The Effect of State Reproductive Health Laws on Maternal and Infant Health *

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November 2025

Updated Version

Abstract

In 2013, Texas implemented House Bill 2 (HB2), a law imposing strict operational requirements on abortion providers, which led to the closure of numerous clinics across the state. This policy created cross-county variation in access to abortion services, which I exploit to estimate the effects of restricted access on maternal and infant health. I find that a 100-mile increase in distance to the nearest abortion clinic is associated with a 31% increase in maternal morbidity, driven by large rises in severe obstetric complications, including third and fourth degree perineal lacerations and ruptured uterus cases. These adverse outcomes are not explained by general declines in healthcare access, such as maternity ward closures or reductions in prenatal care. Instead, these outcomes reflect a compositional shift in the birthing population, whereby restricted abortion access increases the share of births among women with preexisting or pregnancy-related health conditions, including chronic hypertension, diabetes, and prior preterm birth, as well as among teenagers, less educated, unmarried, older, and White women, thereby raising both the medical and socioeconomic risk of the birthing population. A counterfactual simulation suggests that if all counties had an abortion facility within 50 miles, approximately 952 cases of maternal morbidity, including 771 severe perineal lacerations and 24 ruptured uterus cases, could have been avoided. Infant outcomes show mixed effects, with Hispanic infants experiencing disproportionate adverse outcomes, and Neonatal Intensive Care Units (NICU) admissions rising in counties most affected by clinic closures. These findings demonstrate that restrictions on abortion access not only limit reproductive choice but also meaningfully increase maternal health risks, highlighting the broader public health consequences of policies that impose travel barriers to abortion services.

Keywords: abortion, maternal health, birth outcomes, infant health, HB2

JEL Codes: I12, I14, I18, J13

*I thank my amazing advisors and colleagues for their helpful comments.

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1 Introduction

Access to abortion services is a fundamental component of reproductive health care according to (American College of Obstetricians and Gynecologists, 2025) and has in recent years been subject to sweeping legal and policy changes. Some of these legal changes are regulatory in nature, imposing strict requirements on abortion providers, and are known as Targeted Regulation of Abortion Providers (TRAP) laws. Among the most consequential of TRAP laws was Texas House Bill 2 (HB2), which was signed into law on July 18, 2013, and implemented in November of the same year. HB2 imposed onerous regulations on abortion service providers that significantly disrupted clinic operations. As a result, the number of abortion clinics in Texas declined from 41 in 2012 to 17 by June 2016, accompanied by a 14% reduction in abortions between 2013 and 2014 as measured by (Grossman et al., 2017). Proponents of HB2 argued that these requirements would improve women's health by aligning abortion services with broader medical standards. Critics, however, contended that the law effectively restricted access by forcing the closure of many clinics, thereby requiring some women to travel very far to obtain an abortion. While existing research has documented the effects of these access restrictions on fertility decisions (Fischer et al., 2018; Lindo et al., 2017; Grossman et al., 2017), less is known about the downstream consequences of such restrictions on maternal and infant health outcomes. This paper fills this gap by examining the impact of increased travel distance to abortion facilities driven by HB2-induced clinic closures on maternal and infant health across Texas.

To study the relationship between restricted abortion access and maternal and infant health outcomes, I use travel distance to the nearest abortion provider from the Caitlyn Myers Database (Myers, 2025) as a measure of abortion access. I also use restricted-access national birth certificate records from the National Center for Health Statistics (NCHS) (National Center for Health Statistics, 2022c) for 2010-2016, focusing my analysis on births to mothers residing in Texas. These data provide detailed information on pregnancy, labor, and health outcomes. The restricted-access files provide county of residence and birth, enabling precise measurement of abortion access two quarters before delivery, the period when abortion would have been sought. The identification strategy exploits the variation in distance to the nearest abortion provider generated by the sharp, plausibly exogenous clinic closures following HB2. I estimate the effects of this variation using a Poisson Fixed Effects model, which controls for unobserved time-invariant differences across counties and secular trends over time.

The theoretical effect of restricted abortion access on maternal and infant health is ambiguous, as it depends on how the policy alters the composition of births. On one hand, restrictions could improve average health outcomes if they incentivize behaviors that prevent high-risk pregnancies. On the other hand, they could worsen outcomes by forcing more high-risk or unwanted pregnancies to be carried to term (Ananat et al., 2009). The net impact is therefore an empirical question, hinging on which of these opposing effects dominates. Texas provides an ideal case study for examining the impact of restricted abortion access on maternal and infant health. Texas' policies reflect national trends, and the state's size limits cross-border travel, making Texas especially informative for studying the consequences of restricted abortion access.

In analyzing HB2, I address three key questions that not only shed light on the broader effects of existing reproductive health legislation but also provide insights relevant to the design of future policies. First, what are the consequences of increased travel distance on maternal and infant health? I find that the effects are concentrated among those who experienced the largest increase in travel distance. Compared to mothers living within 50 miles of a clinic, I find that mothers located more than 150 miles from the nearest abortion clinic experienced worse health outcomes. A similar pattern is observed for infant health, with infants born to mothers 150 to 200 miles from a clinic exhibiting poorer health outcomes relative to those born to mothers residing within 50 miles.

