

Significant Potential for Harm: Growing Medical Evidence of Abortion’s Negative Impact on Women

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“[I]f courts were to delve into the facts underlying Roe’s balancing scheme with present-day knowledge, they might conclude that the woman’s ‘choice’ is far more risky and less beneficial... than the Roe Court knew.”²

In 1973, abortion was enshrined as a constitutional “right” by the U.S. Supreme Court without any real consideration of the impact of abortion on maternal health. No medical data was entered into the legal record. In fact, when *Roe v. Wade* was decided four decades ago, there were few, if any, peer-reviewed studies related to the long-term risks of abortion.³

In 2013, the medical landscape paints a different picture than that before the Supreme Court in 1973. We now know what the Justices did not know (or refused to consider) then—abortion harms women.

Since *Roe*, there have been more than 50 million abortions in the United States; estimates are that one out of three American women will have an abortion by the age of 45. As one peer-reviewed study has proclaimed, “[T]he high prevalence of a history of induced abortion means that even small positive or negative effects on long-term health could influence the lives of many women and their families.”⁴

In other words, given the vast number of women who have had or will have an abortion, even a “small” increase in the risk of potential complications will affect a large number of women. However, medical evidence proves that there are much more than “small” risks involved in abortion; abortion carries significant short- and long-term physical risks, as well as serious psychological risks. In fact, medical evidence now reveals that the risk of mortality is higher following abortion than it is following childbirth and that these risks increase substantially later in pregnancy.

Short-Term Physical Risks of Abortion

The short-term risks of abortion are undisputed—even Planned Parenthood, the nation’s largest abortion provider, acknowledges many of these risks.⁵ Potential short-term risks include blood loss; blood clots; incomplete abortions, which occur when part of the unborn child or other products of pregnancy are not completely emptied from the uterus;

infection, which includes pelvic inflammatory disease and infection caused by an incomplete abortion; and injury to the cervix and other organs, which includes cervical lacerations and incompetent cervix—a condition that affects subsequent pregnancies (and, therefore, is also a long-term risk of abortion).

More specifically, bleeding or hemorrhage occur in up to one percent of first-trimester abortions and in up to 2.5 percent of second trimester abortions and are caused by cervical laceration, uterine perforation, atony (loss of tone in uterine musculature), and retained pregnancy (incomplete abortion).⁶ While this may appear to be a small percentage, it involves, as already stated, a significant number of American women. For example, the pro-abortion Guttmacher Institute estimates that there were 1.21 million abortions performed in 2008, with approximately 90 percent (or 1,089,000 abortions) occurring during the first trimester.⁷ This translates to at least 10,890 women (1 percent of the first trimester abortions) who suffered from excessive blood loss following abortions in just 2008 alone.

Likewise, infection—the most common short-term complication—occurs in one to five percent of abortions.⁸ Again, according to Guttmacher Institute's statistics, that means between 10,890 and 54,450 women who had first trimester abortions in 2008 suffered from infections following their abortions. Short-term risks such as hemorrhage, incomplete abortion, and infection are even more common following medical abortions (*e.g.*, abortions using RU-486 or other drugs) than surgical abortions.⁹

Moreover, minors are even more susceptible to these short-term risks than are older women. For example, minors are up to twice as likely to experience cervical lacerations during abortion.¹⁰ Researchers believe that smaller cervixes make it more difficult to dilate or grasp with instruments. Minors are also at greater risk for post-abortion infections, such as pelvic inflammatory disease and endometritis.¹¹ Again, researchers believe that minors are more susceptible because their bodies are not yet fully developed and do not yet produce the protective pathogens found in the cervical mucus of older women.

