IN THE SUPREME COURT OF PENNSYLVANIA
MIDDLE DISTRICT

No. 10 MAP 2018

In the Interest of: L.J.B., a Minor

On Appeal from the Order Entered December 27, 2017
in the Superior Court at No. 884 MDA 2017

BRIEF FOR *AMICI CURIAE*, THE DRUG POLICY ALLIANCE, FAMILIES FOR SENSIBLE DRUG POLICY, AVIK CHATTERJEE, MD, MPH, KEITH HUMPHREYS, PhD, HENDRÉE JONES, PhD, STEPHEN R. KANDALL, MD, FAAP, MISHKA TERPLAN, MD, MPH, FACOG, DFASAM, BRUCE TRIGG, MD, MICHAEL S. WALD, JD, and TRICIA E. WRIGHT, MD, MS IN SUPPORT OF APPELLANT

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STATEMENT OF INTEREST OF *AMICI CURIAE*[1]

Amici are two nonprofit organizations, the Drug Policy Alliance, which leads the nation in promoting drug policies that are grounded in science, compassion, health, and human rights, a nonprofit organization, Families for Sensible Drug Policies, which represents families impacted by substance use and advances comprehensive public health approaches, best healthcare practices, reality-based education and family-friendly drug policy reform, and 8 nationally recognized experts in health, psychology, medicine, and law. These *amici* have recognized and longstanding expertise in the areas of maternal, fetal, and neonatal health, and in the effects of controlled substances on families and society. Each of the *amici curiae* is committed to reducing potential drug-related harms at every reasonable opportunity and does not endorse the non-medical use of drugs—including alcohol or tobacco—during pregnancy. It is entirely consistent with *amici*'s public health, legal, policy, and ethical mandates to bring to this Court's attention that expanding the definition of "child abuse," under the Child Protective Services Law, to include actions taken by a pregnant woman that may affect her newborn's health is detrimental to maternal, fetal, and child health. The questions

[1] No counsel for a party authored this brief in whole or in part, and no counsel for a party (nor a party itself) made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *amici* or their counsel made a monetary contribution to its preparation or submission.

at issue—(1) whether the definition of child abuse includes actions by a pregnant woman that might affect the health of her newborn and (2) whether a mother of a child experiencing neonatal withdrawal symptoms should be found to have committed child abuse—must be reconciled with evidence-based and peer-reviewed medical and scientific research.

Individual statements of interest of amici curiae are contained in Appendix A to this brief.

SUMMARY OF ARGUMENT

The Superior Court's holding – that women may found to be a "perpetrator" of "child abuse" and registered under the Child Protective Services Law ("CPSL") for her actions while pregnant that might affect the health of her newborn – is contrary to broadly accepted medical, public health, and scientific evidence. Respectfully, this Court should reverse the Superior Court's expansive reading of CPSL because it would substantially impair, not advance, safe outcomes for children.

CPSL defines child abuse as causing or creating a reasonable likelihood of "bodily injury to a child through any recent act or failure to act." 23 Pa. C.S.A. § 6303(b.1)(1), (5). Persons identified as perpetrators of child abuse are listed in a centralized statewide registry, which can be released to "law enforcement, social work agencies, employers in child care services and other related venues." *G.V. v.*

Dep't of Public Welfare, 91 A.3d 667, 670-71 (Pa. 2014) (quoting *P.R. v. Dep't of Pub. Welfare*, 801 A. 2d 478, 483 (2002)).

The Superior Court held that a woman's drug use during pregnancy could be the basis of a child abuse finding if the woman "'intentionally, knowingly, or recklessly' caused, or created a reasonable likelihood of causing, bodily injury to a child *after* birth." *In re L.B.*, 177 A.3d 308, 309 (Pa. Super. 2017) (emphasis added). *Amici curiae* respectfully disagree with the Superior Court ruling. Instead, *amici* agree with Appellant A.A.R. that the Trial Court ruled correctly that, under CPSL, a child abuse finding cannot be established based on actions committed by a woman while she is pregnant that allegedly cause harm to her child.

Amici recognize a strong societal interest in protecting the health of women, children, and families. However, available medical, public health, and scientific evidence demonstrate that these interests are undermined, not advanced, by expanding the CPSL definition of child abuse to include drug use by pregnant women and then registering those women as perpetrators of child abuse. Although not intended, such threatened punishment would result in less safe outcomes for children. As the medical and mental health communities have long recognized, even when substance use becomes problematic and constitutes a disorder, it is a medical condition best addressed through non-punitive medical and public health approaches that protect and respect patient privacy and decision making.

Highest courts across the country are in accord with the conclusion that *amici* ask this Court to reach in this case. Albeit in the context of the criminal prosecution of a women, courts nearly uniformly have held that actions taken by a pregnant woman that may affect the health of her fetus do not constitute harm to the child.

On appeal, Appellee Clinton County Children and Youth Services ("CYS") relies on two medically and scientifically unsupported assumptions that *amici* seek to correct. *First*, CYS relies on the popular, but scientifically disproven, perception that in utero exposure to controlled substances uniquely harms the fetus. In fact, the harms associated with prenatal exposure to controlled substances are indistinguishable from other factors, such as social determinants (the conditions in which people are born, grow, and live) and environmental factors (poverty, lack of access to medical care, malnutrition, or chronic stress), which may affect newborn health. Further, scientific and medical research demonstrate that the popular culture view that babies born dependent on opioids experience unique, serious, and long lasting harms is false. In fact, physicians routinely and effectively treat babies born with opioid withdrawal symptoms, just as they treat babies born with myriad other manageable medical conditions.

Amici will additionally show that neonatal abstinence syndrome ("NAS") does not constitute a unique injury to a child. Instead, it is a treatable and

temporary condition. It is not life threatening or permanent, and studies show that newborns with NAS do not develop any differently than other children. Moreover, the current medical standard for treating opioid use disorder in pregnant women is medication-assisted treatment ("MAT"), where pregnant women are prescribed opioid medications, such as methadone or buprenorphine. NAS is an expected and manageable outcome of MAT. Despite the risk of NAS, MAT is more effective than other treatment options at reducing rates of relapse and its associated risks, which leads to better maternal, fetal, and newborn health outcomes.

Second, CYS misunderstands the nature of substance use disorders and treatment outcomes. As *amici* will explain, substance use disorder is a chronic, recurring condition. There is consensus across substance use disorder specialists that treatment is generally required for substance use disorder stabilization and recovery, and that this treatment should be compassionate and evidence-based.

Punitive approaches such as that adopted by the Superior Court, including labeling a mother a "child abuser," fundamentally misunderstand the clinical course of substance use disorder which is characterized by repeated substance use despite destructive consequences, physical dependence, and difficulty abstaining notwithstanding the user's resolution to do so. Relapse is a feature of substance use disorder, and the risk of relapse continues throughout the course of active treatment.

