

**In The
Supreme Court of the United States**

—◆—
M.C.,

Petitioner,

v.

C.M.,

Respondent.
—◆—

**On Petition For A Writ Of Certiorari To The
Court Of Appeal Of The State Of California,
Second Appellate District**
—◆—

**MOTION AND BRIEF OF AMERICAN
ASSOCIATION OF PRO-LIFE OBSTETRICIANS
& GYNECOLOGISTS, CHARLOTTE LOZIER
INSTITUTE, NATIONAL CATHOLIC BIOETHICS
CENTER, NATIONAL ASSOCIATION OF
CATHOLIC NURSES-U.S.A., AND CATHOLIC
MEDICAL ASSOCIATION AS AMICI CURIAE
IN SUPPORT OF PETITIONER**
—◆—

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**MOTION FOR LEAVE TO
FILE AMICUS CURIAE BRIEF**

Although Petitioner M.C. has consented to the filing of this amicus curiae brief by American Association of Pro-Life Obstetricians & Gynecologists (“AAPLOG”), the Charlotte Lozier Institute (“CLI”), the National Catholic Bioethics Center (“NCBC”), the National Association of Catholic Nurses-U.S.A. (“NACN-USA”), and the Catholic Medical Association (“CMA”), Respondent C.M. has withheld his consent. Therefore, pursuant to Supreme Court Rule 37.2(b), AAPLOG, CLI, NCBC, NACN-USA, and CMA move for leave to file this amicus curiae brief in support of Petitioner in the above-captioned matter for the following reasons:

Amicus curiae American Association of Pro-Life Obstetricians & Gynecologists (“AAPLOG”) is a non-profit professional medical organization consisting of approximately 4,600 members, of which at least 4,000 are Obstetricians-Gynecologists practicing medicine in the United States and several foreign countries. AAPLOG’s mission is to encourage the practice of medicine consistently with scientific truth and the Hippocratic Oath, both of which it views as orienting medicine, as a healing art, toward the well-being and flourishing of all human life. Its mission includes informing courts, legislatures and the general public of scientific developments and their impact on the ethical practice of medicine.

Amicus curiae Charlotte Lozier Institute (“CLI”) is the education and research arm of the Susan B. Anthony List. Named after a 19th-century feminist physician who, like Susan B. Anthony, championed women’s rights without sacrificing either equal opportunity or the lives of the unborn, the Lozier Institute studies federal and state policies and their impact on women’s health and on child and family well-being.

Amicus curiae National Catholic Bioethics Center (“NCBC”) is a non-profit research and educational institute committed to applying the principles of natural moral law, consistent with many traditions including the teachings of the Catholic Church, to ethical issues arising in health care and the life sciences. NCBC is committed to fostering a culture of respect for human life and human dignity, particularly in the medical context.

Amicus curiae National Association of Catholic Nurses-U.S.A. (“NACN-USA”) is the national professional organization for Catholic nurses in the United States. A non-profit group of hundreds of nurses of different backgrounds, the NACN-USA focuses on promoting moral principles of patient advocacy, human dignity, and professional and spiritual development in the integration of faith and health within the Catholic context in nursing.

Amicus curiae Catholic Medical Association (“CMA”) is a national, physician-led community of healthcare professionals that informs, organizes, and inspires its members in steadfast fidelity to the teachings of the

Catholic Church, to uphold the principles of the Catholic faith in the science and practice of medicine. CMA has a membership of approximately 2,200 health care professionals throughout the United States.

As part of their advocacy efforts, all five amici frequently file amicus briefs relating to medical practices that implicate the dignity of the human person, such as abortion, embryo-destructive research, and surrogacy. Surrogacy raises an array of troubling issues that all amici consider to be of paramount public concern and squarely within their organizational missions. There is a voluminous and ever-growing body of medical research showing that surrogacy poses serious medical risks to both the pregnant women and the children they carry. In addition, the practice of surrogacy has grave effects on society, such as diminished respect for motherhood and the unique mother-child bond; exploitation of women; commodification of gestation and of children themselves; and weakening of appropriate social mores against eugenic abortion. Any medical practice that exploits and commodifies vulnerable members of the human family is of concern to amici and their members, who share the goal of ensuring that the medical profession promotes human dignity and adheres to its foundational commitment to “do no harm.”

Amici submit that their amicus curiae brief will aid the Court in understanding the physical and psychological effects of gestational surrogacy on surrogates and their children. The information provided herein will help the Court to better understand and

evaluate the parties' claims about the effects of California's gestational surrogacy statute on fundamental rights and familial relationships, which are crucial to resolution of this case.

THEREFORE, amici curiae, AAPLOG, CLI, NCBC, NACN-USA, and CMA, respectfully request that this Court accept the attached amicus curiae brief in support of the Petitioner.