Second, through what mechanisms might these results be explained? In particular, did HB2 change the composition of women who carried pregnancies to term, thereby increasing maternal health complications? To investigate this, I analyze the relationship between travel distance to the nearest abortion clinic and the prevalence of medical risk factors and demographics among women who delivered. I consider chronic diabetes and hypertension, gestational diabetes and hypertension, hypertensive disorders including eclampsia, and a history of preterm birth. The findings indicate that a 100 mile increase in distance is associated with a 14% to 32% increase in the prevalence of births to mothers with these preexisting and gestational health conditions. In addition, births increase among teenagers, women with less than a high school education, unmarried women, older mothers, and White women, reflecting shifts in both medical and demographic risk factors. Together, these results suggest that restricted access disproportionately leads to high-risk pregnancies being carried to term, raising both the medical and socioeconomic vulnerability of the birthing population and providing a plausible mechanism for the observed rise in maternal morbidity.

Finally, I examine the heterogeneous effects of HB2 on maternal and infant health across demographic subgroups, revealing that the burdens were borne by starkly different populations. For maternal health, the effects are surprisingly concentrated among more advantaged groups; the impact is largest for white women, for whom a 100-mile increase in travel distance is associated with a 51% increase in morbidity. Significant negative effects are also found for women aged 30–44, first-time mothers, and those with higher education. In sharp contrast, for infant health, the greatest adverse impacts are faced by infants of Hispanic mothers. For this group, living 150-200 miles from a clinic increases the incidence of poor health outcomes by approximately 21%. These divergent patterns indicate that the consequences of HB2 were not uniform, highlighting that the populations most vulnerable to maternal health declines were distinct from those vulnerable to adverse infant health outcomes.

This study contributes to an expansive literature studying reduced access to reproductive healthcare, particularly abortion, on various fertility outcomes. Several rigorous empirical studies converge on the conclusion that increased distance to abortion care reduces abortion rates and correspondingly increases births, with findings that are mutually reinforcing and broadly consistent across contexts (Myers, 2021; Lindo et al., 2017; Fischer et al., 2018; Grossman et al., 2017; Quast et al., 2017). While this literature provides compelling evidence of the fertility consequences of restricted access, less is known about the downstream impacts on maternal and infant health. Building on this work, this study examines the effects of HB2-related clinic closures on maternal and infant health outcomes using a difference-in-differences approach at the county level, thereby extending the literature to longer-term health consequences beyond fertility.

In addition, I contribute to the literature examining the relationship between abortion access and maternal and infant health. (Presser et al., 2025) descriptively links post-Dobbs abortion bans to a surge in maternal sepsis. I build on this work by providing a causal, quantitative analysis of an earlier restriction, HB2, on maternal health, identifying a compositional change in births as a key mechanism. The most closely related studies to this study are (Gardner, 2024; Springer, 2025). Gardner (2024) examines the maternal and infant health consequences of abortion restrictions by exploiting state-level variation in the enactment of TRAP laws nationwide and finds that such restrictions increased hypertensive disorders of pregnancy. Springer (2025) builds on the work of Gardner (2024) by evaluating the effect of driving distance on additional maternal health outcomes including perineal larcerations, ruptured uterus or unplanned hysterectomy and finds a 11% increase in infant mortality but no discernible effect on individual measures of maternal health. This study's contribution is its granular analysis of Texas HB2, which generated substantial variation in travel distance to abortion facilities. By comparing counties within Texas, this paper's localized approach isolates the direct causal effect of losing geographic access from unobserved statewide trends, providing a cleaner estimate than is possible in broader national studies. This focus on a single state is particularly informative; Texas's large geography and limited cross-border access for care mean the effects of clinic closures are less likely to be attenuated by substitution, making it an ideal setting to understand the consequences of restrictive abortion policies.

Finally, this paper is related to the literature on maternal and infant health. Several papers study how policies impact health outcomes of mothers and infants (Currie and Gruber, 1996; Hoynes et al., 2011; Almond and Doyle Jr, 2011). Others investigate the impacts of access to hospital-based maternity services on birth outcomes (Battaglia, 2022; Fischer et al., 2024). I contribute to this literature by documenting how access to abortion services impact maternal and infant health.

This study offers novel insights into the broader public health ramifications of abortion restrictions and underscores the need to incorporate maternal and infant health outcomes into policy evaluations of reproductive legislation. By focusing on travel distance rather than legal exposure alone, this paper adds to the growing literature on the health consequences of abortion restrictions and provides new evidence on how changes in access affect maternal and infant health outcomes. The findings are particularly timely given the evolving legal landscape following the U.S. Supreme Court's decision in Dobbs v. Jackson Women's Health Organization (2022), which eliminated the federal constitutional right to abortion and has triggered a wave of new state-level bans and restrictions.

This paper is organized as follows. Section 2 establishes the policy context of Texas HB2, and Section 3 describes the data. I then outline the empirical strategy in Section 4. Section 5 presents the main results, which are disaggregated in a detailed heterogeneity analysis in Section 6. I then investigate the mechanisms driving these findings in Section 7 and validate them through a series of robustness checks in Section 8. Finally, Section 9 provides back-of-the-envelope calculations to contextualize the results' magnitude, and Section 10 concludes.

