# Social Scientists' Review of Evidence on the Effects of Abortion and Abortion Denial on Pregnant People's Mental Health, Emotions, and Wellbeing

Amicus Brief to the InterAmerican Court of Human Rights

For the case of *Beatriz v. El Salvador*

March 2023

# Contents

# Introduction

As scientists with decades of combined experience conducting rigorous research on reproductive health issues, we write to provide a summary of evidence relevant to the case of *Beatriz v. El Salvador.*

Advancing New Standards in Reproductive Health (ANSIRH) is a research program within the Department of Obstetrics, Gynecology, & Reproductive Sciences at the University of California, San Francisco. Since 2002, ANSIRH has conducted innovative, multidisciplinary research on complex issues related to people's sexual and reproductive lives, publishing hundreds of peer-reviewed articles in leading medical, sociological, and public health research journals. As social scientists at ANSIRH, we are committed to producing rigorous evidence to support the health and reproductive well-being of pregnant people.[1]

Today, there is abundant high-quality scientific evidence on the safety and health effects of abortion. In assessing the extensive evidence relevant to the case of *Beatriz v. El Salvador*, we are confident in concluding that there is little scientific or medical controversy about abortion safety and there are clear harms from denying access to safe, legal abortion services. We write to share relevant findings from research leading to three key conclusions:

1) Abortion is safe, with no significant short- or long-term effects on physical health;
2) Abortion does not cause negative mental health or emotional consequences; and
3) It is being denied a wanted abortion that causes lasting harms to pregnant people's physical health and their financial, familial, and social wellbeing.

In addition to summarizing the robust body of scientific evidence on these points, in this brief we also aim to demonstrate the challenges of conducting high-quality research on this topic, and to highlight the importance of relying on the most rigorous studies for drawing conclusions upon which to base policy. We urge the Court to take this evidence and these considerations into account when ruling on this case.

# Abortion safety and physical health outcomes

Over four decades of research has documented the safety of legal abortion**.** Numerous studies, as well as a comprehensive consensus study report by the U.S. National Academies of Sciences, Engineering, and Medicine (NASEM 2018), have concluded that abortion care as practiced in a legal setting is very safe. One study examined emergency department visits and medical records following nearly 55,000 abortions, and found that only a quarter of one percent of abortions resulted in a major medical complication (defined as an adverse event requiring hospital admission, surgery, or blood transfusion) (Upadhyay et al., 2015). This is in line with other large-scale studies (Roberts et al., 2018a; Upadhyay et al., 2018) and systematic reviews (White et al., 2015) of post-abortion complications. Abortion has lower rates of both minor and major complications than many other common office-based procedures, such as wisdom tooth removal (Blondeau & Daniel, 2007). Abortion is also far safer than childbirth, with a mortality rate 14 times lower than that of carrying a pregnancy to term (Raymond & Grimes, 2012).

[1] A note about terminology: Because many girls, adolescents, and trans men can get pregnant and seek abortion care as well as women, we use "pregnant people" when describing those who seek and have abortions, unless describing specific study findings that report on "women."

Not only is abortion very safe, there is no evidence of long-term physical health harms from abortion. In fact, evidence suggest worse long-term physical health among pregnant people who give birth than among those who have abortions. The Turnaway Study (described below), the most rigorous study of abortion outcomes using an appropriate comparison group, found that women who sought but were denied abortion experienced serious physical health problems related to carrying the unwanted pregnancy to term (Gerdts et al., 2015). Those denied abortion continued to report worse physical health and more chronic pain five years later, compared to those who had abortions (Ralph et al., 2019).

## Abortion and mental health outcomes

Decades of original empirical research has investigated the effects of abortion on people's mental health, including several high-quality scientific reviews on the topic (Charles et al., 2008; Major et al., 2009; National Collaborating Centre for Mental Health at the Royal College of Psychiatrists 2011). These studies specifically examine the question of whether having an abortion increases the risk of adverse mental health outcomes. Every rigorous study and every thorough review on this topic, many of which have been conducted by major mental health organizations in the United States and Europe, have found no evidence that abortion when performed under humane and safe conditions leads to mental health harm (Charles et al., 2008; Major et al., 2009; National Collaborating Centre for Mental Health at the Royal College of Psychiatrists 2011). Indeed, these reviews find that the few studies which support the idea that abortion causes mental health harm have serious methodological flaws.