As stated above, MAT is the medical standard for treating opioid use disorder in pregnant women. As with MAT, physicians routinely prescribe pregnant women medications to treat any number of medical conditions, despite potential risks to the fetus. When treating opioid dependency or another chronic illness, physicians prescribe medications because doing so is in the overall best interest of maternal and fetal health.

CYS's decision to classify drug use during pregnancy as child abuse under the CPSL and register A.A.R. as a perpetrator ignored substantial evidence regarding the effective treatment of opioid use disorder and flouted scientific knowledge regarding A.A.R.'s ongoing risk of relapse. Punishing substance use disorder, a medical condition, in pregnancy undermines public health in Pennsylvania. Instead, it reinforces stigma against pregnant women who use substances and, to the detriment of their own health and the health of their fetuses, decreases the likelihood that they will seek prenatal care and substance use disorder treatment.

ARGUMENT

I. EXPOSURE TO CONTROLLED SUBSTANCES DURING PREGNANCY DOES NOT CAUSE CERTAIN OR UNIQUE HARMS

CYS argues that A.A.R.'s prenatal use of controlled substances constituted child abuse under the CPSL, because her child L.J.B. was allegedly born with opioid withdrawal symptoms. Medical and scientific research do not support

CYS's assumption that prenatal exposure to controlled substances causes specific or unique harm to the newborn child.[2] A common misperception in popular culture, and shared by CYS, is that prenatal exposure to controlled substances always causes negative health impacts in newborns, and that these heath impacts are distinct from harms associated with social and environmental factors or other, routine actions taken by pregnant women. This perception is false. In fact, babies born with opioid withdrawal symptoms are easily treated by physicians just as physicians treat many other manageable medical conditions at birth.

CYS' argument premised on this false understanding of medicine and science should not provide a basis for finding A.A.R. to be a perpetrator of child abuse for actions taken during her pregnancy that may have affected her fetus. Multiple, peer reviewed scientific studies have failed to prove that in utero

[2] *See, e.g., id*; G.D. Helmbrecht & S. Thiagarajah, *Management of Addiction Disorders in Pregnancy*, 2 J. ADDICTION MED. 1 (2008); A.H. Schempf, *Illicit Drug Use and Neonatal Outcomes: A Critical Review*, 62 OBSTET. GYNECOL. SURV. 749 (2007).

exposure to controlled substances—such as cocaine,[3] methamphetamine,[4] heroin,[5] or marijuana[6]—causes specific or certain harms to the fetus. And, they have failed to prove that these substances cause harm distinguishable from other behaviors,

[3] One comprehensive study concluded that "there is no convincing evidence that prenatal cocaine exposure is associated with any developmental toxicity difference in severity, scope, or kind from the sequelae of many other risk factors." D.A. Frank et al., *Growth, Development, and Behavior in Early Childhood Following Prenatal Cocaine Exposure*, 285 J. AM. MED. ASS'N 1613 (2001). Subsequent studies confirmed these findings. *See, e.g.*, H.S. Bada et al., *Impact of Prenatal Cocaine Exposure on Child Behavior Problems Through School Age*, 119 PEDIATRICS e328 (2007); D.S. Messinger et al., *The Maternal Lifestyle Study: Cognitive, Motor, and Behavioral Outcomes of Cocaine-Exposed and Opiate-Exposed Infants Through Three Years of Age*, 113 PEDIATRICS 1677 (2004) (confirming that "infant prenatal exposure to cocaine and to opiates was not associated with mental, motor, or behavioral deficits").

[4] A national expert panel that concluded that "the data regarding illicit methamphetamine are insufficient to draw conclusions concerning developmental toxicity in humans." Ctr. for the Evaluation of Risks to Human Reproduction, *Report of the NTP-DERHR Expert Panel on the Reproductive & Developmental Toxicity of Amphetamine and Methamphetamine*, 74 BIRTH DEFECTS RES. B. DEV. REPROD. TOXICOL. 471 (2005). *See also* Am. Coll. Obstetricians & Gynecologists, *Committee Opinion 479: Methamphetamine Abuse in Women of Reproductive Age*, 117 OBSTET. GYNECOL. 751 (2011).

[5] Decades of research makes clear that exposure to opioids is not associated with birth defects. G.D. G.D. Helmbrecht & S. Thiagarajah, *Management of Addiction Disorders in Pregnancy*, 2 J. ADDICTION MED. 1 (2008); A.H. Schempf, *Illicit Drug Use and Neonatal Outcomes: A Critical Review*, 62 OBSTET. GYNECOL. SURV. 749 (2007). Some newborns who are exposed opioids in utero experience a transitory and treatable set of symptoms at birth known as neonatal abstinence syndrome (NAS) that can be safely and effectively treated in the nursery setting. Substance Abuse & Mental Health Servs. Admin., *Methadone Treatment for Pregnant Woman*, Pub. No. SMA 06-4124 (2006); Am. Coll. Obstetricians & Gynecologists, *Committee Opinion 524: Opioid Abuse, Dependence, and Addiction in Pregnancy*, 119 OBSTET. GYNECOL. 1070 (2012) (finding that opioid use during pregnancy is mitigated by opioid-assisted therapy offered in collaboration with pediatric care).

[6] Marijuana use by pregnant women has not been shown to cause specific harm to the fetus or child. Science has failed to establish that in utero exposure to marijuana causes unique harms distinguishable from those caused by other uncontrollable factors. *See, e.g.*, A.H. Schempf, *Illicit Drug Use and Neonatal Outcomes: A Critical Review*, 62 OBSTET. GYNECOL. SURV. 749 (2007). *See also* Am. Coll. Obstetricians & Gynecologists, *Committee Opinion 637: Marijuana Use During Pregnancy and Lactation*, 126 OBSTET. GYNECOL. 234 (2015).

exposures, conditions, or life circumstances that pose potential risks to a fetus or a child. Use of controlled substances by pregnant women is indistinguishable from other factors—social determinants and environmental conditions such as poverty, lack of access to medical care, malnutrition, or chronic stress—that may cause fetal and maternal harm.[7] In fact leading public health researchers recognize that social determinants of health beyond any individual woman's control have the greatest impact on pregnancy outcomes.[8]

Several courts that have evaluated this scientific research have rejected the assumption that prenatal exposure to controlled substances necessarily causes unique harms to the fetus. For example, the Supreme Court of South Carolina unanimously overturned the conviction of a woman who that state claimed caused a stillbirth as a result of her cocaine use, noting specifically that the research the prosecutor relied on was "outdated" and that trial counsel failed to call experts who would have testified about "recent studies showing that cocaine is no more harmful to a fetus than nicotine use, poor nutrition, lack of prenatal care, or other conditions commonly associated with the urban poor." *McKnight v. State*, 661 S.E.2d 354,

[7] *See e.g.*, Am. Pub. Health Ass'n, *Transforming Public Health Works: Targeting Causes of Health Disparities*, 46 THE NATION'S HEALTH 1 (2016) ("at least 50% of health outcomes are due to the social determinants . . ."); M.M. van Gelder et al., *Characteristics of Pregnant Illicit Drug Users And Associations Between Cannabis Use and Perinatal Outcome in A Population-Based Study, National Birth Defects Prevention Study*, 109 DRUG ALCOHOL DEPEND. 243 (2010).