Respectfully submitted,

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M. Akbarzadeh et al., *Teaching Attachment Behaviors to Pregnant Women: A Randomized Controlled Trial of Effects on Infant Mental Health from Birth to the Age of Three Months*, 36 ANNALS SAUDI MED. 175 (2016)15

Am. C. Obstetricians & Gynecologists, *Practice Bulletin No. 169: Multi Fetal Gestations: Twin, Triplet, and Higher-Order Multi Fetal Pregnancies*, 128 OBSTETRICS & GYNECOLOGY 926 (2016)..... 7, 9, 10

Am. Soc’y Reprod. Med. Ethics Comm., *Consideration of the Gestational Carrier: A Committee Opinion*, 99 FERTILITY & STERILITY 1838 (2013), available at [http://www.fertstert.org/article/S0015-0282\(13\)00341-5/pdf](http://www.fertstert.org/article/S0015-0282(13)00341-5/pdf).....7, 17

A. Antsaklis et al., *Pregnancy Outcome After Multifetal Pregnancy Reduction*, 16 J. MATERNAL-FETAL & NEONATAL MED. 1807, 1812 (2015) 11

T. Blackwell, *In Vitro Fertilization Linked to Rare Genetic Disorders*, NAT’L POST, Sep. 25, 2011, <http://nationalpost.com/news/in-vitro-fertilization-linked-to-rare-genetic-disorders>13

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Center for Bioethics & Culture Network, <i>Drugs Commonly Used for Women in Gestational Surrogacy Pregnancies</i> , http://breeders.cbc-network.org/wp-content/uploads/2013/12/Drugs-Commonly-Used-for-Women-in-Gestational-Surrogacy-Pregnancies.pdf	5
Cohen, <i>Surrogate Mothers: Whose Baby Is It?</i> , 10 AM. J. L. & MED. 243, 260-61 (1984).....	18
M. Cohen, <i>Post-Partum Depression: A Reality for Birth Mother, Surrogate Mother, and Others</i> , https://www.familyformation.com/post-partum-depression-a-reality-for-birth-mother-surrogate-mother-and-others/	18
D. El-Chaar et al., <i>Risk of Birth Defects Increased in Pregnancies Conceived by Assisted Human Reproduction</i> , 92 FERTILITY & STERILITY 1557, 1559 (2009)	13
S. Ensing et al., <i>Risk of Poor Neo-Natal Outcome at Term After Medically Assisted Reproduction: A Propensity Score-Matched Study</i> , 104 FERTILITY & STERILITY 384, 388 (2015)	8
M. Farhangniya et al., <i>Comparison of Congenital Abnormalities of Infants Conceived by Assisted Reproductive Techniques versus Infants with Natural Conception in Tehran</i> , 7 INT’L J. FERTILITY & STERILITY 217 (2013).....	12

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M. Follan & M. McNamara, <i>A Fragile Bond: Adoptive Parents' Experiences of Caring for Children with a Diagnosis of Reactive Attachment Disorder</i> , 23 J. CLINICAL NURSING 1076-85 (2013)	17
National Child Traumatic Stress Network, <i>Impact of Complex Trauma</i> (2016), http://www.nctsn.org/sites/default/files/assets/pdfs/impact_of_complex_trauma_final.pdf	17
P. Fonagy et al., <i>Maternal Representations of Attachment during Pregnancy Predict the Organization of Infant-Mother Attachment at One Year of Age</i> , 62 CHILD DEVELOPMENT 891 (1991)	15
T.W. Goecke et al., <i>The Association of Prenatal Attachment and Perinatal Factors with Pre- and Postpartum Depression in First-Time Mothers</i> , 286 ARCHIVES OF GYNECOLOGY & OBSTETRICS 309 (2012)	15
S. Golombok et al., <i>Children Born Through Reproductive Donation: A Longitudinal Study of Psychological Adjustment</i> , 54 J. CHILD PSYCHOLOGY & PSYCHIATRY 653, 657 (2013)	16
J. Halliday et al., <i>Beckwith-Wiedemann Syndrome and IVF: A Case-Control Study</i> , 75 AM. J. HUM. GENETICS 526, 528 (2004)	14
M. Hansen et al., <i>Assisted Reproductive Technology and Birth Defects: A Systematic Review and Meta-Analysis</i> , 19 HUM. REPROD. UPDATE 330, 335 (2013)	12