Medical abortions caused by abortion-inducing drugs (such as RU-486) also carry particular short-term risks. The drug's label acknowledges that “[n]early all of the women who receive Mifeprax and misoprostol will report adverse reactions, and many can be expected to report more than one such reaction.”¹² These risks include, but are not limited to, abdominal pain, cramping, vomiting, headache, fatigue, uterine hemorrhage, viral infections, and pelvic inflammatory disease.¹³

Notably, even Planned Parenthood acknowledges that “safety is a concern” and that possible risks of medical abortions include allergic reactions to the drugs, incomplete abortions, infection, blood clots in the uterus, very heavy bleeding, and undetected ectopic pregnancies (which, if left undetected, can result in fallopian tube ruptures and fatal bleeding).¹⁴

Furthermore, RU-486 (also known as the Mifeprex regimen) has only been tested on women aged 18 to 46.¹⁵ We simply do not yet know how the use of the Mifeprex regimen has impacted young women; however, we do know that, as of April 30, 2011, the FDA knew of 2,207 adverse events in the U.S. related to the use of RU-486, including hemorrhaging, blood loss requiring transfusions, serious infections, and women’s deaths.¹⁶ Among the 2,207 adverse events were 14 deaths, 612 hospitalizations, 339 blood transfusions, and 256 infections (including 48 “severe” infections).¹⁷

Long-Term Physical Risks of Abortion

While there were few, if any, studies on the long-term physical effects of abortion in 1973, today there is substantial medical data demonstrating that abortion can have a significant long-term physical impact. Three of the best documented areas are 1) an increased risk of pre-term birth in subsequent pregnancies, 2) an increased risk of placenta previa in subsequent pregnancies, and 3) an increased risk of breast cancer.

Pre-Term Birth (Premature Birth)

Pre-term birth occurs prior to the 37th week of pregnancy and is very dangerous to the child. According to the U.S. Centers for Disease Control, premature birth is the leading cause of infant mortality in the United States.¹⁸ It is also a risk factor for later disabilities for the child, such as cerebral palsy and behavioral problems.¹⁹

Most women who abort do so early in their reproductive lives while desiring to have children at a later time.²⁰ However, induced abortion increases the risk of pre-term birth and very low birth weight in subsequent pregnancies. Induced abortion has been associated with an increased risk of the premature rupture of membranes, hemorrhage, and cervical and uterine abnormalities—which are, in turn, responsible for an increased risk of pre-term birth.²¹

There are currently over 130 published studies showing a statistically significant association between induced abortion and subsequent pre-term birth or low birth weight. In 2009 alone, three different systematic studies demonstrated the risk of pre-term birth following abortion. P. Shah et al. reported that induced abortion increases the risk of pre-

term birth in a subsequent pregnancy by 37 percent, with two or more abortions increasing the risk by 93 percent.²² Similarly, R.H. van Oppenraaij et al. found that a single induced abortion raises the risk of subsequent pre-term birth by 20 percent, with two or more abortions increasing the risk by 90 percent.²³ Those researchers also found that a woman who has two or more abortions doubles her risk of subsequently having a “very” premature baby (before 34 weeks gestation).²⁴ Likewise, Swingle et al. reported an odds-ratio of a statistically significant 64 percent higher risk of “very pre-term birth” (before 32 weeks gestation) for a woman with one prior induced abortion.²⁵

Then in 2012, a study found that two or more abortions increases the risk for very pre-term delivery (less than 28 weeks). In fact, the researchers demonstrated that two or more abortions increases the risk of delivering before 28 weeks by 69 percent, and with three or more abortions the risk for delivering before 28 weeks rises by a staggering 178 percent. Further, they found that after more than three abortions the risk for preterm delivery before 37 weeks increases by 35 percent. The risk for low birth weight of less than 2,500 grams (5.5 pounds) increased by 43 percent, while the risk for low birth weight of less than 1,500 grams (3.3 pounds) increased by over 125 percent.²⁶

These recent studies simply confirmed what was already evident in the medical literature. For example, a 2005 study demonstrated that a woman who has an abortion is 50 percent more likely to deliver before 33 weeks, and 70 percent more likely to deliver before 28 weeks in subsequent pregnancies.²⁷ An earlier study demonstrated that a woman who has two abortions doubles her future risk of pre-term birth, and a woman who has four or more abortions increases the risk of pre-term birth by 800 percent.²⁸ Thus, not only does an abortion increase the risk of pre-term birth, but each additional abortion magnifies that risk.