2 Background

Prior to 2013, Texas implemented several policy changes that affected the provision of reproductive health services. In 2011, the state legislature approved a substantial reduction in the family planning budget administered by the Texas Department of State Health Services (TDSHS), which took effect in the 2012–2013 biennium. The budget was reduced from \$111 million to \$37.9 million, representing a 67% decrease (Fischer et al., 2018). Following the funding reduction, approximately one quarter of family planning clinics in the state closed, while others adjusted by reducing operating hours or staff (White et al., 2015).

On July 18, 2013, after several previous legislative efforts to amend abortion regulations had not advanced, the Texas legislature enacted House Bill 2 (HB2). HB2 included four major provisions: (1) physicians performing abortions were required to have admitting privileges at a hospital within 30 miles of the clinic; (2) abortions were prohibited after 20 weeks post-fertilization, except in cases of severe fetal abnormality or when the pregnancy posed a serious risk of irreversible physical harm to the woman, excluding psychological harm; (3) medication abortions had to comply strictly with the Food and Drug Administration (FDA) protocols, necessitating separate in-person visits for each of the two doses, followed by a mandatory follow-up appointment within 14 days; and (4) all abortion procedures had to be performed in facilities that met the standards of ambulatory surgical centers (ASCs). The first three provisions took effect on November 1, 2013, leading to an initial wave of clinic closures. The fourth provision, which required compliance with ASC standards, was implemented on October 3, 2014, but was enforced for only two weeks before being blocked by the US Supreme Court.

These requirements, particularly the admitting privileges and ASC standards posed significant operational challenges for many clinics, leading to a decline in the number of abortion clinics in Texas from 41 in 2012 to 17 by June 2016 and a 14% decrease in abortions between 2013 and 2014 (Grossman et al., 2017). This wave of closures led to pronounced geographic disparities in access to abortion services. Figure 1 illustrates that, following the enactment of HB2, the average travel distance to the nearest abortion facility in Texas increased by more than 50 miles, with some counties experiencing increases exceeding 100 miles. As shown in Figure 2, large areas of the Panhandle, West Texas, and South Texas faced increases of approximately 100 to 200 miles to the nearest provider.

3 Data

To evaluate the impact of abortion access on maternal morbidity and adverse infant health, I use individual-level birth records from restricted-use All-County Natality Files for the years 2010 through 2016 provided by the National Center for Health Statistics (2022c). These records include all registered births to Texas residents that occurred within Texas during this period. The data offers comprehensive demographic and clinical information on the birthing person, including age, race/ethnicity, educational attainment, health status indicators, and adverse outcomes associated with pregnancy and delivery. Maternal morbidity is measured as the presence of one or more of the five clinically significant complications, identified through standardized checkbox reporting in the natality records: maternal transfusion, severe perineal laceration (third or fourth degree), ruptured uterus, unplanned hysterectomy, and admission to an intensive care unit (ICU). Maternal transfusion refers to the administration of whole blood or packed red blood cells associated with labor and delivery. Transfusions are required during heavy bleeding and hemmorrhaging which can can be life threatening to the mother and fetus according to Butwick and Goodnough (2015). Third degree larcerations extends through the perineal skin, vaginal mucosa, perineal body, and partially or completely through the anal sphincter. Fourth degree larcerations are third degree larcerations with extension through the rectal mucosa. Third degree larceration and fourth degree larcerations are considered severe larcerations and can lead to significant complications like pelvic floor dysfunction and incontinence (Ramar et al., 2024). A ruptured uterus is defined as a full-thickness tear of the uterine wall, including disruption of the serosal layer. A ruptured uterus can cause abdominal pain, vaginal bleeding, a change in the contraction pattern, or a nonreassuring fetal heart rate tracing and is considered life threatening to both the mother and the fetus (Togioka and Tonismae, 2020). An unplanned hysterectomy is the surgical removal of the uterus that was not scheduled prior to hospital admission. Unplanned hysterectomies are usually performed in the setting of life threatening hemorrhage during or immediately after abdominal and vaginal deliveries (Machado, 2011). Due to the unplanned nature of the surgery, the need for performing it expeditiously and the acute loss of blood of the patient, unplanned hysterectomies present a much greater risk of morbidity and mortality to mothers compared to planned ones (Machado, 2011). I analyze these outcomes both individually and collectively as an indicator of any maternal morbidity. This approach enables a comprehensive assessment of severe maternal health complications related to childbirth.