### Important considerations in reviewing the research

Many methodological challenges exist when conducting high quality research on the relationship between abortion and mental health outcomes. The primary challenges lie in finding an appropriate comparison group and accounting for pre-abortion mental health history. Several rigorous and acclaimed scientific reviews of the literature have found that studies often inappropriately compare the mental health outcomes of pregnant people having an abortion to the mental health outcomes of pregnant people who miscarry or who carry wanted pregnancies to term (Charles et al., 2008; Major et al., 2009; NCCMH, 2011). One problem with this comparison is that the life circumstances of these two groups, including factors that affect later mental health, are quite different. Due to a variety of life challenges, pregnant people who have abortions usually have a higher incidence of pre-pregnancy mental health conditions than pregnant people who carry wanted pregnancies to term (Munk-Olsen et al., 2011; Munk-Olsen et al., 2012; Steinberg et al., 2011; van Ditzhuijzen, et al., 2013). Pregnant people have many reasons for seeking abortion, which include financial considerations, partner-related concerns, including the desire to end an abusive relationship or to avoid bringing children into an abusive relationship, and heavy drinking and drug use (Biggs et al., 2013; Chibber et al., 2014; Roberts et al., 2012); all of these factors can affect people's mental health outcomes post-abortion. Thus, when studies compare pregnant people who have abortions to those who carry wanted pregnancies to term, they may erroneously attribute any differences in mental health problems to the abortion, when in fact these differences more likely stem from the pregnant person's life circumstances at the time of the pregnancy, or even before she became pregnant.

Furthermore, in trying to understand whether abortion causes subsequent mental health problems, it is critical to take into account pre-pregnancy mental health. Pre-pregnancy mental health and previous experiences of violence, trauma, and abuse increase the risk of subsequent depression, suicidal ideation, and other mental health conditions (Biggs et al., 2015; Biggs et al., 2017; Biggs et al., 2020; Brodsky &

Stanley, 2008; Fliege et al., 2009; Foster et al., 2015; Golding, 1999; Gomez, 2018; Gratz, 2003; Munk-Olsen et al., 2012; Steinberg et al., 2014; Steinberg et al., 2011; Steinberg & Finer, 2011; Steinberg & Russo, 2008; Taft & Watson, 2008). Since people who have abortions have a higher incidence of pre-pregnancy mental health conditions than women who have never been pregnant or than pregnant people who do not seek abortion and instead give birth (Leppalahti et al., 2016; Munk-Olsen et al., 2011; Munk-Olsen et al., 2012; Steinberg et al., 2014) and the reasons for seeking abortion can affect women's mental health post-abortion, it is imperative that studies control for these pre-disposing factors.

Among those studies which have reported an association between abortion and subsequent mental health outcomes, many failed to account for pre-existing mental health conditions or used inappropriate comparison groups. These errors mean that mental health conditions after an abortion are mistakenly attributed to the abortion rather than to circumstances which predated the pregnancy and which may, in fact, have prompted the decision to terminate (Steinberg & Finer, 2011).

An additional methodological consideration relates to whether studies are retrospective or prospective in design. Many studies use retrospective designs that depend on participants' post-hoc recall and disclosure of their earlier pregnancy and abortion experiences and emotions. In these studies, abortion reporting is likely an underestimated since stigmatized health events tend to be underreported (Desai et al., 2021). Such study designs are inherently biased and can paint an inaccurate picture of abortion outcomes.

In 2008, after a thorough review of studies on abortion and mental health and the methodological concerns of many such studies, Charles and colleagues at the Johns Hopkins Bloomberg School of Public Health concluded that "any future research conducted on the mental health outcomes of abortion should be longitudinal, prospective, have an appropriate comparison group, use validated mental health measures, control for pre-existing mental health and other confounding variables and comprehensively explore the research question" (Charles et al., 2008).