[8] *Id*.

358 n.2 (S.C. 2008).[9] Similarly, the Wisconsin Court of Appeals dismissed criminal charges against a woman who consumed alcohol during pregnancy, acknowledging that "substance abuse in pregnant women is better addressed through treatment rather than the threat of punishment." *State v. Deborah J.Z.*, 228 Wis. 2d 468, 478 (Ct. App. 1999). Indeed, most courts agree. As noted by the Court of Appeals of Maryland:

> These kinds of cases—prosecutions for reckless endangerment, child abuse, or distribution of controlled substances based on a pregnant woman's ingestion of a controlled dangerous substance, or, in some cases, excessive amounts of alcohol—have arisen in other States, and the overwhelming majority of courts that have considered the issue have concluded that those crimes do not encompass that kind of activity.

Kilmon v. State, 394 Md. 168, 182 (Md. 2006).[10] This is not to say that prenatal exposure to controlled substances is benign. While current studies are

[9] The Court made these comments in the context of finding that Ms. McKnight's trial counsel rendered ineffective assistance and are the Court's most current statements on this subject. Previously, the court had affirmed defendant McKnight's homicide conviction for actions she took while pregnant. *State v. McKnight*, 352 S.C. 635 S.C. (S.C. 2003).

[10] *See Arms v. State*, 2015 Ark. 364 (Ark. 2015) (overturning a conviction for introduction of a controlled substance into the body of another person for methamphetamine use during pregnancy); *State v. Stegall*, 828 N.W.2d 526 (N.D. 2013) (dismissing charges of child endangerment for methamphetamine use during pregnancy); *Cochran v. Com.*, 315 S.W.3d 325 (Ky. 2010) (dismissing charges of child endangerment for cocaine use during pregnancy); *Kilmon*, 394 Md. 182 (overturning a reckless endangerment conviction for cocaine use during pregnancy); *State v. Aiwohi*, 109 Haw. 115 (Haw. 2005), as corrected (Dec. 12, 2005) (holding that a woman cannot be convicted of manslaughter for actions she took while pregnant); *Sheriff, Washoe Cty., Nev. v. Encoe*, 110 Nev. 1317 (Nev. 1994) (dismissing child endangerment charges for methamphetamine use during pregnancy); *State v. Gray*, 62 Ohio St. 3d 514 (Ohio 1992) (dismissing child endangerment charges for cocaine use during pregnancy); *Johnson v. State*, 602 So. 2d 1288 (Fla. 1992) (overturning a conviction for delivery of a controlled substance to a minor for cocaine use during pregnancy). *See also State v. Hudson*, 2007 WL 1836840, No. M2006–01051–CCA–R9–CO (Tenn. Crim. App. June 27, 2007) (dismissing aggravated child

unable to causally link to specific harms caused by exposure to controlled substances during pregnancy, neither do they conclude that such exposure is completely harmless.[11] The key here is that any potential harm that does exist is better managed by creating a public policy that encourages pregnant women who use controlled substances to seek prenatal care and substance use disorder treatment. Declaring these women child abusers shames them and deters them from being honest with medical professionals about their medical condition and seeking help and support. While *amici* agree that more research is warranted, existing research on the use of controlled substances during pregnancy , both as a matter of science

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abuse and neglect charges for cocaine use during pregnancy); *State v. Wade*, 232 S.W.3d 663 (Mo. Ct. App. 2007) (holding that child endangerment statute does not apply to a woman's marijuana and methamphetamine use during pregnancy); *State v. Martinez*, 139 N.M. 741 (N.M. Ct. App. 2006) (holding that the State could not prosecute a mother for child abuse for using cocaine during her pregnancy*); State v. Dunn*, 82 Wash. App. 122 (Wash. Ct.App. 1996) (holding that the fetus was not "child" within criminal mistreatment statute); *Reinesto v. Superior Court of State In & For Cty. of Navajo*, 182 Ariz. 190 (Ariz. Ct. App. 1995) (holding that a woman could not be prosecuted under child abuse statute for prenatal heroin use that opioid withdrawal symptoms in her child after birth); *Reyes v. Superior Court*, 75 Cal. App. 3d 214 (Cal. Ct. App. 1977) (holding that the mother's use of heroin during pregnancy that resulted in her twin children experiencing withdrawal symptoms did not constitute felony-child endangerment). But *see Ex parte Ankrom*, 152 So. 3d 397 (Ala. 2013) (affirming chemical endangerment of a child conviction based on a woman's of controlled substances while pregnant); *McKnight*, 352 S.C. 635 (convicting a woman who used cocaine while pregnant of homicide for the stillbirth of her child).

[11] The largest (and only longitudinal) research study of women who used methamphetamine while pregnant and their infants reported "only subtle neurobehavioral findings in exposed newborns." L.M. Smith et al., *Prenatal Methamphetamine Use and Neonatal Neurobehavioral Outcome*, 30 NEUROTOXICOL. TERATOL. 20 (2008). *See also* L.H. Lu, *Effects of Prenatal Methamphetamine Exposure on Verbal Memory Revealed with fMRI*, 30 J. DEV. BEHAV. PEDIATR.185 (2009); C. Derauf et al., *Neuroimaging of Children Following Prenatal Drug Exposure*, 20 SEMIN. CELL DEV. BIOL. 441 (2009).

and law, does not support extending the CPSL definition of child abuse to include the use of controlled substances during pregnancy or registering A.A.R. as a perpetuator of child abuse.

II. NEONATAL ABSTINENCE SYNDROME DOES NOT POSE A UNIQUE INJURY TO NEWBORNS

A. Neonatal Abstinence Syndrome Is A Set Of Transient And Treatable Symptoms, Which Are Not Life Threatening And Do Not Lead To Permanent Harm Or Developmental Delays

CYS erroneously assumes that a child born with opioid withdrawal symptoms at birth has suffered injury under the CPSL definition of child abuse. Some newborns who are prenatally exposed to opioids, such as heroin, morphine, oxycodone, or medication-assisted treatment ("MAT")[12] medications—including buprenorphine,[13] which was prescribed and used by A.A.R. during her pregnancy—may experience temporary and treatable withdrawal symptoms at birth. These symptoms, which may include trembling, fever, loose stools, and difficulty sleeping, are collectively referred to as neonatal abstinence syndrome

[12] Medication-assisted treatment, including opioid treatment programs, uses behavioral therapy and medications to treat substance use disorders. *Medication-Assisted Treatment (MAT)*, Substance Abuse & Mental Health Services Administration (SAMHSA) (Feb. 7, 2018), https://www.samhsa.gov/medication-assisted-treatment. In the context of opioid use disorder, methadone and buprenorphine are opioids used to treat dependence on opioids such as heroin, morphine, codeine, oxycodone, and hydrocodone. Methadone or buprenorphine can be safely taken for months, years, or even a lifetime. *Medication and Counseling Treatment*, Substance Abuse & Mental Health Services Administration (SAMHSA) (Sept. 28, 2015).