Additionally, the natality files include key indicators of infant health, such as Neonatal intensive care unit (NICU) admission, Apgar scores, and fetal death. In this study, I define adverse infant health as the presence of one of three specific measures of infant health: NICU admission, Low Apgar scores, and fetal death. Fetal death refers to the spontaneous intrauterine death of a fetus at any time during pregnancy (National Center for Health Statistics, 2022a). According to the CDC's guidelines for completing the 2003 U.S. birth certificate, NICU admission is defined as admission to a facility or unit equipped and staffed to provide continuous mechanical ventilator support for newborns (National Center for Health Statistics, 2022a). The American Academy of Pediatrics outlines four levels of neonatal care. Level I nurseries care for healthy newborns, while Level II units, often referred to as intermediate care nurseries, special care nurseries, or Level II NICUs, support infants with non-critical conditions requiring moderate medical attention. Levels III and IV are designed to manage newborns with increasingly complex and severe medical needs, including those with lower acuity conditions. Neonatal intensive care has been highly effective in reducing infant mortality and morbidity in the U.S. by addressing the complications of prematurity, congenital anomalies, and perinatal issues (Pursley and Zupancic, 2020). The Apgar score is an accepted and convenient method for reporting the status of the newborn infant immediately after birth and the response to resuscitation if needed (Watterberg et al., 2006). The Apgar score comprises five components: color, heart rate, reflexes, muscle tone, and respiration with each component is assigned a score of 0, 1, or 2. Thus, the Apgar score quantitates clinical signs of neonatal depression, such as cyanosis or pallor, bradycardia, depressed reflex response to stimulation, hypotonia, and apnea or gasping respirations (Watterberg et al., 2006). The Apgar score is recorded at 1 and 5 minutes after birth for all infants, and subsequently at 5-minute intervals up to 20 minutes for those with a score below 7. In this study, a score below 7 is classified as a low Apgar score.

To conduct robustness checks, I use mortality data from the restricted-use All-County Mortality Files for the years 2010 through 2016 provided by the (National Center for Health Statistics, 2022b). The dataset includes detailed demographic and clinical information on the deceased, including age, race/ethnicity, educational attainment, as well as the time and cause of death. To account for population heterogeneity and generate accurate death rates, I use age and race specific population estimates at the county-year level from the (Surveillance, Epidemiology, and End Results (SEER) Program, 2025). Since population is only available annually, and because the empirical model operates at the county-quarter level, I interpolate between yearly estimates to avoid abrupt changes across time periods. This approach allows for smoother variation in population and economic controls across quarters within a given year. Additionally, I use the 2023 Rural–Urban Continuum Codes (RUCC) from the U.S. Department of Agriculture's Economic Research Service (ERS) to classify counties in Texas as rural or urban. I also draw on data from the U.S. Census Bureau's County Business Patterns to measure the number of hospitals and physician offices in each county. These data allow for a more nuanced assessment of how local healthcare infrastructure and geography may influence the results.

To capture variation in abortion access over time and across counties, I use data from the Caitlin Myers Abortion Access Database (Myers, 2025). This dataset provides monthly measures of travel distance to the nearest abortion facility, accounting for road networks and traffic conditions, and calculated from the population-weighted centroid of each Texas county. The nearest facility may be located either within Texas or in a neighboring state. Facilities are classified as abortion providers if they publicly advertise abortion services or are otherwise readily identifiable to the general public as offering such services. Recognizing that the relationship between distance and access may be non-linear, I categorize distance to the nearest abortion clinic using both a continuous variable and categorical bins. For the categorical specification, I create four binary indicators: 50–100 miles, 100–150 miles, 150–200 miles, and 200 miles or more, with 0–50 miles as the reference category. Using distance bins allows the analysis to flexibly capture non-linear effects that may be obscured in a continuous specification, while including the continuous measure provides a complementary robustness check and facilitates interpretation of marginal effects.

Table 1 presents summary statistics at the county-quarter level using natality data from NCHS. Maternal morbidity events are relatively rare, with severes degree perineal larceration and ICU admission being the most frequently observed complications. In contrast, more severe outcomes such as ruptured uterus and unplanned hysterectomy occur infrequently. Maternal risk factors show that gestational conditions are more common than chronic ones, with gestational hypertension and gestational diabetes affecting a notable share of births. Infant health outcomes reflect similar patterns: NICU admissions are the most prevalent, while outcomes like fetal death and low Apgar scores are observed less often. On average, counties are located nearly 95 miles from the nearest abortion facility with substantial variation, highlighting geographic disparities in access to abortion services across Texas. The sample is racially and ethnically diverse, with just over half of mothers identified as non-Hispanic White, followed by a substantial share of Hispanic mothers and a smaller proportion of non-Hispanic Black mothers. Most mothers are between ages 20 and 39, and the majority have at least a high school education. Pregnancies average 38 weeks of gestation and involve about 11 prenatal visits. Together, these statistics provide important context for examining maternal and infant health in relation to geographic disparities in abortion access.

4 Empirical Strategy

I estimate the effect of access to abortion services on maternal morbidity and infant health by exploiting variation in driving distance to the nearest abortion provider across Texas counties and over time. This quasi-experimental variation allows for the identification of the causal impact of reduced abortion access on maternal morbidity and infant health. Given that maternal morbidity and infant health are count outcomes and the birth data include zero counts of these events in some county-quarters, I estimate a Poisson Fixed Effects model. This modeling strategy accounts for overdispersion while maintaining consistency of the parameter estimates in the presence of fixed effects (Cameron and Trivedi, 2022). The total number of births in each county-quarter is included as an exposure variable, allowing the model to estimate rates of maternal and infant health outcomes while accounting for population differences across counties. The estimating equation takes the following form:

$$Y_{c,t} = \beta_0 + \beta_1 Access_{c,t} + \beta_2 X_{c,t} + \gamma_c + \alpha_t + \epsilon_{c,t} \tag{1}$$

$Y_{c,t}$ is the outcome in a given county c at quarter-year t. $Access_{c,t}$ is a set of measures of access to abortion clinics for residents in county c in quarter-year t. $X_{c,t}$ include measures of demographics, payment method, birth parity and family planning access. To control for family planning access, I control for whether a county had a family planning clinic prior to the funding cut in 2012 interacted with the time period after the funding cut happened (post-2012). γ_c are county fixed effects and α_t are quarter year fixed effects. I present estimates using a set of indicator variables to measure distance as well as distance measured in 100s of miles.

