No. 19-1392

In the Supreme Court of the United States

THOMAS E. DOBBS, M.D., M.P.H., IN HIS OFFICIAL CAPACITY AS STATE HEALTH OFFICER OF THE MISSISSIPPI DEPARTMENT OF HEALTH, ET AL., PETITIONER

v.

JACKSON WOMEN'S HEALTH ORGANIZATION, ON BEHALF OF ITSELF AND ITS PATIENTS, ET AL., RESPONDENT

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

BRIEF FOR AMERICAN ASSOCIATION OF PRO-LIFE OBSTETRICIANS AND GYNECOLOGISTS AS *AMICUS CURIAE* IN SUPPORT OF PETITIONERS

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INTRODUCTION & STATEMENT OF INTEREST[1]

The American Association of Pro-Life Obstetricians & Gynecologists is a nonprofit professional medical organization with over 6,000 members and associates. Since 1973, the Association has worked to ensure that pregnant women receive the highest-quality medical care and are fully informed of the effects of abortion, including its potential long-term consequences for women's health. Recognized for 40 years as the largest "special interest" entity within the American College of Obstetricians and Gynecologists (until the College abolished such groups in 2013), the Association offers healthcare providers and the public a better understanding of abortion-related health risks. Some of these risks include abortion-related injuries; future premature (or "preterm") birth; breast cancer; and depression, substance abuse, and suicide. The Association educates the public about human development and recent advancements and findings in obstetrics and gynecology—findings that shed light on this case.

The legislative findings supporting the Gestational Age Act rest on strong empirical evidence. Study after study shows that abortions in the second and third trimesters—which we will call later-term abortions—correlate with multiple increased risks to women's health. That is one reason why less than 10% of abortions occur after 12 weeks. And it is likely why respondent performs no abortions after 16 weeks.

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[1] No counsel for any party authored this brief in whole or in part, and no person other than *amicus curiae* and its counsel contributed financially to preparing or submitting this brief. All parties have consented to the filing of this brief.

The legislature therefore acted rationally in barring abortions after 15 weeks, especially as it allowed exceptions for medical emergencies and severe fetal abnormalities. The balance it struck was well-supported by science. Indeed, abortion—removing the fetus with the intent of ending its life—is *never* medically necessary. That is why 93% of obstetrician-gynecologists perform no abortions at all. It is also why, for over 2,000 years, the Hippocratic Oath has expressly forbidden abortion. And it is why a right to abortion has never been part of our Nation's traditions. The Act thus goes beyond what even rationality would require.

The Court should reverse.

SUMMARY OF ARGUMENT

I. The Gestational Age Act should be upheld because it rationally furthers Mississippi's interest in protecting women's health from risks posed by later-term abortions, which are now well established in the literature.

"[T]he State has legitimate interests from the outset of the pregnancy in protecting the health of the woman." *Planned Parenthood of Se. Pa.* v. *Casey*, 505 U.S. 833, 846 (1992) (plurality opinion). Legislative findings supporting such legislation receive "deferential" review, which is especially "wide" in cases of "medical and scientific uncertainty." *Gonzales* v. *Carhart*, 550 U.S. 124, 163, 165 (2007).

In prohibiting most abortions after 15 weeks' gestation, the legislature found that "[a]bortion carries significant physical and psychological risks to the maternal patient" that "increase with gestational age." Pet. 67a. These risks include "complications from dilation and evacuation abortions," as well as "depression; anxiety; substance abuse; and other emotional or

psychological problems." *Ibid.* After eight weeks' gestation, these risks "escalate exponentially." *Ibid.*

The legislature's findings are sound. If anything, they understate the health risks posed by later-term abortions. Four risks stand out.

First, the abortion itself may injure the woman because, by the second trimester, the uterus is enlarged and engorged with blood vessels; and the fetus and placenta have grown larger. As a result, blood flow to the uterus—which will have risen almost 50% by 15 weeks—places the woman at greater risk of hemorrhaging. By 15 weeks, the wall of her uterus is also softer and easier to puncture. Such punctures can be caused by invasive instruments or bony parts of the dismembered fetus pushed by those instruments.

Second, abortion puts women at risk for future preterm births. Among other things, preterm birth poses a major risk to infants, who are at far greater risk of death and disabilities than full-term infants. Preterm births have become an epidemic. In 2019, the U.S. preterm birth rate rose for the fifth-straight year, to more than 1 in 10 infants. Over 160 peer-reviewed studies show a statistically significant link between abortion and preterm birth; and later-term abortions are a particular culprit.

Third, later-term abortion raises a woman's risk of developing breast cancer. Since 1957, at least 41 studies have shown a positive, statistically significant association between induced abortion and breast cancer. The reason for the association is straightforward given how the physiology of the breast changes during pregnancy. Breast tissue mature enough to produce milk permanently resists cancer. Abortion arrests growing breast tissue before it matures, trapping it in a cancer-

vulnerable state. Conversely, it is universally agreed—including by pro-choice groups such as Planned Parenthood—that one of the most effective protections against breast cancer is a full-term pregnancy early in life.

Fourth, decades of studies show that abortions, especially those later in the pregnancy, are linked to a greater risk of psychological harm, including anxiety, depression, substance abuse, thoughts of suicide, and suicide. At least 53 published studies show abortion associated with elevated mental-health risks.

II. The Act's rationality is confirmed by its exceptions. Abortion—removing the fetus with the intent of ending its life—is *never* medically necessary at any stage, which is why 93% of obstetrician-gynecologists perform no abortions at all. This is neither surprising nor new. Abortion has been considered contrary to sound medicine for thousands of years. The Hippocratic Oath, which codifies "the ethics of the medical profession," declares: "I will not give to a woman an abortive remedy." *Washington* v. *Harper*, 494 U.S. 210, 222 n.8, (1990); *Roe* v. *Wade*, 410 U.S. 113, 131 (1973) (quoting the Oath). Abortion thus finds no footing in traditional medical ethics. *Cf*. Pet. Br. 1, 2, 12, 17, 28 (noting that abortion is not rooted in our Nation's traditions).

Instead, in the rare case when a mother's life is threatened, or the fetus suffers a severe abnormality, the physician will simply induce labor or perform a cesarian section. The Act allows this—and other exceptions—thus exceeding the requirements of rationality. It should be upheld.

