al., *Health Services Utilization After Induced Abortions in Ontario: A Comparison Between Community Clinics & Hospitals*, 16 AM. J. MED. QUALITY 99 (2001).
57. Linda M. Pope et al., *Postabortion Psychological Adjustment: Are Minors At Increased Risk?*, 29 J. ADOLESCENT HEALTH 2 (2001).
58. Larissa I. Remennick & Rosie Segal, *Socio-Cultural Context and Women's Experiences of Abortion: Israeli Women and Russian Immigrants Compared*, 3 CULTURE HEALTH & SEXUALITY 49 (2001).
59. Gail B. Williams, *Short-term Grief After an Elective Abortion*, 30 J. OBSTETRIC GYNECOLOGIC & NEONATAL NURSING 174 (2001).

60. F. Bianchi-Demicheli et al., *Termination of Pregnancy and Women's Sexuality*, 53 GYNECOLOGY & OBSTETRICS INVEST. 48 (2002).
61. Priscilla K. Coleman et al., *A History of Induced Abortion in Relation to Substance Use During Subsequent Pregnancies Carried to Term*, 187 AM. J. OBSTETRICS & GYNECOLOGY 1673 (2002).
62. Priscilla K. Coleman et al., *The Quality of the Caregiving Environment and Child Developmental Outcomes Associated With Maternal History of Abortion Using the NLSY Data*, 43 J. CHILD PSYCHOL. & PSYCHIATRY 743 (2002).
63. Priscilla K. Coleman et al., *State-Funded Abortions Versus Deliveries: A Comparison of Outpatient Mental Health Claims Over 4 Years*, 72 AM. J. ORTHOPSYCHIATRY 141 (2002).
64. Natalia Mufel et al., *Predictors of Post Traumatic Stress Disorder Following Abortion in a Former Soviet Union Country*, 17 J. PRENATAL & PERINATAL PSYCHOL. & HEALTH 41 (2002).
65. David C. Reardon et al., *Deaths Associated With Pregnancy Outcome: A Record Linkage Study of Low Income Women*, 95 S. MED. J. 834 (2002).
66. David C. Reardon & Jesse R. Cogle, *Depression and Unintended Pregnancy in the National Longitudinal Survey of Youth: A Cohort Study*, 324 BRIT. MED. J. 1097 (2002).
67. Zoe Bradshaw & Pauline Slade, *The Effects of Induced Abortion on Emotional Experiences and Relationships: A Critical Review of the Literature*, 23 CLINICAL PSYCHOL. REV. 929 (2003).
68. Jesse R. Cogle et al., *Depression Associated With Abortion and Childbirth: A Long-Term Analysis of the NLSY Cohort*, 9 MED. SCI. MONITOR CR105-12 (2003).
69. Trina L. Hope et al., *The Relationships Among Adolescent Pregnancy, Pregnancy Resolution, and Juvenile Delinquency*, 44 SOC. Q. 555 (2003).
70. David C. Reardon et al., *Psychiatric Admissions of Low-Income Women Following Abortion and Childbirth*, 168 CANADIAN MED. ASS'N J. 1253 (2003).
71. Anne C. Speckhard & Natalia Mufel, *Universal Responses to Abortion? Attachment, Trauma, and Grief in Women Following Abortion*, 18 J. PRENATAL & PERINATAL PSYCHOL. & HEALTH 3 (2003).
72. John M. Thorp, Jr. et al., *Long-term Physical and Psychological Health Consequences of Induced Abortion: Review of the Evidence*, 58 OBSTETRICAL & GYNECOLOGICAL SURV. 67 (2003).
73. H.C. Boesen, C. Rorbye, M. Norgaard & L. Nilas, *Sexual Behavior During the First Eight Weeks After Legal Termination of Pregnancy*, 83 ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA 1189 (2004).
74. Anne Nordal Broen et al., *Psychological Impact on Women of Miscarriage Versus Induced Abortion: A 2-Year Follow-Up Study*, 66 PSYCHOSOMATIC MED. 265 (2004).
75. E.O. Fatoye et al., *Emotional Distress and its Correlates Among Nigerian Women in Late Pregnancy*, 24 J. OBSTETRICS & GYNECOLOGY 504 (2004).
76. Stephen L. Fielding & Eric A. Schaff, *Social Context and the Experience of a Sample of U.S. Women Taking RU-486 (Mifepristone) for Early Abortion*, 14 QUALITATIVE HEALTH RES. 612 (2004).
77. Bernard L. Harlow et al., *Early Life Menstrual Characteristics and Pregnancy Experiences Among Women With and Without Major Depression: The Harvard Study of Moods and Cycles*, 79 J. AFFECTIVE DISORDERS 167 (2004).
78. Anneli Kero et al., *Wellbeing and Mental Growth—Long-Term Effects of Legal Abortion*, 58 SOC. SCI. & MED. 2559 (2004).