## The Turnaway Study

At the University of California, San Francisco, we designed a study of abortion outcomes that would meet these rigorous methodological criteria. Our Turnaway Study compared outcomes for pregnant people who had an abortion to those of people who sought an abortion but were unable to get one. A longitudinal study of people recruited from 30 abortion care facilities across the U.S. from 2008 to 2016 (Dobkin et al., 2014), the Turnaway Study has resulted in more than 50 publications in top peer-reviewed medical, public health, and sociology journals, detailing the consequences of receiving vs. being denied an abortion on pregnant people's mental and physical health and socioeconomic wellbeing.

For the Turnaway Study, we recruited people who identified as women at the time of abortion-seeking, enrolling both those who had abortions (because they presented for care just before the gestational cutoff date for the clinic), and those who were turned away (because they presented just after the gestational cutoff date for the clinic), the vast majority of whom went on to give birth. We also enrolled a group of women seeking first-trimester abortions, to assess any differences between the typical abortion-seeker in the U.S. (Jones et al., 2019) and those presenting for care later in pregnancy. We enrolled nearly 1,000 women in 21 states, interviewing them within a month of their abortion-seeking, and again every six months for five years, to assess their physical, emotional, and mental health, as well as their financial outcomes, relationships, and children's outcomes. By starting from a sample of

pregnant people who all sought abortion, we were able to document how having or being denied an abortion affects health and socioeconomic consequences for years beyond the pregnancy. Because the two study groups were essentially the same on key characteristics at the time of abortion-seeking, including mental health history, the ways in which their lives diverged after that point are directly attributable to whether they got their abortion or not. With this study design, the Turnaway Study was able to isolate the effects of abortion on people's health and wellbeing.

## Turnaway Study findings on mental health

In multiple analyses over several years, we found no evidence that abortion is associated with any adverse mental health outcomes. Using validated mental health measures with an appropriate comparison group, with findings published in top peer-reviewed psychology, psychiatry and medical journals, this study showed that there are no post-abortion mental health impacts including depression and anxiety (Biggs et al., 2020; Biggs et al., 2017; Biggs et al., 2015; Foster et al., 2015), post-traumatic stress (Biggs et al., 2016), suicidal ideation (Biggs et al., 2018), and substance use disorders (Roberts et al., 2018b). In fact, we found evidence that denial of abortion care can have a short-term negative impact on mental health.

### *Anxiety and depression:*

Approximately one week after seeking an abortion, women who were turned away because of gestational age limits at abortion facilities had more symptoms of anxiety than women who received the abortion (Biggs et al., 2017; Biggs et al., 2015). By six months both groups of women had similar levels of anxiety; levels remained similar up to five years after seeking an abortion (Biggs et al., 2020; Biggs et al., 2017; Biggs et al., 2015; Foster et al., 2015). Levels of depressive symptoms and diagnoses were similar in women who had abortions and women who were denied an abortion up to five years after seeking an abortion (Biggs et al., 2020; Biggs et al., 2017; Biggs et al., 2015; Foster et al., 2015). While women having first-trimester abortions initially had fewer depressive symptoms than those having later procedures, by six months and continuing throughout the five-year period they were similar. Women who had later abortions and women who had first trimester abortions had similar proportions of depression and anxiety cases and similar levels of anxiety symptoms throughout the five-year period, suggesting that abortions at later gestational ages do not result in long-term adverse mental health outcomes.

### *Post-traumatic stress and suicidal ideation:*

Women who received an abortion were at no higher risk of post-traumatic stress symptoms or diagnoses than those who were denied an abortion (Biggs et al., 2016). Similarly, levels of suicidal ideation were similarly low between women who received and women who were denied abortion (Biggs et al., 2018). Neither adolescents nor women having abortions at later gestational ages were at higher risk of subsequent post-traumatic stress or suicidal ideation than older women or women having first-trimester procedures (Biggs et al., 2016; Biggs et al., 2018).

## Turnaway Study findings on emotions and decision rightness

Many studies have investigated post-abortion emotions and have found that people are more likely to experience positive than negative emotions after an abortion. Across all studies, relief is the most common emotion expressed in the short term (Broen et al., 2004; Jones & Finer, 2012; Kero et al., 2004; Major et al., 2000; Rocca et al., 2013), although some women simultaneously experience variations and mixes of both positive and negative emotions (Rocca et al., 2013). The intensity of women's emotions,

both positive and negative, declined over time, particularly over the first year (Rocca et al., 2015). Women's emotions did not differ among women having later abortions than women having first-trimester abortions (Rocca et al., 2015). Perceived stigma about abortion in the community and lower social support were associated with negative emotions post-abortion.