[13] *See* Section III.A.

("NAS").[14] NAS is a treatable and temporary condition. It is not life threatening or permanent, and studies show that newborns with NAS do not develop any differently than other children.[15]

While newborns who were exposed to opioids in utero—including prescribed pain medication, MAT medications, and illicit opioids—may experience NAS, prenatal exposure to opioids does not always result in NAS.[16] Medical science has not yet determined why some babies with prenatal opioid exposure develop NAS and others do not.

A combination of emotional soothing and opioid tapering is usually sufficient to care for babies with NAS.[17] Research shows that skin-to-skin contact, breastfeeding, and caring for mother and baby in the same room ("rooming in")

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[14] Substance Abuse & Mental Health Servs. Admin, *supra* note 5.

[15] Walter K. Kraft & John N. van den Anker, *Pharmacologic Management of the Opioid Neonatal Abstinence Syndrome*, 59 Ped. Clinics of N. Am. 1147 (2012).

[16] Lauren M. Jansson, et al., *The Opioid Exposed Newborn: Assessment and Pharmacologic Management*, 5 J. Opioid Manag. 47 (2009).

[17] Ronald R. Abrahams et al., *An Evaluation of Rooming-In Among Substance-exposed Newborns in British Columbia*, 32 J. Obstet. Gynaecol. Can. 866 (2010); Tolulope Saiki et al., *Neonatal Abstinence Syndrome - Postnatal Ward Versus Neonatal Unit Management*, 169 Eur. J. Peds. 95 (2010); Gabrielle K. Welle-Strand et al., *Breastfeeding Reduces the Need for Withdrawal Treatment in Opioid-Exposed Infants*, 102 Foundation Acta Paediatrica 1060 (2013); American Society of Addiction Medicine, *Public health Statement on Substance Use, Misuse, and Use Disorders During and Following Pregnancy, with an Emphasis on Opioids*, (Jan. 17, 2017); Karol Kaltenbach & Hendrée Jones, *Neonatal Abstinence Syndrome: Presentation and Treatment Considerations*, 10 J. Addiction Med. 217 (2016); Matthew R. Grossman et al., *An Initiative to Improve the Quality of Care of Infants With Neonatal Abstinence Syndrome*, 139 Pediatrics e20163360 (2017).

can significantly reduce a newborn's hospital stay and need for medication.[18] There is strong evidence to show that separating mother and baby leads to longer periods of time that the baby must remain in the hospital and take medication.[19] A recent study shows that hospital length of stay for babies with NAS decreased from 22 days to 6 days without any new complications in babies for whom skin-to-skin contact and breastfeeding were prioritized over medications.[20] Additionally, when babies were able to spend more time with their mothers, the need for opioid medication to treat NAS decreased from 98 percent of babies to only 14 percent. [21] When mothers are allowed to room in with their babies, the hospital stays are shortened and the need for medication is dramatically reduced.[22]

Opioid use during pregnancy does not constitute injury to a child because it does necessarily result in a child being born with NAS. Even when a child is born with NAS, its symptoms do not amount to an injury because they are temporary

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[18] Ronald R. Abrahams et al., *supra* note 17; Tolulope Saiki et al., *supra* note 17; Gabrielle K. Welle-Strand et al., *supra* note 17; American Society of Addiction Medicine, *supra* note 17; Matthew R. Grossman et al., *supra* note 17.

[19] Karol Kaltenbach & Hendrée Jones, *supra* note 17; Matthew R. Grossman et al., *supra* note 17.

[20] Matthew R. Grossman et al., *supra* note 17.

[21] *Id*.

[22] Alice Ordean et al., *Obstetrical and Neonatal Outcomes of Methadone-Maintained Pregnant Women: A Canadian Multisite Cohort Study,* 37 J. Obstet. Gyneacol. Can. 252 (2015); Matthew R. Grossman et al., *supra* note 17.

and easily treatable, and the best, quickest, and most effective treatment requires maternal contact. Thus, A.A.R. should be encouraged to be close to her child and bond with her rather than being shamed and labeled a perpetrator of child abuse.

B. Medication-Assisted Treatment Is The Best Current Medical Practice For Treating Pregnant Women With Opioid Use Disorder, And Neonatal Abstinence Syndrome Is An Expected And Manageable Outcome Of This Treatment

The current medical standard of care for treating pregnant women with opioid dependence is MAT with methadone or buprenorphine, A.A.R. was prescribed the latter by her doctor when she was pregnant.[23] R. 23a, 24a. Taken in constant daily doses, methadone and buprenorphine work by blocking the euphoric and sedating effects of opioids, preventing withdrawal symptoms, and reducing the craving for opioids.[24]

Medical evidence supports MAT using methadone or buprenorphine for opioid dependent pregnant women, rather than medical withdrawal and

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[23] American Society of Addiction Medicine, *Public health Statement on Substance Use, Misuse, and Use Disorders During and Following Pregnancy, with an Emphasis on Opioids,* (Jan. 17, 2017); Am. Coll. Obstetricians & Gynecologists, Committee on Obstetric Practice, American Society of Addiction Medicine, *Committee Opinion No. 711: Opioid Use and Opioid Use Disorder in Pregnancy*, 130 OBSTET. GYNECOL. E81 (2017); *Pregnancy & Opioids: What Families Need to Know About Opioid Misuse and Treatment During Pregnancy*, Partnership for Drug Free Kids 8-9 (2018), https://drugfree.org/download/pregnancy-opioids/ ("The use of medication-assisted treatment (MAT) during pregnancy is the recommended best practice for the care of pregnant women with opioid use disorders.").

[24] *Medication and Counseling Treatment*, *supra* note 12.

abstinence.[25] Pregnant women placed on medication withdrawal and abstinence face high rates of relapse and its associated risks, including overdose, death, and HIV and hepatitis C infection, all of which can detrimentally affect maternal, fetal, and newborn health.[26] In contrast, pregnant women with opioid use disorders who are treated with MAT, as A.A.R. was in the present case, experience better pregnancy outcomes and their newborns experience shorter hospital stays. Thus, A.A.R. should not be punished for her participation in MAT by being labeled a perpetuator of child abuse.

Labeling women child abusers, for trying to follow their physicians' advice and take a medication prescribed to them during pregnancy to best protect their health and the health of their fetus, is contrary to overwhelming medical and scientific evidence.