79. Netranipa Prommanart et al., *Maternal Grief After Abortion and Related Factors*, 87 J. MED. ASS'N THAI. 1275 (2004).
80. David C. Reardon et al., *Substance Use Associated With Unintended Pregnancy Outcomes in the National Longitudinal Survey of Youth*, 30 AM. J. DRUG & ALCOHOL ABUSE 369 (2004).
81. Vincent M. Rue et al., *Induced Abortion and Traumatic Stress: A Preliminary Comparison of American and Russian Women*, 10 MED. SCI. MONITOR SR5-16 (2004).
82. Zoe Bradshaw & Pauline Slade, *The Relationship Between Induced Abortion, Attitudes Toward Sexuality, and Sexual Problems*, 20 SEXUAL & RELATIONSHIP THERAPY 390 (2005).
83. Anne Nordal Broen et al., *The Course of Mental Health After Miscarriage and Induced Abortion: A Longitudinal, Five-Year Follow-Up Study*, 3 BMC MED. 18 (2005).
84. Anne Nordal Broen et al., *Reasons for Induced Abortion and Their Relation to Women's Emotional Distress: A Prospective, Two-Year Follow-Up Study*, 27 GEN. HOSP. PSYCHIATRY 36 (2005).
85. Priscilla K. Coleman et al., *Associations Between Voluntary and Involuntary Forms of Perinatal Loss and Child Maltreatment Among Low-Income Mothers*, 94 ACTA PAEDIATRICA 1476 (2005).
86. Priscilla K. Coleman et al., *The Psychology of Abortion: A Review and Suggestions for Future Research*, 20 PSYCHOL. & HEALTH 237 (2005).
87. Priscilla K. Coleman et al., *Substance Use Among Pregnant Women in the Context of Previous Reproductive Loss and Desire for Current Pregnancy*, 10 BRIT. J. HEALTH PSYCHOL. 255 (2005).
88. Jesse R. Cogle et al., *Generalized Anxiety Following Unintended Pregnancies Resolved Through Childbirth and Abortion: A Cohort Study of the 1995 National Survey of Family Growth*, 19 J. ANXIETY DISORDERS 137 (2005).
89. Mika Gissler et al., *Injury Deaths, Suicides and Homicides Associated With Pregnancy, Finland 1987-2000*, 15 EUR. J. PUB. HEALTH 459 (2005).
90. Anke Hemmerling et al., *Emotional Impact and Acceptability of Medical Abortion With Mifepristone: A German Experience*, 26 J. PSYCHOSOMATIC OBSTETRICS & GYNECOLOGY 23 (2005).
91. Anne Nordal Broen et al., *Predictors of Anxiety and Depression Following Pregnancy Termination: A Longitudinal Five-Year Follow-Up Study*, 85 ACTA OBSTETRICIA ET GYNECOLOGICA 317 (2006).
92. Priscilla K. Coleman, *Resolution of Unwanted Pregnancy During Adolescence Through Abortion Versus Childbirth: Individual and Family Predictors and Psychological Consequences*, 35 J. YOUTH & ADOLESCENCE 903 (2006).
93. David M. Fergusson et al., *Abortion in Young Women and Subsequent Mental Health*, 47 J. CHILD PSYCHOL. & PSYCHIATRY 16 (2006).
94. David C. Reardon & Priscilla K. Coleman, *Relative Treatment for Sleep Disorders Following Abortion and Child Delivery: A Prospective Record-Based Study*, 29 SLEEP 105 (2006).
95. Willy Pedersen, *Childbirth, Abortion and Subsequent Substance Use in Young Women: A Population-Based Longitudinal Study*, 102 ADDICTION 1971 (2007).
96. Daniel I. Rees & Joseph J. Sabia, *The Relationship Between Abortion and Depression: New Evidence from the Fragile Families and Child Wellbeing Study*, 13 MED. SCI. MONITOR 430 (2007).
97. Sharain Suliman et al., *Comparison of Pain, Cortisol Levels, and Psychological Distress in Women Undergoing Surgical Termination of Pregnancy Under Local Anaesthesia Versus Intravenous Sedation*, 7 BMC PSYCHIATRY 1 (2007).