In assessing pregnant people's emotional responses to an abortion, it is critical to differentiate negative emotions from decision regret. One week after their abortion, we asked Turnaway participants who received an abortion, "given the situation, was the decision to have an abortion the right one for you?" and 95% replied "yes" (Rocca et al., 2013). We found that even among the minority of women (25%) who experienced primarily negative emotions one week post-abortion, 95% still reported that the abortion was the right decision (Rocca et al., 2013). This finding remained consistent throughout the study period; at each follow-up interview through five years, approximately 95% felt it was the right decision (Rocca et al., 2015; Rocca et al., 2020). These findings illustrate the importance of differentiating negative emotions from decision regret: experiencing negative emotions after an abortion is not the same as regretting the abortion decision. Instead, most women felt that they made the best decision for them, even if they have some negative feelings about it, as could be expected after many significant life events. Neither negative emotions nor decision regret constitute a clinical mental health condition (Major et al., 2000; Rocca et al., 2013), and both may be inevitable among some individuals making any decision (Watson, 2014).

The Turnaway study also examined impact of abortion denial on emotions, self-esteem, and life satisfaction. We found short-term elevated levels of stress, anxiety, and low self-esteem (Biggs et al., 2016; Biggs et al., 2017; Biggs et al., 2018; Harris et al., 2014) among women denied abortion, as well as feelings of regret and anger (Rocca et al., 2013; Rocca et al., 2020). Lower self-esteem was observed among those denied the procedure soon after abortion denial (Biggs et al., 2014; Biggs et al., 2017). Self-esteem levels were similar between the two groups by six months to one year, remaining similar for up to five years after abortion seeking (Biggs et al., 2017). Similarly, women denied an abortion reported lower levels of life satisfaction at the time of being denied an abortion, when compared to women who obtained an abortion near a facility's gestational age limit (Biggs et al., 2014; Biggs et al., 2017). Trajectories of women who had an abortion and those who were denied abortion care converged at about six months and remained similar up to five years after seeking an abortion.

Together these findings suggest that having an abortion does not have adverse effects on people's emotional well-being; in fact, being denied a wanted abortion may have a short-term negative impact at the time of abortion denial.

## Mental health findings from earlier studies

The most robust scientific reviews of the literature—including reports by the American Psychological Association and the Royal College of Psychiatrists in the U.K. —have concluded that abortion does not have a negative impact on pregnant people's mental health (Charles et al., 2008; American Psychological Association Task Force on Mental Health and Abortion, 2008; Major et al., 2009; National Collaborating Centre for Mental Health at the Royal College of Psychiatrists, 2011).

In 2008, Charles and colleagues at the Johns Hopkins Bloomberg School of Public Health published a scientific review of articles looking at the association between abortion and mental health (Charles et al., 2008). Twenty-one studies met inclusion criteria, and each was carefully evaluated for

methodological quality, based upon five main criteria: use of an appropriate comparison group, use of valid mental health measures, control for pre-existing mental health status, control for confounders, and whether there was a comprehensive exploration of the research question. The highest quality studies had findings that were mostly neutral, indicating few, if any, differences between pregnant people who had abortions and their respective comparison groups in terms of subsequent adverse mental health outcomes (Gilchrist et al, 1995; Russo & Zierk, 1992; Schmiege & Russo, 2005; Steinberg & Russo, 2008). Studies deemed of poor quality and using flawed methodology generally reported a relationship between having an abortion and experiencing worse mental health outcomes.

In 2009, Major and colleagues published a review of the evidence examining the association between having an abortion and subsequent mental health outcomes (Major et al., 2009). Their paper was an update on the American Psychological Association's report on the same topic (American Psychological Association Task Force on Mental Health and Abortion, 2008). They, too, pointed to the pervasive methodological problems in the existing literature, and concluded that having a single, legal, first-trimester abortion does not increase pregnant people's risk of experiencing mental health harm. They also concluded that any mental health harm following abortion is not caused by the abortion, but rather by pre-existing conditions and other co-occurring risk factors.