The Institute of Medicine (IOM), which is part of the National Academy of Science, lists first-trimester abortion as a risk factor associated with subsequent pre-term birth.²⁹ Likewise, a renowned pregnancy resource book states, “[i]f you have had one or more induced abortions, your risk of prematurity with this pregnancy increases by about 30 percent.”³⁰ The resource also states that birth before 32 weeks is 10 times more likely when a woman has an incompetent cervix—which has already been discussed as a common complication following abortion.³¹

Given the significant increased risk of pre-term birth following abortion, the millions of women who have had or will have abortions, and the fact that up to 75 percent of women who abort will have a subsequent pregnancy,³² the potential impact of women’s abortions on subsequent pregnancies is overwhelming.

Placenta Previa

Placenta previa occurs when the placenta covers all or part of the cervix during pregnancy; if it persists until labor, it carries substantial risks for both the mother and the unborn child. For the mother, the risks of placenta previa include life-threatening hemorrhage and post-partum hemorrhage. Risks to the child include pre-term birth and perinatal death. As one study has noted, placenta previa is the leading cause of uterine bleeding in the third trimester and of medically indicated pre-term birth.³³

Abortion increases the risk of placenta previa in subsequent pregnancies. One study found an increased risk of 30 percent,³⁴ while three studies conducted before 2003 showed a 50 percent increased of placenta previa following abortion.³⁵ Another study indicated that two or more abortions more than doubles the risk of placenta previa in subsequent pregnancies.³⁶

Thus, as with pre-term birth, the more abortions a woman has, the higher her risk of placenta previa in subsequent pregnancies. And again, because the vast majority of women who have had or will have abortions will have a subsequent pregnancy, this risk is substantial and affects hundreds of thousands of American women and their children.

Breast Cancer

An estimated 226,870 new cases of breast cancer were diagnosed in the United States in 2012.³⁷ It is also estimated that 39,510 women will die from breast cancer.³⁸

As with every topic touching on the issue of abortion, the link between abortion and breast cancer (commonly known as the “ABC link”) has been hotly disputed. However, it is scientifically undisputed that a woman’s first full-term pregnancy reduces her risk of breast cancer.³⁹ Aborting a first pregnancy before 32 weeks eliminates this protective affect against breast cancer.⁴⁰ It is also undisputed that the earlier a woman has a first full-term pregnancy, the lower her lifetime risk of breast cancer.⁴¹

The science behind this reality is not hard to understand. Lifetime exposure to estrogen plays a role in the development of breast cancer.⁴² While genetics also play a role, 90 percent of breast cancer cases are actually linked to lifetime exposure to estrogen and issues related to breast cancer maturation.⁴³

A woman’s level of estrogen increases at the time of her menstrual cycle; the more menstrual cycles a woman has in her lifetime, the greater her exposure to estrogen and potential risk of breast cancer development.⁴⁴ Thus, if a woman is very young at the age

of first menstruation (menarche) and has late menopause, then her risk of breast cancer is greater than a woman with later menarche and earlier menopause.⁴⁵

Further, during pregnancy, a woman's breast cells go through a transition and maturing process called differentiation:

[W]hen a woman becomes pregnant she experiences a dramatic increase in her hormone levels of estradiol, progesterone, and hCG. The initial increase in hormone levels induces breast cells to divide and undergo a maturing process called differentiation, which lasts throughout a woman's pregnancy and is completed only after her first term baby is delivered.⁴⁶

More specifically, during the first and second trimesters of pregnancy, the breasts develop merely by duplicating immature tissues. But once a woman passes the 32nd week of pregnancy, the immature cells develop into mature, cancer-resistant cells.⁴⁷

It is also acknowledged by mainstream medical science that premature deliveries that occur before 32 weeks increase a woman's risk of breast cancer because she has more immature breast tissue and her level of estrogen is much higher.⁴⁸ In fact, by the end of the first trimester, a woman has 2,000 percent more estrogen in her body than before pregnancy.⁴⁹