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L. Hardy, <i>Attachment Theory and Reactive Attachment Disorder: Theoretical Perspectives and Treatment Implications</i> , 20 J. CHILD & ADOLESCENT PSYCHIATRIC NURSING 27, 38 (2007).....	16, 17
P. Henriksson et al., <i>Incidence of Pulmonary and Venous Thromboembolism in Pregnancies After In Vitro Fertilization: Cross Sectional Study</i> , 346 BMJ e8632 (2013), available at http://www.bmj.com/content/346/bmj.e8632	6
E. Kamphuis et al., <i>Are We Overusing IVF?</i> , 348 BMJ g252 (2014)	9, 12, 14
S. Katari et al., <i>DNA Methylation and Gene Expression Differences in Children Conceived In Vitro or In Vivo</i> , 18 HUMAN MOLECULAR GENETICS 3769, 3776 (2009)	14
R. Klemetti et al., <i>Increasing Evidence of Major Congenital Anomalies in Children Born with Assisted Reproduction Technology: What Should Be Done?</i> , 84 FERTILITY & STERILITY 1327 (2005).....	13
G. Kochanska et al., <i>Interplay of Genes and Early Mother-Child Relationship in the Development of Self-regulation from Toddler to Preschool Age</i> , 50 J. CHILD PSYCHOLOGY & PSYCHIATRY 1331, 1336 (2009)	16
L. Linsell et al., <i>Prognostic Factors for Cerebral Palsy and Motor Impairment in Children Born Very Preterm or Very Low Birthweight: A Systematic Review</i> , 58 DEVELOPMENTAL MED. & CHILD NEUROLOGY 554 (2016)	10

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T. Luu, <i>Lasting Effects of Preterm Birth and Neonatal Hemorrhage at 12 Years of Age</i> , 123 PEDIATRICS 1037 (2009)	10
A. Lynch et al., <i>Preeclampsia in Multiple Gestation: The Role of Assisted Reproductive Technologies</i> , 99 OBSTETRICS & GYNECOLOGY 445 (2002).....	7
S. McDonald et al., <i>Preterm Birth and Low Birth Weight Among In Vitro Singletons: A Systematic Review and Meta-Analyses</i> , 146 EUR. J. OBSTETRICS, GYNECOLOGY, & REPROD. BIOLOGY 138, 145 (2009)	11
A. Mohammed et al., <i>Obstetric and Neonatal Outcome of Multifetal Pregnancy Reduction</i> , 20 MIDDLE EAST FERTILITY SOC'Y J. 176, 177 (2015).....	10
A. Moll et al., <i>Incidence of Retinoblastoma in Children Born After In-Vitro Fertilization</i> , 361 LANCET 309 (2003).....	14
K. Momberger, <i>Breeder at Law</i> , 11 COLUM. J. GENDER & L. 127, 159 (2002)	5
A.T. Papageoghiou et al., <i>Risk of Miscarriage and Early Pre-Term Birth in Trichorionic Triplet Pregnancies with Embryo Reduction Versus Expectant Management: New Data and Systematic Review</i> , 21 HUMAN REPRODUCTION 1912, 1916 (2006)	11

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R. Patel et al., <i>Short- and Long-term Outcomes for Extremely Preterm Infants</i> , 33 AM. J. PERINATOLOGY 318 (2016)	10
J. Qin et al., <i>Assisted Reproductive Technology and the Risk of Pregnancy-Related Complications and Adverse Pregnancy Outcomes in Singleton Pregnancies: A Meta-Analysis of Cohort Studies</i> , 105 FERTILITY & STERILITY 73, 76 (2016)	6
J. Qin et al., <i>Pregnancy-Related Complications and Adverse Pregnancy Outcomes in Multiple Pregnancies Resulting from Assisted Reproductive Technology: A Meta-Analysis of Cohort Studies</i> , 10 FERTILITY & STERILITY 1492, 1505 (2016)	7
J. Liu et al., <i>Neonatal and Obstetric Outcomes of In Vitro Fertilization (IVF) and Natural Conception at a Chinese Reproductive Unit</i> , 42 CLIN. & EXP. OBSTETRICS & GYNECOL. 452, 455 (2015)	8
J. Radecki, <i>Note: The Scramble to Promote Egg Donation Through a More Protective Regulatory Regime</i> , 90 CHI.-KENT L. REV. 729, 746-48 (2015)	5
J. Reefhuis et al., <i>Assisted Reproductive Technology and Major Structural Birth Defects in the United States</i> , 24 HUM. REPROD. 360, 363 (2009)	13

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M. Reynolds et al., <i>Risk of Multiple Birth Associated with In Vitro Fertilization Using Donor Eggs</i> , 154 <i>Am. J. EPIDEMIOLOGY</i> 1043, 1043 (2001).....	9
P. Soma-Pillay et al., <i>Physiological Changes in Pregnancy</i> , 27 <i>CARDIOVASC. J. AFR.</i> 89, 89 (2016)	4
S. Sunderam et al., <i>Assisted Reproductive Technology Surveillance – United States, 2013</i> , 64 <i>MORBIDITY & MORTALITY WEEKLY REPORT: SURVEILLANCE SUMMARIES</i> , Dec. 4, 2015, at 10	12
J. Wen et al., <i>Birth Defects in Children Conceived by In Vitro Fertilization and Intracytoplasmic Sperm Injection: A Meta-Analysis</i> , 97 <i>FERTILITY & STERILITY</i> 1331, 1332 (2012)	12
M.A. White & M.E. Wilson, <i>The Swedish Family: Transition to Parenthood</i> , 13 <i>SCANDINAVIAN JOURNAL OF CARING SCIENCES</i> 171, 174 (1999)	15