In 2011, Dr. Nada Stotland, former president of the American Psychiatric Association and author or co-author of several important reviews and papers on the topic (Robinson et al., 2012; Robinson et al., 2009; Stotland, 1992, 1996, 1997, 1998a, 1998b, 2002, 2003, 2011b), published a review of the literature specifically focusing on the effects of abortion on the mental health of adolescent women (Stotland, 2011a). In her review, Dr. Stotland pointed to the serious methodological flaws in the literature supporting the notion that abortion leads to mental health harm. When she examined the most rigorous studies, she found that they conclude that abortion does not result in adverse mental health outcomes. She also highlighted the important role that clinicians must play in reassuring patients that abortion does not lead to psychiatric illness.

A 2011 review of the evidence by Steinberg specifically examined the effects of having an abortion later in pregnancy on women's mental health outcomes (Steinberg, 2011). The quality of each study reviewed was assessed based on the appropriateness of its mental health assessment and comparison groups and whether it accounted for other factors that might be associated with later abortion and mental health outcomes. This study determined that the majority of studies on this topic used inappropriate comparison groups, restricted their analyses to women seeking abortion due to fetal diagnosis even though this group comprises a small minority of women seeking later abortions (Drey et al., 2006), and/or did not take into account pre-pregnancy mental health conditions—the most significant predictor of experiencing future mental health problems. Given the limited available quality evidence on the topic, the review called for the need for more research on pregnant people seeking later abortion for reasons other than fetal diagnosis. This study concluded that women who have later abortion due to fetal diagnosis have similar mental health outcomes as women who give birth to children with severe mental or physical conditions or who experience other types of later perinatal loss (i.e. stillbirth or later miscarriage).

In 2011, Coleman published a meta-analysis which erroneously concluded that having an abortion leads to an increased risk of adverse mental health outcomes. Following publication of this paper, eight letters to the editor and two commentaries were published refuting the findings and pointing to serious

methodological concerns (Abel et al., 2012; Goldacre & Lee, 2012; Howard et al., 2012; Kendall et al., 2012; Lagro-Janssen et al., 2012; Littell & Coyne, 2012; Polis et al., 2012; Puccetti et al., 2012; Robinson et al., 2012; Steinberg & Finer, 2012). For example, one letter pointed out that Coleman's methodological approach violated at least three major principles of meta-analysis: failure to assess the underlying validity of included studies, failure to examine statistical heterogeneity, and illogically combining estimates for distinct outcomes (Polis et al., 2012). These flaws render the results of this meta-analysis meaningless.

Assessments of whether abortion increases pregnant people's risk of experiencing any psychiatric disorders demonstrate no increased risk when accounting for pregnant people's pre-pregnancy mental health. An analysis of Danish registry data of over 84,000 women who had a first abortion compared to over 280,000 women who had a first birth indicated that while the psychiatric incidence rate was higher among women who had an abortion, this elevated rate of psychiatric contact was present prior to abortion or childbirth, which emphasizes the non-comparability of these two groups of women (Munk-Olsen et al., 2011; Munk-Olsen et al., 2012). Furthermore, abortion did not appear to exacerbate psychiatric issues: among women who had an abortion, the rate of new psychiatric incidents or readmissions was similar before and after the abortion. In contrast, for women who experienced childbirth, the rate of new psychiatric incidents or readmission increased following childbirth, when compared to before childbirth.

In addition to the Turnaway Study, the preponderance of evidence finds that abortion does not increase a woman's risk of experiencing mood or anxiety symptoms or disorders such as depression, dysphoria, phobias, or posttraumatic stress (Kelly, 2014; Hamama et al., 2010; Lundell et al., 2013; Robinson et al., 2012; Russo & Denious, 2001; Steinberg & Russo, 2008; Steinberg & Finer 2011; Steinberg et al., 2011; Steinberg et al., 2014; Tinglöf et al., 2015; van Ditzhuijzen et al., 2017).