This econometric approach addresses key endogeneity concerns through a robust set of controls. The inclusion of county and time fixed effects absorbs all time-invariant differences across counties as well as shocks common to all counties in a given time period, helping to isolate the effect of changes in abortion access. I also include aggregated maternal characteristics at the county-quarter level to account for shifts in the composition of the birthing population. This is important because the core mechanism through which HB2 may affect maternal morbidity and infant health is not only by reducing access to abortion, but also by altering who carries pregnancies to term. Restrictions on abortion may force individuals with higher-risk pregnancies or fewer financial and health resources to continue their pregnancies, thereby increasing the average risk profile of the birthing population. These maternal characteristics may themselves lie on the causal pathway, so including them could attenuate the estimated effects. To address this, I present results both with and without these controls as a robustness check. Accounting for observable maternal characteristics therefore provides a likely conservative estimate of the effects of abortion access on maternal morbidity and adverse infant health, though unobservable changes in maternal selection could still bias estimates in either direction.

Equation (1) can be interpreted as a difference-in-differences model with a continuous treatment. Therefore, the validity of the empirical strategy depends on the "strong parallel trends" assumption, as described by (Callaway et al., 2024). This assumption posits that trends in maternal morbidity and adverse infant health in counties experiencing little or no change in travel distance to the nearest abortion clinic serve as a valid counterfactual for those counties that experienced substantial increases in travel distance. Although this identifying assumption cannot be directly tested, both institutional context and empirical patterns support its plausibility. To support the identifying assumption, I plot pre and post policy trends in average travel distance, maternal morbidity, and infant health across four groups of counties categorized by the change in distance to the nearest abortion clinic between the second and fourth quarters of 2013. Figure 3 shows that average travel distance was stable across all groups prior to 2013, suggesting that pre-2013 years provide a suitable basis for evaluating parallel trends. This pattern suggests that the observed changes in abortion access were driven by the law rather than by underlying trends in maternal health, infant health or other county-level factors, lending credibility to the study's empirical strategy. Figure 4 indicates that maternal morbidity rates per 1,000 births evolved similarly across counties from 2010 to 2012, while Figure 5 demonstrates comparable pre-trends in adverse infant health over the same period. Together, these figures provide evidence of common pre-HB2 trends. As an additional check on the validity of the parallel trends assumption underlying the empirical strategy, I estimate an event study specification that controls for a comprehensive set of time-varying covariates, including demographic characteristics, socioeconomic indicators, and access to family planning services, as specified below.

$$Y_{ct} = \gamma_c + \alpha_t + \sum_{k=-q,k\neq-1}^{m} \beta_k(Dose_c \times D_t^k) + \delta X_{ct} + \varepsilon_{ct} \tag{2}$$

$Y_{c,t}$ is the outcome in a given county c at quarter-year t. $Dose_c$ is the the change in distance between Quarter 2 2013 and Quarter 4 2013. D_t^k is a set of dummy variables, where each dummy is equal to 1 if the observation is k periods away from quarter 2 2013, and 0 otherwise. $X_{c,t}$ include measures of demographics, payment method, birth parity and family planning access. γ_c are county fixed effects and α_t are quarter year fixed effects.

To assess the validity of the parallel trends assumption, I test for differential pre-trends by conducting a joint F-test of the pre-treatment coefficients. For all outcomes except low Apgar score at five minutes, the p-values for the null hypothesis that the pre-treatment coefficients are jointly zero exceed 0.05. Consequently, I fail to reject the null, indicating that, conditional on controls, counties that subsequently experienced changes in travel distance followed similar pre-treatment trajectories to those that did not.

Figure 6 presents the event-study estimates for maternal morbidity, and Figure 7 for adverse infant health. In both cases, the p-values of the joint pre-trend tests exceed 0.05, reinforcing the absence of systematic differences in pre-policy trends. Figure A1 and Figure A2 further disaggregate these results by specific measures of maternal morbidity and infant health, respectively. Overall, the absence of statistically or substantively significant pre-trends provides strong support for the parallel trends assumption and lends credibility to interpreting the post-treatment coefficients as causal effects of increased travel distance on maternal morbidity and infant health.