INTEREST OF AMICI CURIAE¹

Amicus curiae American Association of Pro-Life Obstetricians & Gynecologists (“AAPLOG”) is a non-profit professional medical organization consisting of approximately 4,600 members, of which at least 4,000 are Obstetricians-Gynecologists practicing medicine in the United States and several foreign countries. AAPLOG’s mission is to encourage the practice of medicine consistently with scientific truth and the Hippocratic Oath, both of which it views as orienting medicine, as a healing art, toward the well-being and flourishing of all human life. Its mission includes informing courts, legislatures and the general public of scientific developments and their impact on the ethical practice of medicine.

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¹ Petitioner M.C., by and through her counsel of record, Harold J. Cassidy, has consented to the filing of this brief. A letter reflecting that consent has been filed with the Clerk of this Court as required by Supreme Court Rule 37.2. Respondent, C.M., has withheld his consent. Further, as required by Supreme Court Rule 37.6, counsel certifies this brief was not authored, in whole or in part, by counsel to a party, and no monetary contribution to the preparation or submission of this brief was made by any person or entity other than amici curiae, their members, or their counsel. The parties were notified ten days prior to the due date of this brief of the intention to file.

studies federal and state policies and their impact on women's health and on child and family well-being.

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Surrogacy raises an array of troubling issues that all amici consider to be of paramount public concern

and squarely within their organizational missions. There is a voluminous and ever-growing body of medical research showing that surrogacy poses serious medical risks to both surrogates and the children they carry. In addition, the practice of surrogacy has grave effects on society, such as diminished respect for motherhood and the unique mother-child bond; exploitation of women; commodification of gestation and of children themselves; and weakening of appropriate social mores against eugenic abortion. Any medical practice that exploits and commodifies vulnerable members of the human family is of concern to amici and their members, who share the goal of ensuring that the medical profession promotes human dignity and adheres to its foundational commitment to “do no harm.”



INTRODUCTION AND SUMMARY OF THE ARGUMENT

Amici AAPLOG, CLI, NCBC, NACN-USA, and CMA submit this amicus curiae brief to elaborate on the medical burdens and risks associated with gestational surrogacy, in order to help the Court better appreciate the consequences of laws, such as California Family Code § 7962, that enable and enforce surrogacy agreements.

Gestational surrogacy involves tremendous physical stress and medical risk for both the surrogate and her children, both before and after birth. Gestational surrogacy requires *in vitro* fertilization (“IVF”), which poses substantially greater burdens and risks than

spontaneous conception. On top of the sacrifice and risk involved in high-risk pregnancy and gestation, the gestational surrogate and the children she carries also have to suffer the life-long consequences of being irrevocably separated from each other immediately after birth. The practice of “gestational surrogacy” harms women and children.



ARGUMENT

I. Surrogate birthmothers endure even greater physical burdens than pregnant women who conceive spontaneously.

Every pregnancy involves significant physical stress for the pregnant woman. See P. Soma-Pillay et al., *Physiological Changes in Pregnancy*, 27 *CARDIOVASC. J. AFR.* 89, 89 (2016) (enumerating the “significant anatomical and physiological changes” associated with pregnancy). The mother who accepts these burdens when she becomes pregnant spontaneously also benefits from her relationship with the child, and the pregnancy forms the basis of a lifelong loving mother-child relationship. Because they are initiated by *in vitro* fertilization of a donor ovum, gestational surrogate pregnancies involve even greater burdens and risks than pregnancies conceived spontaneously – without any of the associated benefits of lifelong parenthood.

For example, a prospective gestational surrogate has to endure an onerous hormone regimen before she even becomes pregnant, in order to prepare her body

to receive the embryo(s) she will carry. See Center for Bioethics & Culture Network, *Drugs Commonly Used for Women in Gestational Surrogacy Pregnancies*, <http://breeders.cbc-network.org/wp-content/uploads/2013/12/Drugs-Commonly-Used-for-Women-in-Gestational-Surrogacy-Pregnancies.pdf> (last visited Aug. 21, 2017). That drug regimen typically includes a synthetic hormone, e.g., Lupron, to inhibit her menstrual cycle and place her into “medical menopause,” followed by oral estrogen to “artificially thicken the lining of the endometrium,” followed by progesterone to further enhance the uterine lining and improve the likelihood of successful implantation. *Id.* If the intended effects of the drug regimen were not difficult enough to tolerate, the prospective surrogate also assumes the risk of a whole range of possible side effects, including “hot flashes, headache, mood swings and depression, general body aches, nausea, joint pain, edema, nervousness, weight gain, dizziness, tingling in extremities, [and] loss in bone density.” *Id.*; see also K. Momberger, *Breeder at Law*, 11 COLUM. J. GENDER & L. 127, 159 (2002) (“Because it shuts down your system to a certain extent, Lupron causes you to have menopause-like side effects. . . . Lupron also caused me severe migraine headaches and constant fatigue. . . .”); J. Radecki, *Note: The Scramble to Promote Egg Donation Through a More Protective Regulatory Regime*, 90 CHI.-KENT L. REV. 729, 746-48 (2015) (noting that Lupron is not FDA-approved for use in assisted reproduction and that its side effects for those purposes have therefore not been adequately evaluated).