ARGUMENT

I. The Gestational Age Act rationally furthers the State's interest in protecting maternal health given the Act's empirical support.

A. This Court gives deference to findings supporting laws protecting maternal health.

Under this Court's decisions, "the State has legitimate interests from the outset of the pregnancy in protecting the health of the woman." *Casey*, 505 U.S. at 846 (plurality opinion); *Gonzales*, 550 U.S. at 145 (same). That is no surprise, as this Court has long recognized that "[t]he medical, emotional, and psychological consequences of an abortion are serious and can be lasting." *H. L.* v. *Matheson*, 450 U.S. 398, 411 (1981). For statutes that protect against these consequences, this Court gives legislative findings "deferential" review. *Gonzales*, 550 U.S. at 165. "Considerations of marginal safety, including the balance of risks, are within the legislative competence when the regulation is rational." *Id*. at 166–167.

Deference must be "especially broad" when empirical evidence is mixed or "uncertain[]." *Marshall* v. *United States*, 414 U.S. 417, 427 (1974). "The Court has given state and federal legislatures wide discretion to pass legislation in areas where there is medical and scientific uncertainty." *Gonzales*, 550 U.S. at 513. This, indeed, is the "traditional rule." *June Med. Serv. L.L.C.* v. *Russo*, 140 S. Ct. 2103, 2136 (2020) (Roberts, C.J., concurring in judgment) (quoting *Gonzales*, 550 U.S. at 163).

B. The legislature made multiple findings that the Act protects maternal health.

In support of the Act's restriction on abortions after "the fifteenth week," the State legislature found that "[a]bortion carries significant physical and psychological risks to the maternal patient, and these physical and psychological risks increase with gestational age":

- "Specifically, in abortions performed after eight (8) weeks' gestation, the relative physical and psychological risks escalate exponentially as gestational age increases."
- "[A]s the second trimester progresses, in the vast majority of uncomplicated pregnancies, the maternal health risks of undergoing an abortion are greater than the risks of carrying a pregnancy to term."
- "Medical complications from dilation and evacuation abortions include, but are not limited to: pelvic infection; incomplete abortions (retained tissue); blood clots; heavy bleeding or hemorrhage; laceration, tear, or other injury to the cervix; puncture, laceration, tear, or other injury to the uterus; injury to the bowel or bladder; depression; anxiety; substance abuse; and other emotional or psychological problems."
- "Further, in abortions performed after fifteen (15) weeks' gestation, there is a higher risk of requiring a hysterectomy, other reparative surgery, or blood transfusion."

Pet. 67–68a (Miss. Code Ann. § 41-41-191(2)(b)(ii)–(iv)).

C. The legislature's findings are supported by extensive empirical evidence.

Given these findings, it was rational for the legislature, in seeking to protect "the maternal patient," to restrict abortion after 15 weeks to cases of "medical emergency or * * * severe fetal abnormality." Miss. Code Ann. § 41-41-191(2)(b)(i), (4)(a) (Pet. 70a). And as noted, deference to these findings would be warranted even if this area were "fraught with medical and scientific uncertainty." *Marshall*, 414 U.S. at 427. But it is not. The findings are unremarkable to anyone familiar with the scientific literature, and so they warrant even *more* deference than is "traditional." *June Med.*, 140 S. Ct. at 2136 (Roberts, C.J., concurring in judgment) (quoting *Gonzales*, 550 U.S. at 163).

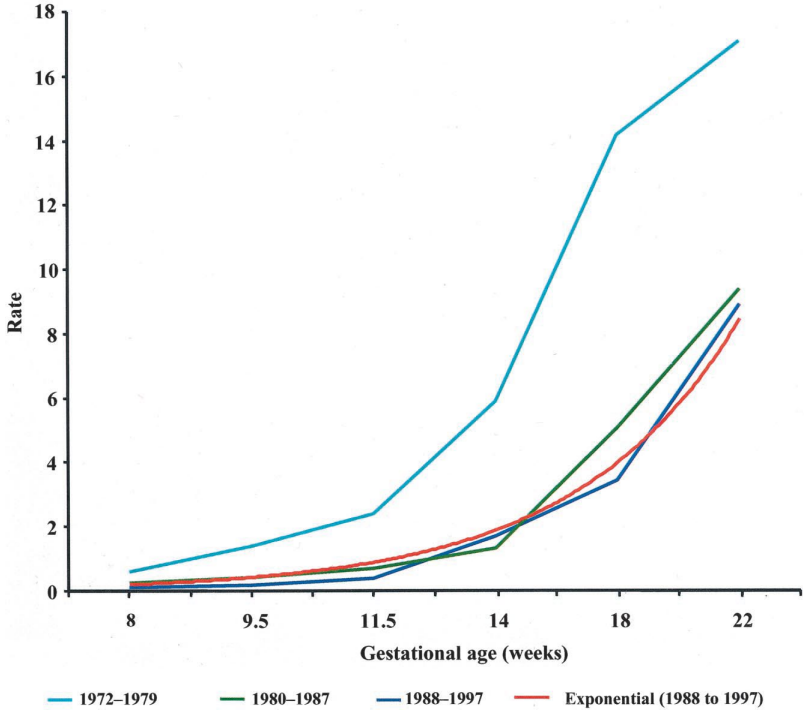
1. Published, peer-reviewed studies show that later-term abortions are significantly tied to abortion-related deaths.

a. In restricting later-term abortions, the legislature relied on a leading study by a maternal-health specialist at the National Institutes of Health. See Linda A. Bartlett, et al., *Risk Factors for Legal Induced Abortion Mortality in the United States*, 103(4) Obstet. & Gyn. 729 (2004) (Bartlett Study); see also, *e.g.*, Daniel Grossman, et al., *Complications after Second Trimester Surgical and Medical Abortion*, 16 Reproductive Health Matters 173 (2008) (Supp. 31) (relying on Bartlett Study). Published by the journal of the American College of Obstetricians and Gynecologists, the Bartlett Study was designed to "provide[] information on risk factors for abortion-related deaths among women who had abortions in recent years that will help inform and update policymakers and practitioners about abortion related maternal mortality."