Thus, researchers agree that the maturation of breast cells in a woman's first full-term pregnancy offers a protective effect against future breast cancer development. More controversial is the data showing that there is a direct causal link between abortion and breast cancer. However, this data builds upon the same undisputed foundation. As previously explained, hormone levels increase dramatically during pregnancy, with breast cells maturing only after the 32nd week of pregnancy. However, when a woman has an induced abortion, hormone levels fall rapidly, leaving her breast cells in a transitional state where they have increased in number but not completely matured (differentiated) and are vulnerable to carcinogens such as estrogen.⁵⁰

Currently, at least 53 out of 68 worldwide studies demonstrate an association between abortion and subsequent breast cancer.⁵¹ One of the most prominent of these studies was conducted by pro-choice researcher Dr. Janet Daling and specifically funded by the U.S. National Cancer Institute.⁵² Daling found that "among women who had been pregnant at least once, the risk of breast cancer in those who had experienced an induced abortion was 50 percent higher than among other women."⁵³ Rather than the typical 12 percent lifetime chance of developing breast cancer, a woman who aborted was found to have an

18 percent lifetime chance. Among women with a family history of breast cancer, Daling found an increased risk of 80 percent. Tragically, Daling found an increase in risk of 100 percent (a doubled risk) for women who obtained an abortion before the age of 18. For women who had a family history of breast cancer and obtained an abortion before the age of 18, the risk of subsequent breast cancer development was incalculably high. All 12 women in the study that fit into this category developed breast cancer by the age of 45.⁵⁴ Two years later, in 1996, Dr. Joel Brind conducted a meta-analysis⁵⁵ of all existing studies that included specific data on induced abortion and breast cancer incidence.⁵⁶ After examining those studies, Dr. Brind calculated a 30 percent increased risk of breast cancer among women who obtained an abortion after their first full-term pregnancy, and a 50 percent increased risk of breast cancer among women who obtained an abortion before their first full-term pregnancy.⁵⁷ In 2000, Britain's Royal College of Obstetricians and Gynecologists (RCOG) reviewed the Brind study and concluded that the study had no methodological shortcomings and could not be disregarded.⁵⁸

Indeed, the link between abortion and subsequent breast cancer similarly cannot be disregarded.

Psychological Risks of Abortion

Numerous peer-reviewed studies have examined the effect abortion has on the mental state of women and confirm that abortion poses significant risks, including increased risk of depression, anxiety, and even suicide. Importantly, in 2011, a landmark study published in the *British Journal of Psychiatry* (a publication of the Royal College of Psychiatrists) found that women face an 81 percent increased risk of mental health problems following abortion.⁵⁹ Specifically, women with a history of abortion had a 34 percent increased risk of anxiety, a 37 percent increased risk of depression, a 110 percent increased risk of alcohol use, and a 155 percent increased risk of suicide following abortion.⁶⁰

Significantly, the study examined the results of 22 studies published between 1995 and 2009, included 877,181 women (163,831 who had aborted) from six countries, and utilized very stringent criteria. This study effectively confirmed what many medical researchers and physicians already knew: abortion puts women at risk for serious psychological harm.

For example, one leading study examined a sample group of over 500 women from birth to the age of 25.⁶¹ The study, led by a pro-choice researcher D. Fergusson, was

controlled for all relevant factors including prior history of depression, anxiety, and suicide ideation.⁶²

Significantly, the Fergusson study found that 27 percent of women who aborted reported experiencing suicidal ideation, with as many as 50 percent of minors experiencing suicide or suicidal ideation.⁶³ The risk of suicide was three times greater for women who aborted than for women who delivered. Likewise, the researchers found that 42 percent of women who aborted reported major depression by age 25, and 39 percent of post-abortive women suffered from anxiety disorders by age 25.⁶⁴