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[25] American Society of Addiction Medicine, *Public health Statement on Substance Use, Misuse, and Use Disorders During and Following Pregnancy, with an Emphasis on Opioids*, (Jan. 17, 2017); American Society of Addiction Medicine, *The ASAM National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use*, (June 1, 2015).

[26] *Id*.

III. PUNISHING PREGNANT WOMEN FOR FAILING TO COMPLETE SUBSTANCE USE DISORDER TREATMENT IS CONTRARY TO MATERNAL, FETAL, AND NEWBORN HEALTH

C. Opioid Use Disorder Is A Chronic, Biopsychosocial Condition

Because CYS fundamentally misunderstands the nature of opioid use disorder, *amici* offer the following short primer on opioids and opioid use disorder.

1. Opioids Are Potent Modulators Of Many Physiological And Psychological Processes

Opioids are among the world's oldest known drugs, with the therapeutic use of the opium poppy predating historical records. Opioids are not foreign to the brain. In fact, the brain creates and uses its own natural opioids, such as endorphins, which are functionally identical to morphine or heroin. These endogenous opioids bind to cell surface receptors in the brain, spine, and nervous tissues and help to modulate pain.

In addition to those produced naturally in the body, opioids can be categorized into several broad classes. Natural opiates, such as morphine and codeine, derive from the alkaloids contained in the resin of the opium poppy.[27] Esters of morphine, such as diacetylmorphine, better known as heroin, are opiates that have been slightly chemically altered. Semi-synthetic opioids are partially created from natural opiates and include pharmaceuticals such as hydrocodone,

[27] The term *opiate* is often used as a synonym for *opioid*, but *opiate* is properly limited to these natural alkaloids found in the opium poppy.

oxycodone, and buprenorphine. Finally, some opioids, such as methadone and fentanyl, are fully synthetic.

> Like endogenous opioids, exogenous opiates and opioids exert their effects by binding to specific receptors both within and outside of the central nervous system.[28] An analgesic effect is common to all opioids, though it is produced in different degrees and by different mechanisms, depending on the particular opioid and receptor.[29]

Opioids that "turn on" receptors when they bind to them—that is, permit or enhance the effects of opioids—are called agonists. Opioids that "turn off" receptors—that is, block or reverse the effects of opioids—are called antagonists. And opioids that turn on receptors but do so less efficiently than agonists, are called partial agonists.[30]

The MAT medication that A.A.R. was prescribed and used during pregnancy, is buprenorphine.[31] R. 23a. Prior to receiving her buprenorphine prescription, A.A.R. had also taken the MAT medication methadone. *Id*. Methadone is an opioid agonist and buprenorphine is a partial opioid agonist. Both

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[28] D.H. EPSTEIN ET AL., OPIOIDS, IN P. RUIZ & E. STRAIN., EDS., SUBSTANCE ABUSE, A COMPREHENSIVE TEXTBOOK 161 (5th ed. 2011).

[29] *Id.*

[30] Hasan Pathan & John Williams, *Basic Opioid Pharmacology: An Update*, 6 British J. Pain 11, 11-12 (2012).

[31] A.A.R. was prescribed Subutex, a brand name for buprenorphine. R. 23a.

block acute opioid effects, suppresses the signs and symptoms of opioid withdrawal, and have limited euphoric effects.[32]

2. Chronic Opioid Use Can Result In Physical Dependence

Chronic opioid use can lead to opioid use disorder, a form of substance use disorders described in the most recent Diagnostic and Statistical Manual of Mental Disorders (DSM-5).[33] The DSM-5 defines a substance use disorder as "a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems."[34] "Addiction" is no longer used as a diagnostic term by the DSM-5 due to its "uncertain definition and its potentially negative connotation," but is considered synonymous with a "severe" substance use disorder.[35]

As previously described, opioids produce their biological and psychological effects by binding to specific receptor sites throughout the body. The human brain

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[32] *See generally* D.A. TOMPKINS & A.C. STRAIN, BUPRENORPHINE IN THE TREATMENT OF OPIOID DEPENDENCE, IN P. RUIZ & E. STRAIN., EDS., SUBSTANCE ABUSE, A COMPREHENSIVE TEXTBOOK 437 (5th ed. 2011); Leen Naji et al., *A Prospective Study to Investigate Predictors of Relapse among Patients with Opioid Use Disorder Treated with Methadone,* 10 Substance Abuse: Research & Treatment 9 (2016).

[33] American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders 481 (5th ed. 2013) (hereinafter DSM-5). The DSM-5 separates substance abuse disorders by type of drug, such as opioid use disorder, cocaine use disorder, and alcohol use disorder.

[34] *Id.* at 483.

[35] *Id.* at 485.

adapts to all of our experiences, and, when an individual uses opioids, the brain responds by trying to overcome the drug's effects and return to normal.[36] Over time, the flood of stimulation caused by chronic opioid use can result in the development of tolerance—that is, more and more of the substance is required to achieve the same level of effect.[37] In addition, individuals with opioid use disorder experience a physical need for opioids, which results in cravings and withdrawal symptoms.[38] These physiologic changes constitute physical symptoms that respond to evidence-based treatment, such as MAT using methadone, buprenorphine, or Suboxone.[39] Meaning that by going to her doctor and getting a prescription for buprenorphine, A.A.R. was choosing to treat her opioid use disorder by taking MAT medicines. R. 23a.

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[36] T.J. Gould, *Addiction and Cognition*, 4 Addiction Science & Clinical Practice 4, 5 (2010).

[37] H.W. Murtaugh, *Neurologic Aspects Of Drug Abuse*, 28 Neurol. Clin. 199 (2010).

[38] *Id*.

[39] See e.g., R.P. Mattick et al., *Methadone Maintenance Therapy Versus No Opioid Replacement Therapy For Opioid Dependence*, 8 Cochrane Database Syst. Rev. CD002209 (2009); S.D. Comer et al., *Injectable, Sustained-Release Naltrexone for the Treatment of Opioid Dependence*, 63 Arch. Gen. Psychiatry 210 (2006); P.J. Fudala, *Office-Based Treatment of Opiate Addiction with a Sublingual-Tablet Formulation of Buprenorphine and Naloxone*, 349 N. Engl. J. Med. 949 (2003).

D. Opioid Use Disorder Involves Cycles Of Recurrence (Relapse) And Remission

Studies have increasingly found that relapses are a normal part of recovery from substance use disorder and should be considered "a dynamic, ongoing process rather than a discrete or terminal event."[40] Only a minority of patients who successfully complete opioid detoxification can stably abstain from opioid use,[41] and more than sixty percent of individuals who have undergone treatment will experience a relapse within the first year.[42] Indeed, most patients experience several recurrences before achieving complete abstinence.[43] The fact that relapse is an almost inevitable feature of opioid use disorder leads to the straightforward conclusion that relapse is "not a weakness of character or will."[44] It further demonstrates that just because a woman relapses during treatment does not mean that she is choosing not to discontinue her substance use during pregnancy.