Bartlett, 103(4) Obstet. & Gyn. at 729–730. To ensure reliability, the Bartlett Study used data from the Centers for Disease Control and Prevention's Pregnancy Mortality Surveillance System, "which attempts to identify all deaths in the United States caused by pregnancy, including those ending in induced abortion." *Id*. at 730.

As the Bartlett Study found, "the strongest risk factor for abortion-related mortality" was "[g]estational age at the time of abortion." Bartlett, 103(4) Obstet. & Gyn. at 731, 735. "The lowest rates were among women who had their abortions in the first trimester of pregnancy, particularly within the first 8 weeks of pregnancy. Women whose abortions were performed in the second trimester (at or after 13 weeks of gestation) had abortion-related mortality rates greater than women whose abortions were performed in the first 8 weeks of pregnancy[.]" *Id.* at 731. Indeed, "[i]f women who had abortions after 8 weeks of gestation had obtained abortions during the first 8 weeks of pregnancy, when risk is lowest, 87% of deaths likely could have been prevented." *Ibid*.; *id*. at 736 (same).

Just as strikingly, "the risk of death increased exponentially with increasing gestational age. According to this model, there is a 38% increase in risk of death for each additional week of gestation." Bartlett, 103(4) Obstet. & Gyn. at 731. "Thus, the estimated increase in the risk of death due to delaying the procedure by 1 week at 17 weeks of gestation is 18 times greater than the estimated increase in the risk of death by delaying the procedure by 1 week at 8 weeks of gestation." *Id*. at 732. To illustrate the point, the Bartlett Study shows the mortality rate (measured on the vertical axis) rising with gestational age (measured on the horizontal axis) as follows:



Id. at 734.

This stark increase in risk, the Bartlett Study concluded, calls for earlier abortions. "Because access to abortions even 1 week earlier reduces the risk of death disproportionately as gestational age increases, addressing this risk factor by further reducing the gestational age at which women have abortions may help to further reduce the risk of death." Bartlett, 103(4) Obstet. & Gyn. at 735. And making this change could have a disproportionately positive effect in minority communities. "Our analysis suggests that almost one fifth of the excess abortion-related mortality among women of black and other races resulted from later gestational age at the time of the abortion." *Id.* at 735.

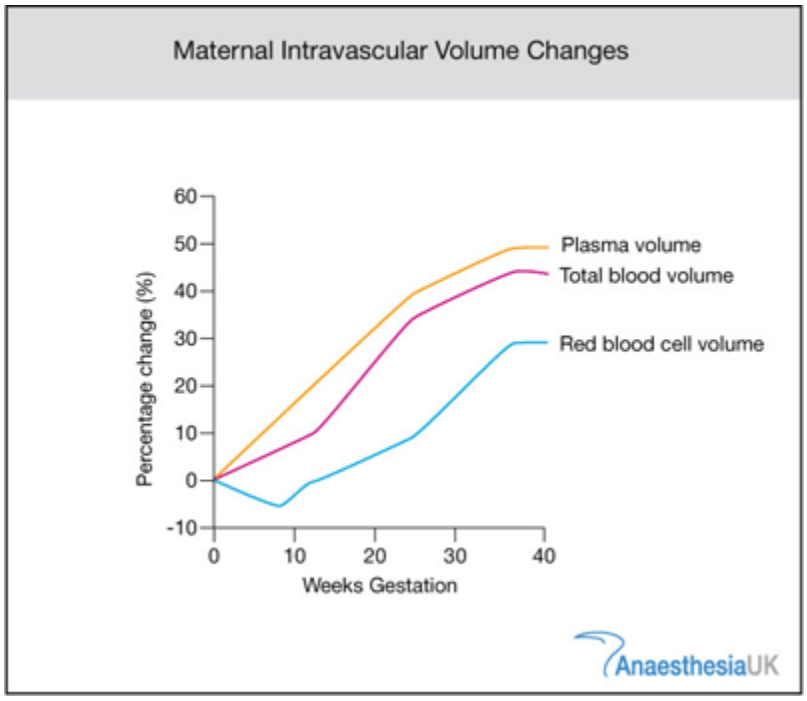
The Bartlett Study is not alone. Seven years later, researchers again found an "increased risk of

complications" associated with abortion with "increasing gestational age." Maarit, J. Mentula, et al., *Immediate Adverse Events after Second Trimester Medical Termination of Pregnancy: Results of a Nationwide Registry Study,* 26(4) Human Reproduction 927, 927 (2011). "The purpose of the * * * study was to assess the rate of adverse events and complications following the second trimester medical [abortion] and to compare it with those following the first trimester medical [abortion]. [The authors] focused * * * on [hemorrhage], infection and surgical evacuation in cases of incomplete abortion." *Id*. at 928. The result? "[S]econd trimester medical [abortion] was associated with an increased risk of surgical evacuation and infection." *Id*. at 930.

Even early abortions—and pregnancy losses generally—are tied to higher mortality rates. According to a recent meta-analysis, "11 studies from three countries reported mortality rates associated with termination of pregnancy, miscarriage or failed pregnancy. Within a year of their pregnancy outcomes, women experiencing a pregnancy loss are over *twice as likely* to die compared to women giving birth." David C. Reardon & John M. Thorp, *Pregnancy Associated Death in Record Linkage Studies Relative to Delivery, Termination of Pregnancy, and Natural Losses: A Systematic Review with a Narrative Synthesis and Meta-analysis*, 5 SAGE Open Med. 1, 1 (2017) (emphasis added). "[T]his elevated mortality risk persists over many years, is multiplied by repeat exposure to pregnancy loss, and may be reduced by successful deliveries. The quality of these eleven studies is very high, with all but the one earliest attempt scoring 8 or above on the [National Committee for Quality Assurance Standards] (with a range 0–9)." *Id*. at 9.

b. There are good reasons that later-term abortions are particularly associated with complications and risks. "The increased amount of fetal and placental tissue requires a greater degree of cervical dilation, the increased blood flow predisposes to hemorrhage, and the relaxed myometrium [i.e., the wall of the uterus] is more subject to mechanical perforation. The technical challenges of the procedure during the second trimester are different from those present in the first trimester, and the inherently greater risk of complications may be less amenable to prevention." Bartlett, 103(4) Obstet. & Gyn. at 735. We address these risks in turn.