A potential threat to the identification strategy arises if factors that influence maternal morbidity and infant health change concurrently with travel distance. The primary concern is that changes in travel distance could proxy for broader shifts in access to healthcare. If general healthcare access declines alongside increases in travel distance to abortion facilities, the estimated effects on maternal morbidity and infant health could be partially confounded. To evaluate this possibility, I follow (Springer, 2025) and examine whether increases in travel distance are associated with reductions in other forms of healthcare access. Specifically, I estimate the effect of travel distance on indicators of maternity ward closures and on three measures of prenatal care: receipt of any prenatal care, initiation of prenatal care in the first trimester, and the total number of prenatal visits. This analysis assesses whether changes in abortion access coincide with broader disruptions in healthcare access. To identify maternity ward closures, I use two approaches. The first approach follows (Battaglia, 2022) where a county loses a maternity ward in year t if the 3-year average in years t-1, t-2 and t-3 is more than 15 hospital births while the 3-year average in years, t ,t+1 and t+2 is less than 5 hospital births. The second approach follows (Fischer et al., 2024) where I identify year t as the year of a closure if the number of hospital births declined by at least 75% between year t and year t+1, where the number of births in year t was at least six, and the number of births in year t+1 was less than six. As shown in Table A1, increases in travel distance to the nearest abortion facility are not associated with a higher likelihood of maternity ward closure. For prenatal care utilization as shown in Table A2, I find no statistically significant relationship using the continuous measure of travel distance. However, when distance is categorized into bins, I find higher rates of prenatal care utilization among mothers residing 50 to 150 miles from the nearest facility relative to those within 50 miles. There is no effect on the likelihood of initiating prenatal care in the first trimester, and a decrease in the number of prenatal visits among mothers living 150 to 200 miles away compared to those within 50 miles. These results suggest that the estimated effects on maternal morbidity and infant health are unlikely to be driven by concurrent changes in general healthcare access.

5 Main results

Table 2 presents estimates of the effect of restricted abortion access on maternal morbidity. Within each panel, each column is a separate regression. Panel A reports results using categorical distance bins, while Panel B reports results using continuous distance measured in 100 mile increments. Within Panel A, each row reflects a different binary measure of abortion access. Across columns, additional controls are added sequentially. Column (1) includes county and time fixed effects. Column (2) adds a control for access to publicly funded family planning services, specifically, an interaction between an indicator for whether a county had a family planning clinic prior to family planning budget cuts in 2011 interacted with a post-2012 dummy. Column (3), the preferred specification, adds time-varying maternal characteristics: age, parity, payment method, education, and race. Given the Poisson fixed effects model and the use of births as the exposure variable, coefficients are interpreted as relative changes in the maternal morbidity rate. To express these changes as percentages, coefficients are transformed using $(e^{\beta}-1)*100\%$.

In Panel A, the omitted category comprises counties located within 0–50 miles of the nearest clinic, which exhibit an average maternal morbidity rate of approximately 9.0 cases per county-quarter. In Column (1), the coefficient on the 50–100 mile bin is 0.291, corresponding to a 33.6% increase in maternal morbidity relative to the omitted group. The estimated effect remains stable with the inclusion of additional covariates in Columns (2) and (3), although the coefficient loses statistical significance in the fully specified model. Counties located more than 150 miles from the nearest clinic exhibit positive and statistically significant effects in Column (3), indicating that the largest and most robust increases in maternal morbidity are concentrated among counties facing the greatest travel burden.

Panel B complements the categorical analysis by modeling distance as a continuous variable, scaled in 100 mile increments. As controls are added, the estimates tend to decrease slightly in magnitude and gain precision. My preferred estimate (column 3) suggests a 31.26% increase in maternal morbidity for every 100mile increase in distance to the nearest abortion clinic. Given a baseline of 3.60 maternal morbidity cases per county-quarter, this implies approximately 1.13 additional cases per county-quarter following a 100-mile increase in distance. The consistency of the estimates across panels reinforces the conclusion that reduced access to abortion services leads to worse maternal health outcomes.

To disentangle the impact of travel distance from other potential confounders associated with geography, I examine the impact on maternal morbidity stratified by rural designation. This analysis tests whether the observed effects are a direct result of increased travel distance or merely a proxy for a broader rural-urban health disparity. The findings in Table A3 are striking: while the initial loss of clinics was concentrated in rural counties, the subsequent increase in travel distance is associated with a statistically significant rise in maternal morbidity in both rural and urban areas. Importantly, the magnitude of this effect is larger in urban settings, where a 100-mile increase in travel distance corresponds to a 29% rise in maternal morbidity, compared to a 14% increase in rural areas. This result strongly indicates that travel distance itself is the operative mechanism, rather than rurality. It suggests that even in areas with a higher density of healthcare infrastructure, forcing patients to travel further for abortion services imposes a significant health burden, demonstrating that the consequences of reduced abortion access are not a uniquely rural phenomenon.