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[40] C. Hendershot et al., *Relapse Prevention for Addictive Behaviors*, 6 Subst. Abuse Treat. Prev. Policy 2 (2011).

[41] J. Davison et al., Outpatient Treatment Engagement and Abstinence Rates Following Inpatient Opioid Detoxification, 25 J. Addict. Dis. 27, 33 (2008).

[42] See e.g., R.L. Hubbard, *Overview of 5-year followup outcomes in the drug abuse treatment outcome studies* (DATOS), 25 J. Subst. Abuse Treat. 125 (2003); A.T. McLellan, *Drug Dependence, a Chronic Medical Illness: Implications for Treatment, Insurance, and Outcomes Evaluation*, 284 J. Am. Med. Ass'n 1689 (2000).

[43] F.M. Tims et al., Relapse and Recovery in Addictions 5 (2001).

[44] World Health Organization & United Nations Office on Drugs & Crime et al., Substitution Maintenance Therapy in the Management of Opioid Dependence and HIV/AIDS Prevention 7 (2004).

While different treatments have different rates of success in reducing the risk of relapse, recurrences can be expected even during active treatment, as happened with A.A.R. in the present case.[45] MAT medication, such as the buprenorphine that A.A.R. was prescribed, reduces withdrawal symptoms and tempers opioid cravings, which can help patients abstain from opioid use.[46]

Although MAT addresses some of the physiological obstacles to opioid abstinence, treating opioid use disorder is much more complex than simply quelling cravings. The cognitive and behavioral aspects of substance use disorder present additional barriers to abstention that must also be addressed.[47]

Punishing A.A.R. by finding her to be a perpetrator of child abuse for continuing to use drugs while seeking substance use disorder treatment fundamentally misunderstands the clinical course of opioid use disorder and how treatment works.

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[45] T.R. Koston et al., The Neurobiology of Opioid Dependence: Implications for Treatment, 1 Sci. Pract. Perspect. 13, 19-20 (2002).

[46] See e.g., R.P. Mattick et al., *supra* note 39; S.D. Comer et al., *Injectable, Sustained-Release Naltrexone for the Treatment of Opioid Dependence*, 63 Arch. Gen. Psychiatry 210 (2006); P.J. Fudala, *supra* note 39.

[47] T.J. Gould, *supra* note 36.

E. Imposing Punishment For A Recurrence Of Opioid Use Undermines Maternal, Fetal, And Newborn Health

1. Punishments For Opioid Recurrence Neither Deter Nor Rehabilitate Individuals With Substance Use Disorder

Under deterrence theory, appropriate punitive sanctions are those that most effectively lessen the likelihood that similar crimes will be committed by the particular offender or other potential offenders. As a matter of both law and medicine, however, individuals who suffer from a substance use disorder "may be unable to abstain even for a limited period." *National Treasury Employees Union v. Von Raab*, 489 U.S. 656, 676 (1989). Furthermore, individuals grappling with substance use disorder may "compulsively have urges to abuse and they are remarkably unencumbered by the memory of negative consequences of drug-taking."[48] In other words, opioid use disorder does not lend itself to deterrence principles. By its very nature, opioid use disorder is characterized by repeated use *despite negative consequences* and can therefore confound even highly punitive attempts to deter drug-seeking and taking. Thus, for persons with substance use disorders, continuing to use controlled substances is often not a choice.

Additionally, punitive sanctions—such as registration as a child abuser—or the threat thereof, subject individuals like A.A.R. to additional stressors that

[48] G.F. Koob & M. Le Moal, *Drug Addiction, Dysregulation of Reward, and Allostasis*, 24 Neuropsychopharmacology 97, 98 (2001).

increase the risk of relapse and deter women from seeking prenatal care.[49] For these reasons, the medical and public health communities regard punitive sanctions for opioid relapse as antithetical to rehabilitation. Accordingly, a pregnant woman who uses drugs should not have to fear being labeled as a child abuser.

2. Punishments For Opioid Recurrence Undermine Public Health By Reinforcing Stigma Associated With Substance Use Disorder

Opinion polls indicate that a majority of the U.S. public believes that people with substance use disorders deserve low priority in health care.[50] In addition, substance use provokes a greater desire to be socially distant from an individual than do smoking or obesity.[51] Such stigmatizing attitudes towards people with substance use disorder are held not only by the general public, but also, critically, by the health care professionals responsible for providing them with care.[52]

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[49] *See* Danielle E. Ramo & Sandra A. Brown, *Classes of Substance Abuse Relapse Situations: A Comparison of Adolescents and Adults*, 22 Psych. Addictive Behavior 372, 377 (2008) (showing that adults are more likely to relapse while in a negative emotional state). *See also* M.S. Gordon et al., A Randomized Clinical Trial of Methadone Maintenance for Prisoners: Findings at 6 Months Post-Release, 103 Addiction 1333 (2008).

[50] J.A. Olsen et al., The moral relevance of personal characteristics in setting health care priorities, 57 Soc. Sci. Med. 1163 (2003).

[51] L.A. Phillips & A. Shaw, Substance Use More Stigmatized Than Smoking And Obesity 18 J. Subst. Use 247 (2013).

[52] *See* S. Henderson et al., Social stigma and the dilemmas of providing care to substance users in a safety-net emergency department, 19 J. Health Care Poor Underserved 1336 (2008); M. McCreaddie et al., *Routines and rituals: a grounded theory of the pain management of drug users in acute care settings*. 19 J. Clin. Nurs. 2730 (2010). *See also* J.F. Kelly, *Does It Matter How We Refer To Individuals With Substance-Related Conditions? a randomized study of two commonly used terms*, 21 Int. J. Drug Policy. 202 (2010) (finding that mental health care

Several factors drive these attitudes and norms, including the perception that people who use substances are to blame for their disorder, stereotypes of unpredictability and dangerousness, and mass media coverage.[53] From this perspective, the criminalization of relapse promotes the perception of "drug users as people who are not wanted in society,"[54] who are criminals and inherently dangerous, and fuels the view—even among health care professionals—that those who relapse have chosen to do so, are bad, and therefore undeserving of treatment.[55]

To avoid stigmatization, both from the public and from health care providers, people who use substances may hide their use, which prevents them from seeking treatment, social services, health care, including prenatal care, and social support.[56] In fact, people who experience stigma regarding their substance

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providers were less likely to believe that individuals deserved treatment when they were described as "substance abusers" rather than as a "person with a substance use disorder").

[53] J.E. Merrill & P.M. Monti, Influencers of the Stigma Complex toward Substance Use and Substance Use Disorders, Center for Alcohol and Addiction Studies, Brown University (Aug. 2015), https://www.niaaa.nih.gov/news-events/news-releases/severe-childhood-adhd-may-predict-alcohol-substance-use-problems-teen.