"[T]he increased blood flow predisposes to hemorrhage." As the pregnancy goes on, blood flow rises some 50%, as do plasma levels:



AnaethesiaUK, *Physiological Changes of Pregnancy* (2006).

The increased blood flow is also due, in part, to dramatic changes pregnancy triggers in the uterus, which swells and grows more complex. "The greater size of the uterus as a result of pregnancy is due to a marked increase in the number of muscle fibres, blood vessels, nerves, and lymphatic vessels in the uterine wall. There is also a five- to tenfold increase in the size of the individual muscle fibre and marked enlargement in the diameters of the blood and lymph vessels." John W. Huffman, *Pregnancy*, Encyclopedia Britannica (Feb. 7, 2020). In this blood-vessel-rich environment, hemorrhaging is an ever-present danger. "In view of the greater risk of haemorrhage and of incomplete abortion associated with procedures undertaken after 12 weeks of pregnancy," the World Health Organization counsels, "all women in these situations should remain under clinical observation until both the fetus and placenta have been expelled." World Health Org., *Safe Abortion: Technical & Policy Guidance for Health Systems* 54 (2d ed. 2012). Unsurprisingly, given the changes in the uterus, "[t]he risk of * * * hemorrhage increases with advancing gestational age[.]" Cassing Hammond, *Second-Trimester Pregnancy Termination: Dilation and Evacuation*, UpToDate (2020).

"[T]he relaxed myometrium is more subject to mechanical perforation." The risk of hemorrhaging comes with a risk of "mechanical perforation"—that is, puncturing—the wall (or myometrium) of the uterus. Bartlett, 103(4) Obstet. & Gyn. at 735. Indeed, "[u]terine perforation is one of the more common complications" even in dilation-and-curettage abortions (which use fewer instruments); and the risk rises with "gestational age." Eugene C. Toy, *Perforation with Uterine*

Sound and Suction Cannula During a D&C, SASGOG (2014).

Punctures in the uterus can also be caused by pieces of the fetus itself. To avoid this danger, abortion providers "must be very careful to avoid pushing fetal parts with the forceps since this may push them deeper into the [cavity of the uterus] and even through the uterine wall." Hammond, *supra*. Instead, "fetal parts should be brought down to the lower uterine segment for disarticulation. * * * Caution should be employed since bony spicules [i.e., spikes] exposed during fetal disarticulation can perforate the uterine walls and abrade the cervix." *Ibid*.

Given these risks of hemorrhages and punctures, the Bartlett Study spoke rightly, if delicately, of the "technical challenges" of second-trimester abortions. This Court described the procedure more bluntly:

> The surgical procedure referred to as "dilation and evacuation" or "D&E" is the usual abortion method in this trimester. Although individual techniques for performing D&E differ, the general steps are the same.
>
> A doctor must first dilate the cervix at least to the extent needed to insert surgical instruments into the uterus and to maneuver them to evacuate the fetus. The steps taken to cause dilation differ by physician and gestational age of the fetus. A doctor often begins the dilation process by inserting osmotic dilators, such as laminaria (sticks of seaweed), into the cervix. The dilators can be used in combination with drugs, such as misoprostol, that increase dilation. * * * In general the longer dilators remain in the cervix, the more it will dilate. Yet the length of

> time doctors employ osmotic dilators varies. Some may keep dilators in the cervix for two days, while others use dilators for a day or less.
>
> After sufficient dilation the surgical operation can commence. The woman is placed under general anesthesia or conscious sedation. The doctor, often guided by ultrasound, inserts grasping forceps through the woman's cervix and into the uterus to grab the fetus. The doctor grips a fetal part with the forceps and pulls it back through the cervix and vagina, continuing to pull even after meeting resistance from the cervix. The friction causes the fetus to tear apart. For example, a leg might be ripped off the fetus as it is pulled through the cervix and out of the woman. The process of evacuating the fetus piece by piece continues until it has been completely removed. A doctor may make 10 to 15 passes with the forceps to evacuate the fetus in its entirety, though sometimes removal is completed with fewer passes. Once the fetus has been evacuated, the placenta and any remaining fetal material are suctioned or scraped out of the uterus.

Gonzales, 550 U.S. at 135–136 (citations omitted).

To sum up, a second-trimester abortion requires: extensive dilation; grasping forceps; force powerful enough to dismember the fetus; and suctioning and scraping. And it does so when there is doubled blood flow, a profusion of blood vessels, a softened uterus, and sharp fetal bone fragments. Given all this, later-term abortions unsurprisingly pose an "inherently greater risk of complications." Bartlett, 103(4) Obstet. & Gyn. at 735.

If that were not enough, later-term abortion risks leaving behind "retained products of conception"—that is, parts of the fetus or placenta, which can cause bleeding and other complications if not removed. Hammond, *supra*. So, "[a]t the end of the procedure, the surgeon should inventory evacuated contents and account for the major fetal parts (calvaria [i.e., skull cap], thorax, pelvis, four extremities [i.e., limbs])." *Ibid*.

c. The Mississippi legislature thus was on solid ground in finding that "complications from dilation and evacuation abortions include * * * pelvic infection; incomplete abortions (retained tissue); blood clots; heavy bleeding or hemorrhage; laceration, tear, or other injury to the cervix; puncture, laceration, tear, or other injury to the uterus; [and] injury to the bowel or bladder[.]" Pet. 67–68a. As a result, "in abortions performed after fifteen * * * weeks' gestation, there is a higher risk of requiring a hysterectomy, other reparative surgery, or blood transfusion." *Ibid*. The State has a substantial interest in protecting women from these known risks.