98. Willy Pedersen, *Abortion and Depression: A Population-Based Longitudinal Study of Young Women*, 36 SCANDINAVIAN J. PUB. HEALTH 424 (2008).
99. David M. Fergusson et al., *Reactions to Abortion and Subsequent Mental Health*, 195 THE BRIT. J. PSYCHIATRY 420 (2009).

Appendix C: List of 33 Medical Studies Finding an Increased Risk of Breast Cancer After Abortion

1. M. Segi et al., *An Epidemiological Study on Cancer in Japan*, 48 GANN 1 (Supp. 1957).
2. F. Nishihyama, *The Epidemiology of Breast Cancer in Tokushima Prefecture*, 38 SHIKOKU ICHI 333 (1982).
3. M. Ewertz & S.W. Duffy, *Risk of Breast Cancer in Relation to Reproductive Factors in Denmark*, 58 BRIT. J. CANCER 99 (1988).
4. Lynn Rosenberg et al., *Breast Cancer in Relation to the Occurrence and the Time of the Induced and Spontaneous Abortion*, 127 AM. J. EPIDEMIOLOGY 981 (1988).
5. Holly L. Howe et al., *Early Abortion and Breast Cancer Risk Among Women Under Age 40*, 18 INT'L J. EPIDEMIOLOGY 300 (1989).
6. Amelia E. Laing et al., *Breast Cancer Risk Factors in African-American Women: The Howard University Tumor Registry Experience*, 85 J. NAT'L MED. ASS'N 931 (1993).
7. N. Andrieu et al., *Familial Risk, Abortion and Their Interactive Effect on the Risk of Breast Cancer—A Combined Analysis of Six Case-control Studies*, 72 BRIT. J. CANCER 744 (1994).
8. Janet R. Daling et al., *Risk of Breast Cancer Among Young Women: Relationship to Induced Abortion*, 86 J. NAT'L CANCER INST. 1584 (1994).
9. Amelia E. Laing et al., *Reproductive and Lifestyle Factors for Breast Cancer in African-American Women*, 11 GENETIC EPIDEMIOLOGY A3000 (1994).
10. L. Bu et al., *Risk of Breast Cancer Associated with Induced Abortion in a Population at Low Risk of Breast Cancer*, 141 AM. J. EPIDEMIOLOGY S85 (1995).
11. Loren Lipworth et al., *Abortion and the Risk of Breast Cancer: A Case-control Study in Greece*, 61 INT'L J. CANCER 181 (1995).
12. Matti A. Rookus et al., *Breast Cancer Risk After an Induced Abortion, a Dutch Casecontrol Study*, 141 AM. J. EPIDEMIOLOGY S54 (1995).
13. Emily White et al., *Breast Cancer Among Young U.S. Women in Relation to Oral Contraceptive Use*, 86 J. NAT'L CANCER INST. 505 (1995).
14. Janet R. Daling et al., *Risk of Breast Cancer Among White Women Following Induced Abortion*, 144 AM. J. EPIDEMIOLOGY 373 (1996).
15. Polly A. Newcomb et al., *Pregnancy Termination in Relation to Risk of Breast Cancer*, 275 J. AM. MED. ASS'N 283 (1996).
16. Matti A. Rookus & Flora E. van Leeuwen, *Induced Abortion and Risk for Breast Cancer: Reporting (recall) Bias in a Dutch Case-control Study*, 88 J. NAT'L CANCER INST. 1759 (1996).
17. Renato Talamini et al., *The Role of Reproductive and Menstrual Factors in Cancer of the Breast Before and After Menopause*, 32 EURO. J. CANCER 303 (1996).
18. Alessandra Tavani et al., *Abortion and Breast Cancer Risk*, 65 INT'L J. CANCER 401 (1996).
19. Mads Melbye et al., *Induced Abortion and the Risk of Breast Cancer*, 336 NEW ENG. J. MED. 81 (1997).
20. F. Fioretti, *Risk Factors for Breast Cancer in Nulliparous Women*, 79 BRIT. J. CANCER 1923 (1999).