The Fergusson Study was not the first (nor the last) to demonstrate a connection between abortion and anxiety, depression, and suicide. Twice a team led by M. Gissler found that the suicide rate was nearly six times greater among women who aborted compared to women who gave birth.⁶⁵ Gilchrist et al. reported that, among women with no history of psychiatric illness, the rate of deliberate self-harm was 70 percent higher after abortion than after childbirth.⁶⁶ In a comparison study of American women and Russian women, V.M. Rue et al. reported that 36.4 percent of the American women and 2.8 percent of the Russian women reported suicide ideation.⁶⁷ And in a study reported by D.C. Reardon et al., which controlled for prior mental illness, the suicide mortality rate was 3.1 times higher among women who aborted compared to those who delivered.⁶⁸

The Reardon study, as well as others, also noted that a record-based measurement of suicide attempts before and after abortion has shown that the increase in suicide rates among aborting women is not related to previous suicidal behavior but is most likely related to adverse reactions to the abortion procedure.⁶⁹

The statistics related to depression and anxiety are just as staggering. For example, a study performed by J.R. Cougle et al. found that women whose first pregnancies ended in abortion were 65 percent more likely to score in the “high risk” range for clinical depression than women whose first pregnancies resulted in a birth—even after controlling for age, race, marital status, divorce history, education, income, and pre-pregnancy psychological state.⁷⁰ The study noted that most previous studies had employed only short-term follow-up interviews at a small number of abortion clinics. Thus, data on post-abortion reactions was collected within hours or weeks of the event. Conversely, J.R. Cougle et al. examined the long-term psychological effects of abortion on women, looking at depression scores an average of eight years after the women’s first pregnancy, adding validity to the study’s conclusions.

Yet another study stated that “anxiety and depression have long been associated with induced abortion,” and that anxiety is the most common adverse mental health complication of abortion.⁷¹ Up to 30 percent of women experience extremely high levels of anxiety and stress one month after their abortions.⁷²

These studies represent just a sampling of research demonstrating an increased risk of mental health problems following abortion. Numerous studies also link abortion with other mental health problems, such as sleep and eating disorders and an increased use of alcohol or other harmful substances—which, obviously, carry further health risks not immediately related to abortion, but stemming from the harmful effects of the initial abortion.

One further factor bears consideration here: women experiencing the greatest psychological harm are the least likely to report their psychological distress. For example, the study by J.R. Cougle et al. reported that women who conceal their abortions from others are more likely to suppress thoughts of the abortion, experience more intrusive abortion-related thoughts, and feel greater psychological distress.⁷³ In other words, women who admit having abortions may be less likely to experience psychological distress than those who conceal their abortions—meaning that the studies listed here likely reflect a smaller number of women who *admit* negative mental health effects as opposed to the larger number of women who actually *experience* them.

Risk of Maternal Mortality

When *Roe* was decided in 1973, it was assumed (without merit) that abortion is safer than childbirth, at least to a certain point in pregnancy. However, 40 years of medical research has undermined this unfounded assumption.

For example, in 2004, Gissler and colleagues compared the various pregnancy-associated outcomes—including live births, stillbirths, spontaneous abortions, ectopic pregnancies, and induced abortions—for all childbearing Finnish women.⁷⁴ The researchers reported:

The pregnancy associated mortality ratio per 100,000 pregnancies increased only slightly for live births and stillbirths, but became sevenfold for spontaneous abortions and ectopic pregnancies, and 5.5-fold for induced abortions ... The outcome-specific denominator also revealed that the crude risk of a pregnancy-associated death was more than twice as high after a spontaneous abortion or an ectopic pregnancy and more than

three times as high after an induced abortion than after a live birth or stillbirth.”⁷⁵

Pregnancy-associated deaths have usually been calculated using the number of live births as the denominator. But the Gissler study demonstrated that calculating pregnancy-associated deaths per 100,000 pregnancies with a specific pregnancy outcome gives a very different and more accurate picture of maternal mortality rates.