2. Published, peer-reviewed studies show that later-term abortion raises the risk of later premature births.

Mississippi also has a substantial interest in regulating abortions after 15 weeks because of the association between surgical abortions (which, as noted, are necessary after 15 weeks) and preterm births.

a. Preterm births are associated with "significant maternal and infant health risks" and is considered an "epidemic" in the United States. Linda S. Franck, et al., *Research Priorities of Women at Risk for Preterm Birth: Findings and a Call to Action*, 20(10) BMC

Pregnancy and Childbirth 1, 2 (2020). Despite years of effort and widespread interventions, "population level reduction in preterm birth rates have not been achieved." *Ibid.* In 2019, the preterm birth rate in the United States rose for the fifth straight year to 10.23%. Centers for Disease Control and Prevention, 70(2) *National Vital Statistics Reports* 1, 8 (Mar. 23, 2021). The rate is even higher in Mississippi, where 1 in 7 live births (14.6%) were preterm in 2019. March of Dimes, *State Summaries: Mississippi*.

Babies born preterm face significant health risks. A baby grows substantially even in the final weeks of pregnancy, during which the brain, lungs, and liver reach full development. Babies born preterm—that is before 37 weeks' gestation—have higher rates of death and disability. According to the Centers for Disease Control and Prevention, in 2018 preterm birth and low birthweight (which is linked to preterm birth) accounted for about 17% of infant deaths. Centers for Disease Control and Prevention, *Preterm Birth*. Babies who survive preterm birth suffer higher rates of cerebral palsy, developmental delay, vision problems, and hearing difficulties. *Ibid.*

For related reasons, preterm births also impose substantial costs on society. An analysis by the Institute of Medicine estimated the economic costs associated with preterm birth in the United States to be "at least $26.2 billion in 2005, or $51,600 per infant born preterm." Committee on Understanding Premature Birth and Assuring Healthy Outcomes, Institute of Medicine, *Preterm Birth: Causes, Consequences, and Prevention* (2007). Based on data spanning 2008 to 2016, a more recent study estimated the average medical costs in the first six months of life at $76,153 per preterm birth. Andrew L. Beam, et al., *Estimates of*

Healthcare Spending for Preterm and Low-birthweight Infants in a Commercially Insured Population: 2008–2016, 40 J. Perinatology 1091 1, 1 (2020).

b. Over 160 peer-reviewed studies and multiple meta-analyses show a statistically significant link between abortion, especially surgical abortion, and preterm birth. The studies come from all over the world.

For instance, a 2004 study based on data for 7,719 births in 10 European countries found that one abortion increases the risk of very preterm birth (before 28 weeks) by 34% and two or more abortions increase the risk by 82%. See Pierre-Yves Ancel, et al., *History of Induced Abortion as a Risk Factor for Preterm Birth in European Countries: Results of the EUROPOP Survey*, 19(3) Human Reproduction 734, 738 (2004). A 2009 study based on data on 42,269 births in South Australia found that induced abortion increased the risk of preterm birth by 25%. See Rosanne Freak-Poli, et al., *Previous Abortion and Risk of Preterm Birth: A Population Study*, 22(1) J. Maternal-Fetal Med. 1, 1 (2009). A 2012 study involving 624,865 women in Scotland showed that women who had a prior induced abortion had 1.37 times the risk of preterm birth compared to those who were pregnant for the first time. Siladitya Bhattacharya, et al., *Reproductive Outcomes Following Induced Abortion: A National Register Based Cohort Study in Scotland*, 2(e000911) BMJ Open (2012). A 2012 study examining data from 300,858 births in Finland found that one or more abortions raised the risk of very preterm birth (before 28 weeks) by 27% among first time mothers; two abortions raised the risk by 69%; and three abortions by 178%. See R. Klemetti, et al., *Birth Outcomes After Induced Abortion: A Nationwide Register-based Study of First Births in Finland*, 27(11) Human

Reproduction 3315 (2012). Similarly, a 2017 study based on U.S. data from 2003 to 2012 found an increased risk of preterm birth associated with a previous surgical abortion. See Elena Rita Magro Malosso, et al., *U.S. Trends in Abortion and Preterm Birth*, J. Maternal-Fetal & Neonatal Med. (2017)).

Although some small studies have failed to find a statistically significant link between abortion and preterm birth, *no* systematic reviews with meta-analysis dispute the link. See Martin McCaffrey, *Abortion's Impact on Prematurity: Closing the Knowledge Gap*, 32 Issues in Law & Med. 43, 46 (2017) ("Arrayed against this overwhelming evidence of the abortion and preterm birth association are NO SRMAs [*i.e.*, systematic reviews with meta-analysis]"). To the contrary, the link has been *confirmed* by multiple published meta-analyses and literature reviews. For instance, a 2003 literature review found 49 studies that showed an increased risk of preterm birth, or surrogates such as low birth weight or second-trimester spontaneous abortion, tied to previous induced abortions. See Brent Rooney & Byron C. Calhoun, *Induced Abortion and Risk of Later Premature Births*, 8(2) J. Am. Physicians and Surgeons 46, 46 (2003).

Two significant 2009 meta-analyses confirmed this relationship. A meta-analysis of 22 studies that included 268,379 patients, published in the British Journal of Obstetrics and Gynaecology, found that a single induced abortion increases the risk of preterm birth by 36% and that more than one abortion increases the risk by 93%. See P.S. Shah, et al., *Induced Termination of Pregnancy and Low Birthweight and Preterm Birth: A Systematic Review and Meta-analysis*, 116 British J. Obstet. & Gyn. 1425, 1425 (2009). Another 2009 meta-analysis of nine studies from 1998 to 2006,

conducted by two pro-choice and two pro-life authors, found that a single induced abortion increased the risk of preterm birth by 25% and *very*-preterm birth by 64%. See Hanes M. Swingle, et al., *Abortion and the Risk of Subsequent Preterm Birth: A Systematic Review with Meta-analyses*, 54(2) J. Reproductive Med. 95, 95 (2009).

Later meta-analyses also find abortion associated with an increased risk of preterm birth. A 2015 meta-analysis of 28 studies, which included 913,297 women, found that women who had a previous surgical abortion had a "significantly higher risk" (52%) of preterm birth. See Gabriele Saccone, et al., *Prior Uterine Evacuation of Pregnancy as Independent Risk Factor for Preterm Birth and Metaanalysis*, 214(5) Am. J. Obstet. & Gyn. 572, 572 (2016). A 2016 meta-analysis of 21 studies that reported on 1,853,017 women who underwent a dilation and curettage (a surgical procedure used for abortion or to complete a miscarriage) had a 29% increased risk of preterm birth and a 69% increased risk of very preterm birth. See Marike Lemmers, et al., *Dilation and Curettage Increases the Risk of Subsequent Preterm Birth: A Systemic Review and Meta-analysis*, Human Reproduction 1, 1 (2015).