21. Heiko Becher et al., *Reproductive Factors and Familial Predisposition for Breast Cancer by Age 50 Years: A Case Control Family Study for Assessing Main Effects and Possible Gene-Environment Interaction*, 32 INT'L J. EPIDEMIOLOGY 38 (2002).
22. Najmeh Tehranian et al., *Faculty of Med. Servs, The Effect of Abortion on the Risk of Breast Cancer*, VA. HENDERSON GLOBAL NURSING E-REPOSITORY (2006), <http://hdl.handle.net/10755/163877> (last visited Mar. 17, 2014) (on file with the *Washington and Lee Law Review*).
23. Kourosh Holakouie Naieni et al., *Risk Factors of Breast Cancer in North of Iran: A Case-control in Mazandaran Province*, 8 ASIAN PAC. J. CANCER PREVENTION 395 (2007).
24. Jie Lin et al., *A Case Control Study on Risk Factors of Breast Cancer Among Women in Cixi*, 20 ZHEJIANG PREVENTATIVE MED. 3 (2008).
25. Jessica M. Dolle et al., *Risk Factors for Triple-negative Breast Cancer in Women Under the Age of 45 Years*, 18 CANCER EPIDEMIOLOGICAL BIOMARKERS PREVENTION 1157 (2009).
26. Vahit Ozmen et al., *Breast Cancer Risk Factors in Turkish Women—A University Hospital Based Nested Case Control Study*, 7 WORLD J. SURGICAL ONCOLOGY 37 (2009).
27. Peng Xing et al., *A Case-control Study of Reproductive Factors Associated with Subtypes of Breast Cancer in Northeast China*, 27 MED. ONCOLOGY 926 (2010).
28. Lilit Khachatryan et al., *Influence of Diabetes Mellitus Type 2 and Prolonged Estrogen Exposure on Risk of Breast Cancer Among Women in Armenia*, 32 HEALTH CARE FOR WOMEN INT'L 953 (2011).
29. Ai-Ren Jiang et al., *Abortions and Breast Cancer Risk in Premenopausal and Postmenopausal Women in Jiangsu Province of China*, 13 ASIAN PAC. J. CANCER PREVENTION 33 (2012).
30. Julie Lecarpentier et al., *Variation in Breast Cancer Risk Associated with Factors Related to Pregnancies According to Truncating Mutation Location, in the French National BRCA1 and BRCA2 Mutations Carrier Cohort (GENEPSO)*, 14 BREAST CANCER RES. R99 (2012).
31. Che Yanhua et al., *Reproductive Variables and Risk of Breast Malignant and Benign Tumours in Yunnan Province, China*, 13 ASIAN PAC. J. CANCER PREVENTION 2179 (2012).
32. A.S. Bhadoria, U. Kapil, N. Sareen & P. Singh, *Reproductive Factors and Breast Cancer: A Case-Control Study in Tertiary Care Hospital of North India*, 50 INDIAN J. CANCER 316 (2013).
33. Yubei Huang et al., *A Meta-analysis of the Association Between Induced Abortion and Breast Cancer Risk Among Chinese Females*, 25 CANCER CAUSES & CONTROL 227 (2014).



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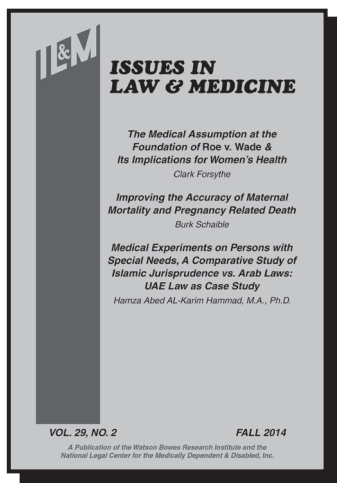
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