If one or more embryos successfully implant in the gestational surrogate's uterus, the resulting pregnancy is at higher risk of many serious complications and adverse outcomes than pregnancies conceived spontaneously. One recent meta-analysis found that women who conceive singleton pregnancies by assisted reproductive technologies ("ART") such as IVF are at elevated risk of pregnancy-induced hypertension, gestational diabetes, placenta previa, placental abruption, antepartum hemorrhage, postpartum hemorrhage, polyhydramnios, oligohydramnios, and cesarean section, relative to women who conceive singletons spontaneously. See J. Qin et al., *Assisted Reproductive Technology and the Risk of Pregnancy-Related Complications and Adverse Pregnancy Outcomes in Singleton Pregnancies: A Meta-Analysis of Cohort Studies*, 105 FERTILITY & STERILITY 73, 76 (2016); see also P. Henriksson et al., *Incidence of Pulmonary and Venous Thromboembolism in Pregnancies After In Vitro Fertilization: Cross Sectional Study*, 346 BMJ e8632 (2013), available at <http://www.bmj.com/content/346/bmj.e8632> (last visited Aug. 21, 2017) ("Pregnant women are at higher risk of venous thromboembolism after *in vitro* fertilisation, particularly during the first trimester. The risk of pulmonary embolism in women after *in vitro* fertilisation was increased almost sevenfold during the first trimester. . . .").

IVF also has an especially high rate of multifetal pregnancies, and pregnant women carrying more than one fetus are at substantially greater risk of medical complications than their counterparts who carry only

one child. See Am. C. Obstetricians & Gynecologists (“ACOG”), *Practice Bulletin No. 169: Multi Fetal Gestations: Twin, Triplet, and Higher-Order Multi Fetal Pregnancies*, 128 *OBSTETRICS & GYNECOLOGY* 926 (2016). Mothers of multiples are at higher risk of “hyperemesis, gestational diabetes mellitus, hypertension, anemia, hemorrhage, cesarean delivery, and postpartum depression,” as well as hypertensive complications, such as preeclampsia. *Id.* at 927; see also A. Lynch et al., *Preeclampsia in Multiple Gestation: The Role of Assisted Reproductive Technologies*, 99 *OBSTETRICS & GYNECOLOGY* 445 (2002) (finding an increased risk of preeclampsia in pregnancies conceived by ART). In fact, studies have shown that mothers of multiples conceived by ART are at even higher risk of certain complications *than other mothers of multiples*, including premature rupture of membranes, pregnancy-induced hypertension, gestational diabetes, pre-term birth, very pre-term birth, low birth weight, very low birth weight, and congenital malformations. See J. Qin et al., *Pregnancy-Related Complications and Adverse Pregnancy Outcomes in Multiple Pregnancies Resulting from Assisted Reproductive Technology: A Meta-Analysis of Cohort Studies*, 10 *FERTILITY & STERILITY* 1492, 1505 (2016).

In sum, a gestational surrogate assumes a tremendous amount of personal hardship and risk. See Am. Soc’y Reprod. Med. Ethics Comm., *Consideration of the Gestational Carrier: A Committee Opinion*, 99 *FERTILITY & STERILITY* 1838 (2013), available at <http://www>.

fertstert.org/article/S0015-0282(13)00341-5/pdf (describing the process of “gestational surrogacy” and acknowledging the wide range of medical, legal, and ethical issues gestational surrogates have to navigate) (“ASRM Ethics Comm.”) (last visited Aug. 22, 2017).

II. Infants conceived by surrogacy are at higher risk of adverse outcomes and fetal anomalies than infants conceived spontaneously.

Because all children born after gestational surrogacy are conceived by IVF, they are at higher risk of complications and anomalies than children who are conceived spontaneously. See S. Ensing et al., *Risk of Poor Neo-Natal Outcome at Term After Medically Assisted Reproduction: A Propensity Score-Matched Study*, 104 FERTILITY & STERILITY 384, 388 (2015) (finding higher rates of “asphyxia-related poor neonatal outcomes” and cesarean deliveries in pregnancies conceived by artificial reproductive technology than in spontaneously-conceived pregnancies); J. Liu et al., *Neonatal and Obstetric Outcomes of In Vitro Fertilization (IVF) and Natural Conception at a Chinese Reproductive Unit*, 42 CLIN. & EXP. OBSTETRICS & GYNECOL. 452, 455 (2015) (finding that IVF is associated with “an increased risk of preterm delivery, caesarean delivery, low and very low birth weight infants”). Some of those complications can be attributed to the clinical practice of transferring multiple embryos, but infants conceived by IVF are also at higher risk of structural defects, genetic disorders, and other anomalies.