It is true that a 2018 committee report from the National Academy of Sciences, which reviewed only five studies, concluded that "having an abortion does not increase a woman's risk of * * * preterm birth." Nat'l Acad. Sci., Eng'g, and Med., *The Safety and Quality of Abortion Care in the United States* 1, 153 (2018) (NAS Report). But the report failed to include at least 70 studies that met the committee's stated criteria. See Am. Ass'n of Pro-life Obstet. & Gyn., 5 Practice Bulletin, *Evidence Directing Pro-Life Obstetricians & Gynecologists* 1, 2 (2019). And the authors had to

acknowledge an "increased risk of very preterm birth" associated with two or more abortions. NAS Report at 147.

c. The increased risk of preterm birth falls disproportionately on black women, who are a significant percentage of Mississippi's population. The rate of abortion among black women in the United States is 3.8 times the rate for non-Hispanic white women. See James Studnicki, et al., *Perceiving and Addressing the Pervasive Racial Disparity in Abortion*, 7 Health Services Research and Managerial Epidemiology 1, 1 (2020). Meanwhile, the preterm birth rate among black women (14.39%) is about 50 percent higher than among white or Hispanic women (9.26% and 9.97%, respectively). Centers for Disease Control and Prevention, 70(2) *Nat'l Vital Statistics Reports*, at 8 . This is a significant public-health concern for Mississippi, where African-Americans are 37.8% of the population. U.S. Census, *Quick Facts: Mississippi*.

3. Published, peer-reviewed studies show that abortion raises breast-cancer risks, which rise with gestational age.

a. Since 1957, at least 41 studies have shown a positive, statistically significant association between induced abortion and breast cancer. Breast Cancer Prevention Institute, *Epidemiological Studies: Induced Abortion and Breast Cancer Risk* (Apr. 2020) (listing studies). To take one example, a 2009 study in the World Journal of Surgical Oncology states that "age and induced abortion were found to be significantly associated with increased breast cancer risk." Vahit Ozmen, et al., *Breast Cancer Risk Factors in Turkish Women – a University Hospital Based Nested Case Control Study*, 7(37) World J. Surgical Oncology

1, 1 (2009). But this 2009 study was far from alone; the authors also surveyed a host of analogous studies. And "similar to [the 2009 study's] findings, the majority of the studies reported that induced abortion was associated with increased breast cancer risk." *Id.* at 6.

Likewise, a 2009 study coauthored by Dr. Louise Brinton, Chief of the Hormonal and Reproductive Epidemiology Branch at the National Cancer Institute, found risk factors for breast cancer "consistent with the effects observed in previous studies." Jessica M. Dolle, et al., *Risk Factors for Triple-Negative Breast Cancer in Women Under the Age of 45 Years*, 18(4) Cancer Epidemiology, Biomarkers and Prevention 1157, 1162–1163 (2009). "Specifically, older age, family history of breast cancer, earlier menarche [i.e., first menstrual period], *induced abortion*, and oral contraceptive use were associated with an increased risk for breast cancer." *Id.* at 1163. (emphasis added).

Reaching the same conclusion, Chinese scientists recently included abortion as an important indicator of breast cancer risk in a new model for screening women. See Lu Wang, et al., *Risk Prediction for Breast Cancer in Han Chinese Women Based on a Cause-specific Hazard Model*, 19(128) BMC Cancer (2019). In fact, the study found that abortion had the *most* impact: one or two abortions increased the risk 151%; three or more increased the risk by 530%. *Id.* at 4.

Further filling in the picture, another study "found an increased [breast-cancer] risk associated with an increasing number of induced abortions. However, this risk appeared to be restricted to pregnancies with induced interruptions before the first [full-term pregnancy]." Julie Lecarpentier, et al., *Variation in Breast Cancer Risk Associated with Factors Related to*

Pregnancies According to Truncating Mutation Location, in the French National BRCA1/2 Carrier Cohort, 14(R99) Breast Cancer Research 1, 16 (2012). In other words, childbearing women faced an increased risk of cancer after having an abortion *if* the abortion occurred before the woman had her first child.

b. Breast cancer is linked to abortion because of how breasts grow during pregnancy. Immature, newly formed breast tissue is susceptible to cancer. Mature breast tissue, which can produce milk, permanently resists cancer. Abortion arrests breast tissue in an immature state, before it can produce milk, leaving it vulnerable to cancer.

"Early full-term pregnancy is one of the most effective natural protections against breast cancer." Sibgat Choudhury, et al., *Molecular Profiling of Human Mammary Gland Links Breast Cancer Risk to a p27+ Cell Population with Progenitor Characteristics*, 13(1) Cell Stem Cell 117, 2 (2013). The connection between childlessness and breast cancer has been known since at least 1842, when a higher incidence of breast cancer was observed among nuns than in other women. See Christopher I. Li, ed., *Breast Cancer Epidemiology* 120 (2010) (collecting 18th, 19th, and early 20th-century studies). Planned Parenthood agrees. "It is known that having a full-term pregnancy early in a woman's childbearing years is protective against breast cancer[.]" Planned Parenthood, *Myths About Abortion and Breast Cancer* (2013).

Nor is the anti-cancer effect small:

- women who have a full-term pregnancy before age 20 have *half* the risk of breast cancer than women who remain childless;

- each new pregnancy further lowers the risk by 10%; and
- each year a woman delays a full-term pregnancy, her risk of premenopausal breast cancer increases by 5% per year.

See Brian E. Henderson, et al., *The International Variation in Breast Cancer Rates: An Epidemiological Assessment*, 18 Breast Cancer Research and Treatment, S13 (1991); Jennifer L. Kelsey, *Reproductive Factors and Breast Cancer,* 15(1) Epidemiology Review 36, 38 (1993) (Table 3); Mats Lambe, et al., *Parity, Age at First and Last Birth, and Risk of Breast Cancer: A Population-Based Study in Sweden*, 38 Breast Cancer Research and Treatment 305 (1996); Francoise Clavel-Chapelon, et al., *Reproductive Factors and Breast Cancer Risk*, 72(2) Breast Cancer Research and Treatment 107 (2002).