To examine which measure of maternal morbidity is driving the results, I implement the analysis again using maternal transfusion, perineal laceration, ruptured uterus, unplanned hysterectomy, and ICU admission as outcomes and present the results in Table 3. The results from Panel A suggest that increased distance to abortion services is associated with higher rates of certain maternal complications, particularly severe perineal laceration and ruptured uterus. The estimates imply that relative to counties with the nearest abortion clinic 50 miles away, having the nearest abortion provider 50–100, 100-150, 150-200, and more than 200 miles away leads to a 52%, 42%, 89% and 162% increase in perineal laceration cases respectively. A broadly similar but less pronounced pattern is observed for ruptured uterus, having the nearest clinic 200+ miles away is associated with a 141% increase in ruptured uterus cases relative to counties with the nearest abortion clinic within 50miles. Effects on unplanned hysterectomy are also large and significant for the 200 plus mile group, though the estimates for the other measures of maternal morbidity are not statistically significant. Panel B models distance continuously in 100mile increments and reinforces the patterns observed in Panel A. For every additional 100 miles from the nearest abortion clinic, the cases of perineal laceration increases by 47.55% and ruptured uterus increases by 34.99%. These are substantial relative increases, particularly given the low baseline rates for ruptured uterus, 0.08 and 1.89 for perineal larceration per county-quarter. The effects on maternal transfusion and ICU admission are not statistically significant, though the point estimates for maternal transfusion remain positive. A potential concern is that the increase in severe perineal laceration may be driven by increases in vaginal births, as most such larcerations occur during vaginal delivery. To investigate this, I estimate the impacts of travel distance on vaginal, cesarean and unplanned cesarean births. I find that women living 50 miles or more from an abortion service provider experience a 1.59% decrease in vaginal births and an increase of 3% and 19% in cesarean and unplanned cesarean births respectively. For vaginal births, all other distance bins remain negative and not statistically significant. The same holds for cesarean births, except the estimates are positive. Conversely, for unplanned cesarean births, all estimates are positive and statistically significant across all distance bins. These results suggest that the rise in lacerations is not simply a function of more vaginal deliveries and that changes in access may be linked to more complicated or urgent delivery situations. The results strongly suggest that increased distance to abortion services is associated with worse maternal health outcomes, particularly for complications arising during labor and delivery. These findings align with a broader literature indicating that reduced access to reproductive healthcare can increase physical health risks during pregnancy and childbirth (Foster, 2020; Gardner, 2024).

Table 4 presents the estimated effects of increased travel distance to abortion services on adverse infant health. Panel A shows results from the categorical specification, where the omitted group comprises counties located within 0–50 miles of the nearest abortion clinic. Across all model specifications, the coefficients for counties 50–100 and 100–150 miles away are positive but imprecisely estimated. The effect becomes statistically significant for counties 150–200 miles away, indicating an increase in adverse infant health outcomes of about 11.63% relative to the omitted group. The point estimates for counties more than 200 miles from a clinic are smaller and statistically insignificant, suggesting that the largest effects occur at intermediate distances rather than at the extreme end of the distribution.

Panel B models distance continuously, measured in 100 mile increments. The estimated coefficients are positive but not statistically significant across specifications, implying modest average effects of 0.9% to 1.6% per 100 miles. These results are robust to the inclusion of family planning interactions and socioeconomic controls, and the magnitude of the coefficients remains stable across Columns (1)–(3). Given the mean of adverse infant health rate of roughly 79 cases per 1,000 births, these estimates suggest that while increased distance to abortion services may modestly worsen infant health outcomes, the effects are concentrated among counties facing moderate rather than extreme increases in travel burden.

Table 5 presents estimates of the effects of travel distance to the nearest abortion service provider on individual measures of adverse infant health. Panel A presents results by distance bins, with counties 0–50 miles from a clinic serving as the reference group. In Column (1), the NICU admission rate in counties 100 to 150 miles from a clinic is significantly higher, by approximately 12.5%, compared to the reference group, which has a mean of 88.82 admissions per county-quarter. The effect increases to 20.68% for counties 150 to 200 miles away and remains statistically significant, while the estimate for counties over 200 miles is positive but imprecisely estimated. In contrast, Column (2) shows no statistically significant association between distance and fetal death rates across any distance group, though point estimates fluctuate. Columns (3) and (4) show consistent and statistically significant declines in low Apgar scores at both 5 and 10 minutes for counties located farther than 100 miles from a clinic. The estimates for counties 200 or more miles away indicates a 27.67% and 27.75% reduction in low Apgar 5 and 10 scores, respectively, compared to the baseline. Panel B models distance as a continuous variable, per 100 miles and finds that increased distance is significantly associated with lower rates of low Apgar scores, with an estimated 12.6% and 12.5% decline for each 100-mile increase in distance, respectively. Effects on NICU admissions and fetal death remain small and not statistically significant. The findings present a nuanced picture, while the increased travel burden following clinic closures may have led to improvements in some infant health markers, it was concurrently associated with an increase in NICU admissions for moderately distant counties. This demonstrates a heterogeneous response to reduced abortion access.