A. Multiple embryo transfers increase the risks to infants conceived by IVF.

The common practice of transferring multiple embryos in the context of IVF creates a very high incidence of multifetal gestations. *See* M. Reynolds et al., *Risk of Multiple Birth Associated with In Vitro Fertilization Using Donor Eggs*, 154 AM. J. EPIDEMIOLOGY 1043, 1043 (2001) (attributing a substantial increase in the rate of twin births to the practice of transferring multiple embryos in the context of IVF). Moreover, the incidence of multifetal gestation is even higher in IVF involving donor eggs – such as in the context of gestational surrogacy – than in IVF using a woman’s own eggs. *Id.* at 1047 (finding the rate of multiple births in the context of IVF with a donor egg to exceed 40 percent – “significantly higher than that previously reported for IVF patients of the same age who used their own eggs”).

Multifetal pregnancies pose far greater risks to infants than singleton pregnancies – both before and after birth. *See* E. Kamphuis et al., *Are We Overusing IVF?*, 348 BMJ g252 (2014) (“Multiple pregnancies are associated with maternal and perinatal complications such as gestational diabetes, fetal growth restriction, and pre-eclampsia as well as premature birth.”). According to the American College of Obstetricians & Gynecologists, multifetal gestations have “an approximate fivefold increased risk of still-birth and a sevenfold increased risk of neonatal death, which primarily is due to complications of prematurity.” *See* ACOG, *supra*, at 926.

Additionally, children born after a multifetal gestation have higher rates of morbidity as newborns or infants. Prematurity is not only the “leading cause of infant mortality worldwide,” it is also associated with respiratory complications, infection, neurologic damage, cognitive impairment and a wide range of other complications. R. Patel et al., *Short- and Long-term Outcomes for Extremely Preterm Infants*, 33 AM. J. PERINATOLOGY 318 (2016). “Twins born preterm (less than 32 weeks of gestation) are at twice the risk of a high-grade intraventricular hemorrhage and periventricular leukomalacia when compared with singletons of the same gestational age.” ACOG, *supra*, at 926. Intraventricular hemorrhage and periventricular leukomalacia are associated with cerebral palsy, as well as developmental delays and learning difficulties. See L. Linsell et al., *Prognostic Factors for Cerebral Palsy and Motor Impairment in Children Born Very Preterm or Very Low Birthweight: A Systematic Review*, 58 DEVELOPMENTAL MED. & CHILD NEUROLOGY 554 (2016); T. Luu, *Lasting Effects of Preterm Birth and Neonatal Hemorrhage at 12 Years of Age*, 123 PEDIATRICS 1037 (2009).

In some cases of multifetal gestation, a mother will elect to abort one or more of the fetuses, either because the prospective parents are not prepared to parent all of the babies or because they hope to enhance the other babies’ prospects of survival. See A. Mohammed et al., *Obstetric and Neonatal Outcome of Multifetal Pregnancy Reduction*, 20 MIDDLE EAST FERTILITY SOC’Y J. 176, 177 (2015) (discussing typical rationales

for “fetal reduction”). But research has actually shown that elective reduction of multifetal gestations can actually increase the risk of miscarriage or prematurity of the remaining children. See A. Antsaklis et al., *Pregnancy Outcome After Multifetal Pregnancy Reduction*, 16 J. MATERNAL-FETAL & NEONATAL MED. 1807, 1812 (2015) (finding that reduction from twins to a singleton significantly increases the chances of pre-term birth or miscarriage of the surviving twin); A.T. Papageoghiou et al., *Risk of Miscarriage and Early Pre-Term Birth in Trichorionic Triplet Pregnancies with Embryo Reduction Versus Expectant Management: New Data and Systematic Review*, 21 HUMAN REPRODUCTION 1912, 1916 (2006) (finding that elective reduction from triplets to twins is associated with an increase in the risk of subsequent miscarriage).

B. Children conceived by IVF have higher rates of birth defects, genetic disorders, and other anomalies.

Children conceived by IVF also have higher rates of adverse outcomes and congenital anomalies outside the context of multiple gestations. For example, research has shown that singletons conceived by IVF are at “significantly increased risk” of pre-term birth and low birthweight – “the two most important determinants of neonatal morbidity and mortality” – compared with spontaneously-conceived singletons. S. McDonald et al., *Preterm Birth and Low Birth Weight Among In Vitro Singletons: A Systematic Review and Meta-Analyses*, 146 EUR. J. OBSTETRICS, GYNECOLOGY, &

REPROD. BIOLOGY 138, 145 (2009) (concluding that, compared with spontaneously-conceived singleton neonates, singletons conceived via *in vitro* fertilization are at higher risk of pre-term birth, very low birth weight, and intrauterine growth retardation); *see also* S. Sunderam et al., *Assisted Reproductive Technology Surveillance – United States, 2013*, 64 MORBIDITY & MORTALITY WEEKLY REPORT: SURVEILLANCE SUMMARIES, Dec. 4, 2015, at 10 (“In 2013, singleton infants conceived with ART (9.0%) were more likely than infants born in the total birth population (6.3%) to have low birthweight.”); Kamphuis, *supra*, at g252 (“[E]ven singletons born through IVF have been shown to have worse outcomes than those conceived naturally.”).