## Abortion denial and subsequent harms

Over the last 10 years at ANSIRH, the Turnaway Study has allowed us to assess not just the effects of abortion but also those of being denied a wanted abortion. As already noted, the Turnaway Study has demonstrated that having an abortion does not lead to negative physical health (Ralph et al., 2019; Gerdts et al., 2015), emotional (Rocca et al., 2020; Rocca et al., 2015; Rocca et al., 2013), or mental health consequences (Biggs et al., 2020; Biggs et al., 2018; Biggs et al., 2017; Biggs et al., 2015; Biggs et al., 2014; Foster et al., 2015; Harris et al., 2014). Additional analyses from this study have found that it is being denied a wanted abortion that leads to lasting negative outcomes for women and children.

### Impact on economic security

Turnaway Study data showed that, compared to those who were able to get the abortion they sought, people denied a wanted abortion were more likely to be living in poverty years later, along with their children (Foster et al., 2018a; Foster et al., 2018b; Foster et al., 2019). Years after being denied an abortion, women were more likely to not have enough money to cover basic living expenses like food, housing, and transportation, compared to those who received an abortion (Foster et al., 2018a). We were able to verify these findings using data from credit agencies, analyzing archived records of overdue and outstanding debt, available credit, and public records of evictions and foreclosures for Turnaway Study participants. We found that study participants who received an abortion and those who were denied one were economically similar for years before they became pregnant; then, the negative

economic consequences of being denied an abortion persisted for years after (Miller et al., 2023). The economic hardships extended to women's children, both those born as a result of abortion denial as well as their existing older children (Foster et al., 2018b; Foster et al., 2019). Our study demonstrated that being denied a wanted abortion leads to long-term increases in financial hardship for women and their children.

### Impact on children and families

In addition to being more likely to live in poverty, the older children of women denied abortion also had poorer developmental outcomes for years to come, compared to the existing children of women who were able to get the abortion they sought (Foster et al., 2019). Women who were denied an abortion experienced poorer bonding with the children born as a result of this denial (Foster et al., 2018b). Five years after abortion-seeking, women denied an abortion were more likely to be raising children alone – without family members or male partners – than women who received the abortion they sought (Foster et al., 2018a). Finally, women denied a wanted abortion were more likely to stay tethered to violent partners (Roberts et al., 2014). Collectively, these studies demonstrate the long-term harms to children and families when pregnant people are unable to get the abortion care they seek.

## Conclusion

In this brief, we review decades of evidence on the effects of abortion on pregnant people's mental health. We find that the highest quality studies do not support the notion that abortion leads to adverse psychological outcomes. Rather, we find few if any differences between pregnant people who have abortions and pregnant people who do not, with those being denied abortion experiencing more elevated negative mental health symptoms in the short term than those who have an abortion. The factors known to increase risk of adverse mental health outcomes in general are the same factors that increase risk of adverse outcomes following abortion; these factors are unrelated to the abortion. Results from studies that use inadequate comparison groups and fail to control for pregnant people's prior mental health history or other important confounders (e.g., experience of violence) must be disregarded.

We find that perceived abortion stigma and lower social support are associated with negative emotions and adverse mental health outcomes among pregnant people who have abortions. Thus, seeking abortion in a society that stigmatizes, prosecutes, and denies pregnant people access to safe, respectful and nonjudgmental abortion services is likely more harmful to pregnant people's mental health than allowing them to access safe abortion services.

Finally, we find that being denied a wanted abortion is associated with long-term hardships for women, children, and families. In short, we find no evidence to justify denying or restricting access to abortion on the basis that it will protect patients' mental health, and significant evidence that denying or restricting access to abortion causes lasting harms.

## Amici curiae[2]

Antonia Biggs, PhD, Social Psychologist and Associate Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

Diana G. Foster, PhD, Demographer and Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

Katrina Kimport, Medical Sociologist and Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

Lauren Ralph, PhD, MPH, Epidemiologist and Associate Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

Sarah Roberts, DrPH, Legal Epidemiologist and Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

Corinne Rocca, PhD, MPH, Epidemiologist and Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

Ushma Upadhyay, PhD, MPH, Public Health Social Scientist and Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

Katie Woodruff, DrPH, Public Health Social Scientist, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, Oakland, CA, USA

[2] Institutional affiliations provided for identification purposes only. The views expressed in this brief do not necessarily reflect the views of amici's affiliated institutions.

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