The reason a full-term pregnancy makes breast cancer less likely is that pregnancy changes the physiology of the breast. Early in pregnancy, estrogen stimulates the growth of immature stem-cell breast tissue—growth that increases in the second trimester. At 20 weeks' gestation, the body produces a hormonal signal that causes the immature stem-cell breast tissue to begin to develop the capacity to make milk. By 32 weeks' gestation, roughly half of the breast tissue can make milk; and that tissue is no longer susceptible to cancerous changes. By full term, over 90% of the breast tissue is fully genetically mature and can make milk, and thus is no longer susceptible to cancerous changes. See Jose Russo, et al. , *Full-term Pregnancy Induces a Specific Genomic Signature in the Human Breast*, 17(1) Cancer Epidemiology, Biomarkers and Prevention 51 (Jan. 2008); I. Verlinden, et al., *Parity-*

Induced Changes in Global Gene Expression in the Human Mammary Gland, 14(2) European J. Cancer Prevention 129 (2005).

As a result, a woman's risk of breast cancer rises if she has never brought a pregnancy to term and then loses the pregnancy before 32 weeks—whether the cause is a preterm birth, a second-trimester miscarriage, or an induced abortion. See L.J. Vatten, et al., *Pregnancy Related Protection Against Breast Cancer Depends on Length of Gestation*, 87 British J. Cancer 289 (2002); M. Melbye, et al., *Preterm Delivery and Risk of Breast Cancer*, 80 British J. Cancer 609 (1999).

In short, inducing abortion deprives a woman of the risk-reducing effects of a full-term pregnancy. She will either: (a) remain childless, thus losing the dramatic risk-reduction of a full-term pregnancy; or (b) have one fewer full-term pregnancy than she otherwise would, losing another 10% risk reduction. No matter what, inducing abortion will postpone a full-term pregnancy, thus raising her risk by 5% per year until she carries a pregnancy to term. Meanwhile, the abortion also will increase her risk for a preterm birth, which will double her breast-cancer risk. See C.C. Hsieh, et al., *Delivery of Premature Newborns and Maternal Breast Cancer Risk*, 353 The Lancet 1239 (1999).

The longer a woman waits to carry a pregnancy to term, the higher her risk of breast cancer—as her immature, cancer-vulnerable breast tissue is exposed to carcinogens while she waits. This time between the first menstrual cycle and pregnancy is called the "window of susceptibility." Jose Russo, ed., *Environment and Breast Cancer* 29 (2011). A long susceptibility window accounts for the transient, but statistically significant, rise in breast cancer risk in women who

delay their first pregnancy until after age 30. See Mats Lambe, et al., *Transient Increase in the Risk of Breast Cancer after Giving Birth*, 331(1) New Eng. J. Med. 1, 5 (1994). Any delay in the first full-term pregnancy—including by induced abortion—leaves the window open longer and thus raises the chances of breast cancer, even if the woman eventually carries a child to term.

c. All of these risks are compounded in women with a family history of breast cancer. A 1994 study by the National Cancer Institute found induced abortions at 9 to 24 weeks in teenagers 18 years old or less—that is, with a narrow susceptibility window—linked to an 800% increase in cancer risk. Janet R. Daling, et al., *Risk of Breast Cancer among Young Women: Relationship to Induced Abortions*, 86 J. Nat'l Cancer Inst. 1584, 1585–86 (1994). But for teenagers with a family history of cancer, the odds were 100%. All twelve teenagers with a family history developed breast cancer. *Id*. at 1588.

4. Published, peer-reviewed studies show that later-term abortion raises the risk of depression, drug abuse, and suicide.

Decades of research published in leading journals also shows that abortion, especially second-trimester abortion, is tied to an increased risk of psychological harm, including anxiety, depression, substance abuse, thoughts of suicide, and suicide.

a. At least 53 published studies show abortion associated with elevated mental-health risk. For instance, an analysis of data for a nationally representative cohort of 8,005 women found abortion consistently tied to a 45% increased risk of mental-health disorder. See Donald Paul Sullins, *Abortion, Substance Abuse*

and Mental Health in Early Adulthood: Thirteen-year Longitudinal Evidence from the United States, 4 Sage Open Med. 1, 1 (2016). A Finnish study of suicide after induced abortion found that, despite changes in medical care to address the issue, women who had an abortion remained at a twofold risk of suicide. See Mika Gissler, et al., *Decreased Suicide Rate after Induced Abortion, after the Current Care Guidelines in Finland 1987–2012,* 43 Scandanavian J. Pub. Health 99 (2015).

A 2011 meta-analysis of 22 published studies, which together included 877,181 participants, found that compared to women who carried a pregnancy to term, women who had an abortion had an 81% increased risk of mental-health problems. See Priscilla K. Coleman, *Abortion and Mental Health: Quantitative Synthesis and Analysis of Research Published 1995-2009*, 199 British J. Psychiatry 180, 180 (2011). The analysis showed a 34% increased risk for anxiety disorders, 37% increased risk for major depression, 110% increased risk for alcohol abuse, 220% increased risk for marijuana abuse, and a 155% increased risk of suicide attempts. *Id*. at 182. When compared to women who carried an *unwanted* pregnancy to term, women who underwent an abortion still experienced a 55% increased risk of mental-health problems. *Ibid.*

Similarly, a 2013 review of 30 studies examining abortion and mental-health issues, such as depression, anxiety disorders, and substance-abuse disorders, concluded that "abortion is a risk factor for subsequent mental illness when compared with childbirth." Carlo Valerio Bellieni, et al., *Abortion and Subsequent Mental Health: Review of the Literature,* 67 Psychiatry and Clinical Neurosciences 301, 307 (2013). When abortion was "compared with the other two possible outcomes (miscarriage or the birth of an unplanned baby)," the

risk of mental-health issues was greater or similar. *Ibid.* In other words, compared to other outcomes, abortion was no remedy for mental-health issues; if anything, the results were worse with abortion.

b. It is true that a 2008 report from the American Psychiatric Association concluded that "the relative risk of mental health problems among adult women who have an unplanned pregnancy is no greater if they have an elective first-trimester abortion than if they deliver that pregnancy." Am. Psychiatric Ass'n, *Mental Health and Abortion* 1, 90 (2008). But to draw this conclusion, the authors had to exclude all patients beyond the first trimester, *which is the only category of patients covered by the Gestational Age Act*. David C. Reardon, *The Abortion and Mental Health Controversy: A Comprehensive Literature Review of Common Ground Agreements, Disagreements, Actionable Recommendations, and Research Opportunities*, 6 SAGE Open Med. 1, 8–9 (2018). If that were not enough, the authors also excluded:

- the 48%–52% of women who already had a history of one or more abortions;
- the 18% of patients who were minors;
- the 7% of women aborting for therapeutic reasons regarding their own health or concerns about the health of the fetus; and
- the 11%–64% whose pregnancies were wanted or planned, or for which women had developed an attachment.