There is a higher incidence of congenital structural defects in children conceived by IVF than in children conceived spontaneously. *See* M. Hansen et al., *Assisted Reproductive Technology and Birth Defects: A Systematic Review and Meta-Analysis*, 19 HUM. REPROD. UPDATE 330, 335 (2013) (finding “a statistically significant increased risk of birth defects in infants conceived using assisted reproductive technologies of the order of 30-40%.”); M. Farhangniya et al., *Comparison of Congenital Abnormalities of Infants Conceived by Assisted Reproductive Techniques versus Infants with Natural Conception in Tehran*, 7 INT’L J. FERTILITY & STERILITY 217 (2013) (reporting that infants conceived via IVF are at greater risk of “major congenital malformations,” especially musculoskeletal and urogenital malformations, than infants conceived naturally); J. Wen et al., *Birth Defects in Children*

Conceived by In Vitro Fertilization and Intracytoplasmic Sperm Injection: A Meta-Analysis, 97 FERTILITY & STERILITY 1331, 1332 (2012) (finding in a meta-analysis of multiple studies that children conceived by ART are at significantly increased risk for birth defects); see also J. Reefhuis et al., *Assisted Reproductive Technology and Major Structural Birth Defects in the United States*, 24 HUM. REPROD. 360, 363 (2009) (finding that infants conceived by ART are at higher risk of septal heart defects, cleft lip with or without cleft palate, esophageal atresia, and anorectal atresia); D. El-Chaar et al., *Risk of Birth Defects Increased in Pregnancies Conceived by Assisted Human Reproduction*, 92 FERTILITY & STERILITY 1557, 1559 (2009) (“Compared with infants conceived naturally, a significantly greater proportion of those conceived with AHR had gastrointestinal, cardiovascular, and musculoskeletal defects.”); see also R. Klemetti et al., *Increasing Evidence of Major Congenital Anomalies in Children Born with Assisted Reproduction Technology: What Should Be Done?*, 84 FERTILITY & STERILITY 1327 (2005) (arguing that prospective parents should be informed of the evidence of potential risks of birth defects and also that further research into congenital anomalies is needed).

Children conceived by IVF are up to ten times more likely than the general population to suffer from certain genetic disorders, including Beckwith-Wiedemann Syndrome (“BWS”) and Angelman Syndrome. See T. Blackwell, *In Vitro Fertilization Linked to Rare Genetic Disorders*, NAT’L POST, Sep. 25, 2011, <http://nationalpost.com/news/in-vitro-fertilization-linked-to-rare-genetic-disorders> (last visited Aug. 22, 2017);

see, e.g., J. Halliday et al., *Beckwith-Wiedemann Syndrome and IVF: A Case-Control Study*, 75 AM. J. HUM. GENETICS 526, 528 (2004) (finding that children conceived by IVF are nine times more likely to have Beckwith-Wiedemann Syndrome than the general population).

Children conceived *in vitro* are at elevated risk of other anomalies as well. See, e.g., S. Katari et al., *DNA Methylation and Gene Expression Differences in Children Conceived In Vitro or In Vivo*, 18 HUMAN MOLECULAR GENETICS 3769, 3776 (2009) (“[W]e have shown that *in vitro* conception is associated with quantitative differences in DNA methylation and that some of these differences may have a significant effect on gene expression.”); A. Moll et al., *Incidence of Retinoblastoma in Children Born After In-Vitro Fertilization*, 361 LANCET 309 (2003) (finding that children conceived by IVF are at increased risk for retinoblastoma, a cancer of the eye that occurs in childhood); Kamphuis, *supra*, at g252 (“Otherwise healthy children conceived by IVF may have higher blood pressure, adiposity, glucose levels, and more generalised vascular dysfunction than children conceived naturally.”).

III. Severance of the maternal-child bond harms both mother and child.

The bond between a pregnant woman and her child is vital to the future health and well-being of both. For example, research has shown positive correlations between the strength of the mother-child bond

during pregnancy and both parties' postpartum mental health. See T.W. Goecke et al., *The Association of Prenatal Attachment and Perinatal Factors with Pre- and Postpartum Depression in First-Time Mothers*, 286 ARCHIVES OF GYNECOLOGY & OBSTETRICS 309 (2012) (finding that the stronger the prenatal maternal-fetal bond, the lower the incidence of pre- or post-partum depression); M.A. White & M.E. Wilson, *The Swedish Family: Transition to Parenthood*, 13 SCANDINAVIAN JOURNAL OF CARING SCIENCES 171, 174 (1999) (showing that a mother's attachment to her unborn child is positively correlated with her infant's mood at eight months old); P. Fonagy et al., *Maternal Representations of Attachment during Pregnancy Predict the Organization of Infant-Mother Attachment at One Year of Age*, 62 CHILD DEVELOPMENT 891 (1991) (showing that a one-year-old's response to stress is closely correlated with the quality of the prenatal mother-child attachment).