[54] *Id*.

[55] *See generally* J.F. Kelly, Does Our Choice of Substance-Related Terms Influence Perceptions of Treatment Need? An Empirical Investigation with Two Commonly Used Terms, 40 J. Drug Issues 805 (2010).

[56] *See e.g.*, J.B. Luoma et al., Self-Stigma in Substance Abuse: Development of a New Measure, 35 J. Psychopathol. Behav. Assess. 223 (2013); J.B. Luoma et al., An investigation of stigma in individuals receiving treatment for substance abuse, 32 Addict. Behav. 1331 (2007).

use often identify that as a substantial barrier to treatment and recovery.[57] And, among those who do seek treatment and services, the negative attitudes of health care providers may have an adverse impact on the quality of care that they receive.[58]

Stigma particularly deters pregnant women who use controlled substances from seeking out vital prenatal care and from honestly communicating with their physicians about their drug use. If the CPSL definition of child abuse is extended to include drug use during pregnancy, it will increase the stigmatization of pregnant women who use drugs, deter pregnant women from seeking prenatal care and substance use disorder treatment, prevent them from participating in MAT, the most effective opioid use disorder treatment that exists, and undermine maternal, fetal health, and newborn health.

CONCLUSION

For the foregoing reasons, *amici curiae* respectfully urge this Court to hold that 1) under 23 Pa. C.S.A. § 6303 *et seq.* , a woman cannot be a "perpetrator" of

[57] *See e.g.*, C. Lloyd, The stigmatization of problem drug users: A narrative literature review, 20 Drugs: Education, Prevention and Policy 85 (2012); K.O. Conner & D. Rosen, "You're Nothing But a Junkie": Multiple Experiences of Stigma in an Aging Methadone Maintenance Population, 8 J. Soc. Work Pract. Addict. 244 (2008).

[58] L.C. van Boekel et al., Stigma Among Health Professionals Towards Patients With Substance Use Disorders And Its Consequences For Healthcare Delivery: Systematic Review, 131 Drug Alcohol Depend. 23 (2013); L. Brener, The Role Of Physician And Nurse Attitudes In The Health Care Of Injecting Drug Users, 45 Subst. Use Misuse 1007 (2010).

"child abuse" for her actions while pregnant that might affect the health of her newborn and 2) under 23 Pa. C.S.A. § 6386, A.A.R. should not be found to have committed child abuse.

Dated: May 3, 2018

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CERTIFICATION OF COMPLIANCE WITH WORD COUNT LIMIT

Pursuant to Pa. R.A.P. 531(b)(3), I, John S. Summers, hereby certify that the foregoing Brief for *Amici Curiae*, The Drug Policy Alliance, Families for Sensible Drug Policy, Avik Chatterjee, MD, MPH, Keith Humphreys, PhD, Hendrée Jones, PhD, Stephen R. Kandall, MD, FAAP, Mishka Terplan, MD, MPH, FACOG, DFASAM, Bruce Trigg, MD, Michael S. Wald, and Tricia E. Wright, MD, MS in Support of Appellant contains 6,739 words, excluding those portions exempted by Pa. R.A.P. 2135(b), and thus complies with the 7,000 word limit set forth in Pa. R.A.P. 531(b)(3).

/s/ John S. Summers
John S. Summers

Dated: May 3, 2018

CERTIFICATION OF COMPLIANCE WITH Pa. R.A.P. 127

I, John S. Summers, hereby certify that the foregoing Brief for *Amici Curiae*, The Drug Policy Alliance, Families for Sensible Drug Policy, Avik Chatterjee, MD, MPH, Keith Humphreys, PhD, Hendrée Jones, PhD, Stephen R. Kandall, MD, FAAP, Mishka Terplan, MD, MPH, FACOG, DFASAM, Bruce Trigg, MD, Michael S. Wald, and Tricia E. Wright, MD, MS in Support of Appellant complies with the provisions of the Public Access Policy of the Unified Judicial System of Pennsylvania: Case Records of the Appellate and Trial Courts that require filing confidential information and documents differently than non-confidential information and documents.

/s/ John S. Summers
John S. Summers

Dated: May 3, 2018

CERTIFICATE OF SERVICE

I hereby certify that I am on this day serving a true and correct copy of the Brief for *Amici Curiae*, The Drug Policy Alliance, Families for Sensible Drug Policy, Avik Chatterjee, MD, MPH, Keith Humphreys, PhD, Hendrée Jones, PhD, Stephen R. Kandall, MD, FAAP, Mishka Terplan, MD, MPH, FACOG, DFASAM, Bruce Trigg, MD, Michael S. Wald, and Tricia E. Wright, MD, MS in Support of Appellant upon the persons via first class mail, which service satisfies the requirements of Pa. R.A.P. 121:

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APPENDIX A

STATEMENTS OF INTEREST OF AMICI CURIAE

Amicus curiae **The Drug Policy Alliance** ("DPA") is a 501(c)(3) nonprofit organization that leads the nation in promoting drug policies that are grounded in science, compassion, health, and human rights. Established in 1994, DPA is a nonprofit, non-partisan organization with more than 20,000 members nationwide. DPA is dedicated to advancing policies that reduce the harms of drug use and drug prohibition, and seeking solutions that promote public health and public safety. DPA is actively involved in the legislative process across the country and strives to roll back the excesses of the drug war, block new, harmful initiatives, and promote sensible drug policy reforms. The organization also regularly files legal briefs as amicus curiae, including in other cases pertaining to pregnant women who use drugs. *See, e.g., Loertscher v. Anderson*, 259 F.Supp.3d 902 (2017).

Amicus curiae **Families for Sensible Drug Policy** (FSDP), a 501(c)(3) nonprofit organization cofounded by Barry Lessin and Carol Katz Beyer, is a global coalition of families, professionals, and organizations representing the voice of the family impacted by substance use and the harms of existing drug policies. We empower families by advancing and implementing a new paradigm of comprehensive care and progressive solutions for family support based on science, compassion, public health and human rights. The reasons to expand Pennsylvania's child abuse law to prosecute mothers based on substance use during pregnancy are not supported by science. Research shows that exposure to drugs does not pose a unique or significant risk of medical harm to a newborn especially when compared to the trauma involved of removing the newborn from the mother.

Individual Experts
*Institutional affiliations designated with * are provided for identification purposes only.*

Amicus curiae **Avik Chatterjee, MD, MPH*** is an internal medicine and pediatrics trained primary care physician at Boston Health Care for the Homeless Program, Instructor at Harvard Medical School, and Associate Epidemiologist in the Division of Global Health Equity at Brigham and Women's Hospital. He is certified in Addiction Medicine by the American Board of Preventive Medicine, and does a significant amount of clinical work treating opioid use disorder and alcohol use disorder in shelter-based outreach clinics. He and his colleagues created a first-of-its-kind family shelter-based opioid addiction treatment program

for parents with opioid use disorder. He has presented on opioid use disorder and family homelessness at the national conferences of the Society for General Internal Medicine, the Association for Medical Education and Research in Substance Abuse, and the National Health Care for the Homeless Council. He has published articles on innovative models of care for opioid use disorder in vulnerable populations, specifically in parents facing homelessness, in the American Journal of Public Health and Drug and Alcohol Dependence. He continues to work on innovative treatment models for opioid addiction in vulnerable populations in urban areas.