Ibid. Thus, even for first-trimester patients, the authors chose women least likely to suffer from mental-health issues. Their report sheds no light on this case.

Moreover, over a decade's-worth of studies since the 2008 report has led to "the consensus of expert opinion" that "a history of abortion is consistently associated with elevated rates of mental illness compared to women without a history of abortion" and "the abortion experience can directly contribute to mental health problems in some women." Reardon, 6 SAGE Open Med. at 8. Thus, it is no answer to say that some studies have failed to link abortion and mental-health issues. A 2018 literature review found the "association between abortion and higher rates of anxiety, depression, substance use, traumatic symptoms, sleep disorders, and other negative outcomes is statistically significant in most analyses." *Id.* at 6. And "the minority of analyses that do not show statistically significant higher rates of negative outcomes do not contradict those that do." *Ibid.*

c. Mental-health issues are especially common after later-term abortions. A 12-month post-abortion study of 854 women in Sweden found that 37.5% of women who underwent second-trimester abortions suffered extreme post-abortion emotional problems. See Hanna Söderberg, et al., *Emotional Distress Following Induced Abortion. A Study of its Incidence and Determinants Among Abortees in Malmö, Sweden*, 79 European J. Obstet. and Gyn. and Reproductive Biology 173 (1998). Likewise, a 2018 study found that women who underwent a later-term abortion were more likely to suffer from psychological distress than women undergoing earlier procedures. See Sameera Kotta, et al., *A Cross-sectional Study of the Psychosocial Problems Following Abortion*, 60 Indian J. Psychiatry 217 (2018).

Similarly, a comparative analysis of women who had a first-trimester abortion with those who had a

second- or third-trimester abortion found that 52% of the early abortion group and 67% of the late-term abortion group met the criteria for post-traumatic stress disorder. See Priscilla K. Coleman, et al., *Late-term Elective Abortion and Susceptibility to Posttraumatic Stress Symptoms*, 2010 J. Pregnancy (2010). Later abortions were linked to persistent, recurrent, and distressing memories, as well as hyper-reactivity to traumatic stimuli. *Ibid.* Second-trimester abortion was also associated with a greater likelihood of disturbing dreams, emotional numbness, and trouble falling or staying asleep. *Ibid.*

* * *

In sum, a rich literature shows that later-term abortion threatens maternal health. The Mississippi legislature thus acted rationally in restricting abortion after 15 weeks. And it is no answer to say that later-term abortions are convenient. "When standard medical options are available mere convenience does not suffice to displace them; and if some procedures have different risks than others, it does not follow that the State is altogether barred from imposing reasonable regulations." *Gonzales*, 550 U.S. at 166.

II. The Act's rationality is confirmed by its exceptions, which exceed the demands of medicine and traditional medical ethics.

It is also no answer to say that later-term abortions are needed to save the life of the mother. The Gestational Age Act makes an express exception for "medical emergenc[ies]." Miss. Code Ann. § 41-41-191(2)(b)(ii), (4)(a) (Pet. 70a). This exception underscores the rationality of the Act.

To be sure, the exception was unnecessary because abortion—later-term or otherwise—is *never* medically

necessary. If it were necessary, obstetrician-gynecologists would perform abortions as a condition of practice. Yet, 93% of obstetrician-gynecologists never perform abortions—at any stage of pregnancy. See Sheila Desai et al., *Estimating Abortion Provision and Abortion Referrals Among United States Obstetrician-Gynecologists in Private Practice*, 97 Contraception 297, 299 (2017). As the legislature found, "[m]ost obstetricians and gynecologists practicing in the State of Mississippi do not offer or perform nontherapeutic or elective abortions. Even fewer offer or perform the dilation and evacuation abortion procedure even though it is within their scope of practice." Pet. 67a.

In declining to perform abortions, doctors are keeping with the longstanding tradition of their profession. Abortion has been deemed contrary to sound medicine for thousands of years. The Hippocratic Oath codifies "the ethics of the medical profession"; and it forbids physicians from performing abortions. *Washington*, 494 U.S. at 222 n.8; *Roe*, 410 U.S. at 131 ("I will neither give a deadly drug to anybody if asked for it, nor will I make a suggestion to this effect. *Similarly, I will not give to a woman an abortive remedy*.") (quoting the Oath) (emphasis added); *cf.* Pet. Br. 1, 2, 12, 17, 28 (abortion is not rooted in our Nation's traditions).

Instead, in the rare circumstance in which a mother's life is endangered by a complication before the fetus is viable, a premature separation may be required—for example, by inducing labor or performing a cesarian section. Am. Ass'n. of Pro-Life Obstet. & Gyn., 10 Practice Bulletin, *Defining the End of Pregnancy* 1, 7 (2020). Those steps are allowed under the Mississippi statute, which, in emergencies, also allows an abortion. But as *Gonzales* shows in graphic detail, an essential goal of abortion is to produce a dead fetus.

550 U.S. at 135–136. By contrast, the premature separation can be done in a way that respects both the life of the mother and the dignity of the fetus, whose life may be lost only incidentally and not as an essential goal.

But again, in cases of medical emergency, the Act allows premature separation and abortion. The Act thus exceeds the requirements of rationality. It should be upheld.

CONCLUSION

For all these reasons, the judgment below should be reversed.

Respectfully submitted,

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