In 2011, a study using 42 years of national health data from the United Kingdom, Ireland, and Northern Ireland found that countries with legal abortion actually have a higher maternal mortality rate.⁷⁶ Researchers found that maternal mortality rates were much lower in Ireland (where elective abortion is illegal) than in England or Scotland (where elective abortion is legal). Specifically, in Ireland, there are 1-2 maternal deaths per 100,000 live births, whereas in England/Wales there are 10 deaths per 100,000 live births, and in Scotland there are 10-12 deaths per 100,000 live births. If abortion is safer than childbirth, as abortion advocates claim, then the data should confirm that maternal death rates are higher in countries where abortion is illegal. However, the data proves exactly the opposite: where abortion is restricted, maternal mortality rates decrease. Moreover, this landmark study was based upon real data from a national database, and not estimates as have been used in other studies on the maternal mortality rate following abortion.

In August 2012, a study out of Denmark reviewed medical records for almost a half million women who had their first pregnancies between 1980 and 2004, and compared these records with the death register and the abortion register. The results were significant: “Compared to women who delivered, women who had an early or late abortion had significantly higher mortality rates within 1 through 10 years.”⁷⁷ This study is particularly striking for the range studied—even up to 10 years after birth or abortion, more women die after abortion than after childbirth. Specifically, the study found that one abortion increased the risk of death by 45 percent (compared to no abortions and controlled for other reproductive outcomes). Two abortions increased the risk of death by 114 percent, and 3 abortions increased the risk of death by 191 percent. On the other hand, giving birth was associated with a *decreased* mortality risk for women who had experienced two, three, or more births.

A May 2012 Chilean study is particularly significant because it utilized national birth registry statistics and examined trends in maternal death both when abortion was legal in Chile (1957-1988) and after abortion was prohibited (1989-2007). The study found that death rates did not increase after abortion was made illegal, as abortion advocates averred

it would. In fact, the maternal mortality ratio decreased from 41.3 deaths per 100,000 live births when abortion was legal, to just 12.7 maternal deaths per 100,000 live births after abortion was made illegal.⁷⁸ Today, Chile has a lower maternal mortality ratio than the United States and it has the lowest maternal mortality ratio in all of Latin America.⁷⁹ This data convincingly demonstrates that the 1989 law prohibiting abortion has not put women's lives at risk, effectively refuting the claims that abortion advocates routinely employ against most abortion restrictions.

Risks of Later-Term Abortions

The likelihood of maternal harm from abortion depends upon the gestational age at the time of the abortion. The vast majority of abortions occur in the first trimester (up to 12 weeks gestation), and the above-discussed risks certainly apply to those abortions. But abortion carries even higher medical risk when performed later in pregnancy. Gestational age is the strongest risk factor for abortion-related mortality.⁸⁰ At least two studies have concluded that second-trimester abortions (at 13 to 24 weeks gestation) and third-trimester abortions (at or after 25 to 26 weeks gestation) pose more serious risks to women's physical health compared to first-trimester abortions.⁸¹ Moreover, the incidence of major complications is highest after 20 weeks gestation.⁸²

The incidence of death following abortion clearly illustrates the danger of later-term abortions. Compared to an abortion at eight weeks gestation, the relative risk of mortality increases exponentially (by 38 percent for each additional week) at higher gestations.⁸³ The risk of death at 8 weeks gestation is one death per one million abortions; at 16 to 20 weeks, that risk rises to one death per 29,000 abortions; and at 21 weeks gestation or later, the risk of death is one per every 11,000 abortions.⁸⁴ In other words, a woman seeking an abortion *at 20 weeks is 35 times more likely to die from abortion* than she was in the first trimester. *At 21 weeks or more, she is 91 times more likely to die* from abortion than she was in the first trimester.

Researchers have concluded that it may not be possible to reduce the risk of death in later-term abortions because of the “inherently greater technical complexity of later abortions.”⁸⁵ This is because a later-term abortion requires a greater degree of cervical dilation, the increased blood flow in a later-term abortion predisposes the woman to hemorrhage, and the myometrium (middle layer of the uterine wall) is relaxed and more subject to perforation.⁸⁶

Researchers have also found that women who undergo abortions at 13 weeks gestation or later report “more disturbing dreams, more frequent reliving of the abortion, and more trouble falling asleep.”⁸⁷

While the majority of abortions occur in the first trimester and not after 20 weeks gestation, the vast number of women having abortions in the United States means that the number of women affected by these later-term complications is not insignificant. Later-term abortions account for approximately 51,000 abortions annually—with 36,000 taking place between 16 and 20 weeks gestation, and 15,600 occurring after 20 weeks gestation.⁸⁸ This means that at least two or three women die each year from later-term abortions. Moreover, many women suffer from non-fatal complications every year following a later-term abortion.