Nor does the importance of that mother-child bond diminish after birth. Thus, one recent study showed that it was possible to improve infant mental health by teaching attachment skills to mothers and thereby improve the attachment between mother and child. See M. Akbarzadeh et al., *Teaching Attachment Behaviors to Pregnant Women: A Randomized Controlled Trial of Effects on Infant Mental Health from Birth to the Age of Three Months*, 36 ANNALS SAUDI MED. 175 (2016) (demonstrating that increasing maternal attachment behaviors reduces anxiety and improves infant mental health at birth and three months old).

Not surprisingly, therefore, there is mounting evidence that severance of the maternal-child bond causes negative effects for the developing child. For example, research has shown that children who are not securely attached to their mothers in infancy are less able to self-regulate in the toddler and preschool years. See G. Kochanska et al., *Interplay of Genes and Early Mother-Child Relationship in the Development of Self-regulation from Toddler to Preschool Age*, 50 *J. CHILD PSYCHOLOGY & PSYCHIATRY* 1331, 1336 (2009). Another recent study demonstrated that, at the age of seven, children conceived by surrogacy had more adjustment problems than children conceived by gamete donation, “suggesting that the absence of a gestational connection between parents and their child may be more problematic for children than the absence of a genetic relationship.” S. Golombok et al., *Children Born Through Reproductive Donation: A Longitudinal Study of Psychological Adjustment*, 54 *J. CHILD PSYCHOLOGY & PSYCHIATRY* 653, 657 (2013).

In some cases, the severance of the mother-child bond can even lead to serious attachment disorders such as reactive attachment disorder (“RAD”), which can deprive a child of the ability to form normal, loving relationships. See L. Hardy, *Attachment Theory and Reactive Attachment Disorder: Theoretical Perspectives and Treatment Implications*, 20 *J. CHILD & ADOLESCENT PSYCHIATRIC NURSING* 27, 38 (2007) (“[S]everely disordered attachment histories are the rule rather than the exception in most children who have been removed

from their biological parents' custody."). Children affected by RAD often struggle to establish and maintain relationships throughout life. See M. Follan & M. McNamara, *A Fragile Bond: Adoptive Parents' Experiences of Caring for Children with a Diagnosis of Reactive Attachment Disorder*, 23 J. CLINICAL NURSING 1076-85 (2013) ("[RAD] is a serious psychosocial disorder of childhood that is increasingly understood to cause short- and long-term relationship, health and social consequences for children."). Treatments of reactive attachment disorder are inconsistent in quality and outcome. See Hardy, *supra*, at 33-35. Children with severe attachment issues and complex trauma histories frequently have long-term difficulties with family and parental relationships, and these psychiatric issues can be devastating to families, requiring expensive therapies with limited effectiveness. See generally National Child Traumatic Stress Network, *Impact of Complex Trauma* (2016), http://www.nctsn.org/sites/default/files/assets/pdfs/impact_of_complex_trauma_final.pdf (last visited Aug. 22, 2017) (describing the long-term consequences of early childhood trauma and noting that "[t]he importance of a child's close relationship with a caregiver cannot be overestimated").

And in addition to the mental and physical health consequences for the infants who have been taken from their mother, the mother herself has to endure the emotional trauma of being immediately and irrevocably severed from the children she has nurtured and delivered. See ASRM Ethics Comm., *supra*, at 1841 ("The

gestational carrier, to be sure, may be expected to develop emotional attachments to the child she gestates”); see also B. Cohen, *Surrogate Mothers: Whose Baby Is It?*, 10 AM. J. L. & MED. 243, 260-61 (1984) (“Another surrogate noted to a reporter that ‘turning away from the baby was the hardest thing I’ve ever done in my life. . . . It was the saddest goodbye I’ve ever known, even though I had told myself again and again during the pregnancy that it was really not my baby.’”). Even if a surrogate is not resistant to giving a child up, the sudden severance of the mother-child bond is a “physical and emotional shock” that can lead to post-partum depression. M. Cohen, *Post-Partum Depression: A Reality for Birth Mother, Surrogate Mother, and Others*, <https://www.familyformation.com/post-partum-depression-a-reality-for-birth-mother-surrogate-mother-and-others/> (last visited Aug. 22, 2017).



CONCLUSION

For the foregoing reasons, amici urge the Court to grant the petition for writ of certiorari.

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