Amicus curiae **Keith Humphreys, PhD*** is the Esther Ting Memorial Professor at Stanford University, where he holds faculty appointments in the Department of Psychiatry and the School of Law. He is a clinical psychologist who has treated addicted patients and also has over 30 years of experience as an addiction researcher. He has published over 250 journal articles and book chapters related to substance use disorders and his work has been cited over 10,000 times by addiction researchers around the world. He served as Senior Policy Advisor in the White House Office of National Drug Control Policy in the Obama Administration and also served as a Member of the White House Advisory Commission on Drug-Free Communities in the Bush Administration. He has testified about public policy regarding addiction on numerous occasions in state legislatures, in the U.S. Congress, and in the U.K. Parliament.

Amicus curiae **Hendrée Jones, PhD*** is a Professor in the Department of Obstetrics and Gynecology, School of Medicine, University of North Carolina, Chapel Hill and Executive Director of Horizons, a comprehensive drug treatment program for pregnant and parenting women and their drug-exposed children. She is also an Adjunct Professor in the Department of Psychiatry and Behavioral Sciences and in the Department of Obstetrics and Gynecology, School of Medicine, Johns Hopkins University. Dr. Jones is an internationally recognized expert in the development and examination of both behavioral and pharmacologic treatments of pregnant women and their children in risky life situations. Dr. Jones has received continuous funding from the United States National Institutes of Health since 1994 and has published over 190 peer-reviewed publications, two books on treating substance use disorders (one for pregnant and parenting women and the other for a more general population of patients), several book and textbook chapters, and multiple editorial letters and non-peer reviewed articles for clinicians. She is a consultant for The Substance Abuse and Mental Health Services Administration, the United Nations and the World Health Organization. Dr. Jones leads or is involved in projects in Afghanistan, India, the Southern Cone, the Republic of

Georgia, South Africa, and the United States which are focused on improving the lives of children, women and families.

Amicus curiae **Stephen R. Kandall, MD, FAAP*** served as Chief of Neonatology at Beth Israel Medical Center from 1976 to 1998 and retired in 1998 as Professor of Pediatrics at the Albert Einstein College of Medicine. Most of Dr. Kandall's 90 contributions to the medical literature deal with perinatal drug use, and he has contributed chapters to many standard textbooks, including *Substance Abuse: A Comprehensive Textbook* and *Principles of Addiction Medicine*, as well as his own definitive book on the history of women and addiction in the United States, *Substance and Shadow.* Dr. Kandall has lectured throughout the United States, as well as Belgium, Italy, Austria and Australia. He has served as president of his local medical societies, as an advisor to many commissions and panels on drug abuse (including the March of Dimes, Narcotic and Drug Research, Inc., and the Scott Newman Foundation in Los Angeles), and currently advises legislative subcommittees on perinatal health in North Carolina.

Amicus curiae **Mishka Terplan MD MPH FACOG DFASAM*** is board certified in both obstetrics and gynecology and in addiction medicine. His clinical, research and advocacy interests lie along the intersection of reproductive and behavioral health. He is currently Professor in both Obstetrics & Gynecology and Psychiatry and the Associate Director of Addiction Medicine at Virginia Commonwealth University. He is the Medical Director of MOTIVATE – an outpatient Office Based Opioid Treatment clinic, Addiction Medicine Consultant for DMAS (Department of Medicaid Services, VA) and consultant for National Center on Substance Abuse and Child Welfare. Dr. Terplan has active grant funding and has published over 70 peer-reviewed articles with recent emphasis on health disparities, stigma, and women's access to treatment. He has spoken before the United States Congress and has participated in expert panels at CDC, SAMHSA, ONDCP and NIH primarily on issues related to gender and addiction.

Amicus curiae **Bruce Trigg, MD*** is the Interim Medical Director of the Harm Reduction Coalition. Dr. Trigg was, until 2011, the medical director of the Sexually Transmitted Disease program for Regions 1 and 3 of the New Mexico Department of Health. He also served as medical director of a public health program that offers reproductive and infectious disease programs at the Bernalillo County Metropolitan Detention Center in Albuquerque, NM. For 20 years, Dr. Trigg provided clinical care to patients as part of the Milagro Program, for pregnant women who use drugs, at the University of New Mexico Health Sciences Center. He is currently a Clinical Assistant Professor in the Department of

Pediatrics at the University of New Mexico and on the faculty of the Adolescent Reproductive and Sexual Health Education Project (ARSHEP) of Physicians for Reproductive Health, a project cosponsored by the American College of Obstetrics and Gynecology and the Society for Adolescent Health and Medicine. He has consulted on addiction treatment in several Southeast Asian countries. Dr. Trigg graduated from the City College of NY and the George Washington University School of Medicine in Washington, D.C. He did his residency in pediatrics at the Albert Einstein College of Medicine in New York City and at the University of New Mexico School of Medicine. Dr. Trigg served three years with the US Public Health Service in the Indian Health Service in Native communities in New Mexico and Arizona.

Amicus curiae **Michael S. Wald*** is the Jackson Eli Reynolds Professor of Law, Emeritus, at Stanford University. He has been actively involved in designing and implementing polices regarding child maltreatment for fifty years through teaching, research, and practice. He was the reporter for the American Bar Association' Standards on Child Abuse and Neglect. He has written numerous articles and books regarding the proper scope of child maltreatment jurisdiction. Professor Wald also has held a number of government positions connected to social services for children and families, including Director of the San Francisco Human Services Agency, Deputy General Counsel of the US Department of Health and Human Services, and was a member of the US Advisory Board on Child Abuse and Neglect.

Amicus curiae **Tricia E. Wright, MD, MS*** is an associate professor of Obstetrics, Gynecology at the University of Hawaii John A. Burns School of Medicine and the founder, former medical director, and now Women's Health Liaison of the PATH Clinic, an outreach clinic of Waikiki Health Center, which provides prenatal, postpartum and family planning to women with a history of substance use disorders. She is board certified in both OB/Gyn and Addiction Medicine and a Fellow of the American College of Obstetricians and Gynecologists and the American Society of Addiction Medicine. She specializes in taking care of pregnant women with substance use disorders and psychiatric illness. She won funding approval in 2006 from the Hawaii legislature to start the first perinatal clinic for women with substance use issues in Hawaii. She edited the recently published book "Opioid Use Disorders in Pregnancy: Management Guidelines for Improving Outcomes."