Conclusion

Abortion advocates claim that abortion is a safe procedure and is, in fact, “safer” than childbirth. These claims are false and ignore the medical data. Abortion causes harm—both physical and psychological—and this harm impacts large numbers of American women every year. Given that over 50 million abortions have been performed since 1973, the number of women harmed by abortion is considerable and growing.

Endnotes

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³ For more on the legal and medical landscape in 1973, see C.D. Forsythe, *ABUSE OF DISCRETION: THE INSIDE STORY OF THE SUPREME COURT’S CREATION OF THE RIGHT TO ABORTION* (forthcoming 2013).

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- ³⁹ J. 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)*, BREAST CANCER RESEARCH 14:R99 (2012).

- ⁴⁰ American Association of Pro-Life Obstetricians and Gynecologists, *Induced Abortion and Subsequent Breast Cancer Risk: An Overview* (2008), available at <http://www.aaplog.org/complications-of-induced-abortion/induced-abortion-and-breast-cancer/induced-abortion-and-subsequent-breast-cancer-risk-an-overview/> (last visited Sept. 5, 2012).
- ⁴¹ Scientists define an “early first full-term pregnancy” as one that takes place before the age of 24. Coalition on Abortion/Breast Cancer: *The ABC Link: Two Ways that Abortion Raises Breast Cancer Risk* (2007), available at http://www.abortionbreastcancer.com/The_Link.htm (last visited Sept. 5, 2012).
- ⁴² Estrogen can act as a carcinogen, directly damaging DNA to the point that cancerous cells can form. In addition, estrogen is one of the hormones that induces breast cells to divide and multiply. When a cell divides, the DNA of the breast cell replicates itself; sometimes during this process errors occur and, if grave enough, a cancer cell can be created. See A. Lanfranchi, *The Breast Physiology and the Epidemiology of the Abortion Breast Cancer Link*, 12 IMAGO HOMINIS 228, 229-30 (2005).
- ⁴³ *Id.* at 229.
- ⁴⁴ *Id.* at 229-30.
- ⁴⁵ *Id.*
- ⁴⁶ C. Kahlenborn, M.D., BREAST CANCER: ITS LINK TO ABORTION AND THE BIRTH CONTROL PILL 1-2 (2000).
- ⁴⁷ A. Lanfranchi, *supra*, at 231.
- ⁴⁸ On the other hand, miscarriages do not increase a woman’s chance of breast cancer. Miscarriages most often occur in pregnancies that have low levels of the hormones necessary to carry a baby, while abortion most often occurs in normal pregnancies with normal hormonal levels.
- ⁴⁹ *Id.* at 232.
- ⁵⁰ C. Kahlenborn, *supra*, at 2.
- ⁵¹ American Association of Pro-Life Obstetricians and Gynecologists, *ABC Link: Induced Abortion and Subsequent Breast Cancer* (2010), available at <http://www.aaplog.org/complications-of-induced-abortion/induced-abortion-and-breast-cancer/abc-link/> (last visited Aug. 29, 2012).
- ⁵² See J.R. Daling et al., *Risk of Breast Cancer Among Young Women: Relationship to Induced Abortion*, 86 J. NAT’L CANCER INST. 1584 (1994).
- ⁵³ J.R. Daling, *supra*, at 1584-92. Daling specifically controlled for “recall bias”—the allegation that a woman with breast cancer is more likely to report a prior abortion than a healthy woman who has had a prior abortion—and found that it did not impact her results. *Id.*
- ⁵⁴ While this small group of 12 is “statistically insignificant” from a research standpoint, it is certainly a significant finding for a 17-year-old contemplating abortion.
- ⁵⁵ A “meta-analysis” polls together the data from studies in an area of medicine and calculates an overall risk for a particular risk factor.
- ⁵⁶ J. Brind et al., *Induced Abortion as an Independent Risk Factor for Breast Cancer: A Comprehensive Review and Meta-Analysis*, 50 BRIT. J. EPIDEMIOLOGY & COMMUNITY HEALTH 481-96 (1996).
- ⁵⁷ *Id.*
- ⁵⁸ The Care of Women Requesting Induced Abortion RCOG (Apr. 2000).
- ⁵⁹ P.K. Coleman, *Abortion and Mental Health: Quantitative Synthesis and Analysis of Research Published 1995-2009*, BRIT. J. OF PSYCHIATRY 199:180-86 (2011).
- ⁶⁰ *Id.*
- ⁶¹ D.M. Fergusson et al., *Abortion in young women and subsequent mental health*, J. CHILD PSYCHOLOGY & PSYCHIATRY 47:16 (2006).
- ⁶² *Id.*
- ⁶³ *Id.* at 19, Table 1.
- ⁶⁴ See generally D.M. Fergusson et al., *Abortion in young women and subsequent mental health*, J. CHILD PSYCHOLOGY & PSYCHIATRY 47:16 (2006).
- ⁶⁵ M. Gissler et al., *Injury deaths, suicides and homicides associated with pregnancy, Finland 1987-2000*, EUROPEAN J. PUBLIC HEALTH 15:459 (2005); M. Gissler et al., *Suicides after pregnancy in Finland, 1987-94: Register linkage study*, BRIT. MED. J. 313:1431 (1996).
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- ⁶⁷ V.M. Rue et al., *Induced abortion and traumatic stress: A preliminary comparison of American and Russian women*, MED. SCI. MONITOR 10:SR5 (2004).

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- ⁷⁰ J.R. Cougle et al., *Depression associated with abortion and childbirth: A long-term analysis of the NLSY cohort*, MED. SCI. MONITOR 9(4):CR157 (2003).
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- ⁷² P.K. Coleman, *Induced Abortion and Increased Risk of Substance Abuse: A Review of the Evidence*, CURRENT WOMEN'S HEALTH ISSUES 1:21, 23 (2005); Z. Bradshaw & P. Slade, *The Effects of Induced Abortion on Emotional Experiences and Relationships: A Critical Review of the Literature*, CLINICAL PSYCHOL. REV. 23:929-58 (2003).
- ⁷³ J.R. Cougle et al., *supra*, at CR158 (2003).
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- ⁷⁵ *Id.* at 453.
- ⁷⁶ P. Carroll, *Ireland's Gain: The Demographic Impact and Consequences for the Health of Women of the Abortion Laws in Ireland and Northern Ireland since 1968* (Dec. 2011), available at http://papersresearch.org/ESW/Files/Irelands_Gain.pdf (last visited Sept. 26, 2012)
- ⁷⁷ D.C. Reardon & P.K. Coleman, *Short and long term mortality rates associated with first pregnancy outcome: Population register based study for Denmark 1980-2004*, MED. SCI. MONIT. 18(9):71-76 (Aug. 2012).
- ⁷⁸ E. Koch 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 7(5):e36613 (May 4, 2012), available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3344918/> (last visited Oct. 6, 2012). Moreover, the leading cause of death for a pregnant woman between 1957 and 1989 (the time in which abortion was legal) was abortion. *Id.*
- ⁷⁹ *Id.* The reduction in maternal mortality was related to better education and obstetrical care for women available in the different time periods. *Id.*
- ⁸⁰ L.A. Bartlett et al., *Risk Factors for Legal Induced Abortion—Related Mortality in the United States*, OBSTETRICS & GYNECOLOGY 103(4):729, 731 (2004).
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- ⁸⁴ *Id.*
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- ⁸⁶ *Id.*
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- ⁸⁸ *Id.*