6 Heterogeneous Effects

A substantial body of literature has documented that the effects of abortion legislation vary significantly by demographic group (Jones and Pineda-Torres, 2020; Kelly, 2020). To examine potential demographic disparities in the impact of increased travel distance to the nearest abortion clinic on maternal and infant health outcomes, I estimate treatment effects by race, age, birth parity, marital status and educational attainment level of the birthing person using Equation (1). The findings presented in Table 6 and Table 7 provide robust evidence of heterogeneous effects of restricted abortion access on maternal morbidity and adverse infant health across demographic groups. In Table 6, Panel A shows that increased travel distance to abortion services leads to significant increases in maternal morbidity, with particularly pronounced effects among specific demographic populations. White women exhibit consistently positive and statistically significant effects, with the largest coefficients observed at the 150–200 and 200 plus mile thresholds. In contrast, the effects for Black women are generally positive but not statistically distinguishable from zero, except for the 150-200 mile threshold. The burden of increased distance is pronounced for all other demographic groups, with the 200 plus mile distance category yielding the largest and most significant estimates. In Panel B, all demographic groups experience increases in maternal morbidity, with effect sizes ranging from 16.4% for mothers with less than high school education to 51.44%, for white women for a 100-mile increase in distance. These findings highlight that restrictions on abortion access affect maternal health across all populations, although the magnitude of the impact varies by group. While White women exhibit the largest estimated effects, likely reflecting greater statistical power given their representation (51%) in the sample, the findings indicate that increased travel distance to abortion services is associated with higher maternal morbidity across all racial and demographic groups, underscoring the broad public health implications of reduced abortion access.

Table 7 presents the impact of increased travel distance to the nearest abortion clinic on adverse infant health, disaggregated by race, age, birth parity, marital status, and educational attainment of the birthing parent, estimated using Equation (1). Panel A shows that greater travel distance is associated with increases in adverse infant health, with effects varying across demographic groups. Infants born to Hispanic women experience statistically significant increases at the 100–150 and 150–200 mile thresholds, with the largest effect at 150–200 miles. Infants born to White women show positive effects across all distance thresholds, although these are not statistically significant. For infants born to Black women, the effects are mixed and not statistically distinguishable from zero. The burden of increased distance is pronounced among infants born to women aged 20–44, married women, women experiencing second or higher-order births, and those with a high school education or less. In Panel B, the continuous distance specification yields mostly positive but statistically insignificant effects, with the exception of infants born to Black and non-Hispanic, non-White mothers. These findings suggest that the consequences of abortion access restrictions may vary across populations. Although most effects are not statistically significant, the results indicate that increased travel distance could elevate risks to infant health for certain groups, highlighting the potential role of abortion access as a determinant of infant outcomes.

7 Mechanisms

I hypothesize that restricted access to abortion services affects maternal and infant health primarily through compositional changes in the population of women giving birth. In particular, increased travel distance may alter both the demographic characteristics and the underlying medical risk factors of mothers. To evaluate this mechanism, I examine whether HB2 influenced these characteristics by estimating Equation (1) with maternal attributes as outcome variables. This approach allows me to assess whether the composition of women giving birth changed following HB2, which could help explain observed effects on maternal and infant health outcomes.

Medical risk factors examined in this study include diabetes, hypertension, and a history of preterm birth. The Centers for Disease Control and Prevention (CDC) defines a previous preterm birth as a history of pregnancy resulting in a live birth before 37 completed weeks of gestation (National Center for Health Statistics, 2022a). Diabetes in pregnancy refers to glucose intolerance requiring treatment, and may be classified as either chronic, diagnosed prior to pregnancy, or gestational, diagnosed during pregnancy. Hypertension is defined as elevated blood pressure above the normal range for age, sex, and physiological condition, and can also be chronic or gestational. Diabetes confers significantly greater maternal and fetal risk largely related to the degree of hyperglycemia but also related to chronic complications and comorbidities of diabetes (American Diabetes Association, 2021). In general, specific risks of diabetes in pregnancy include spontaneous abortion, fetal anomalies, preeclampsia, fetal demise, macrosomia and neonatal respiratory distress syndrome, among others (American Diabetes Association, 2021). Moreover, diabetes during pregnancy may have long-term consequences for offspring, including an elevated risk of obesity, hypertension, and type 2 diabetes later in life (Dabelea et al., 2000). Hypertension in pregnancy is similarly associated with increased risks to maternal, fetal, and neonatal health, contributing to higher rates of morbidity and mortality (Cífková, 2023).

Table 8 presents the effects of increased travel distance to the nearest abortion clinic on the number of births, disaggregated by race, age, birth parity, marital status, and maternal education. The results show that overall effects on total births are small and generally not statistically significant, suggesting limited changes in total births following HB2. However, the estimates reveal substantial heterogeneity across subgroups. Births among White women rise significantly at the 200+ mile threshold, while births among Black women decline at the same distance, pointing to compositional shifts by race. Similarly, births to mothers with less than a high school education increase significantly at the 150–200 mile threshold, and births to mothers aged 15–19 and 40–44 also rise at selected distance thresholds. Births among unmarried women increase significantly at the 50–100 and 100–150 mile thresholds.

A similar pattern emerges when using the continuous measure of travel distance. Figure A1 presents the estimated effect of a 100 mile increase in driving distance on expected births. A 100 mile increase is associated with a 1.3% increase in births to White mothers, a 2.2% decline among Black mothers, and a 4.1% rise among mothers aged 40–44. Births among women with less than a high school education increase by 2.6%, and those aged 30–39 rise by 1.4%. Risk factors for perineal lacerations include first-time childbirth, operative deliveries, higher birth weights, certain fetal positions, and maternal characteristics such as age and ethnicity (Ramar et al., 2024). In the data, 74% of births to teenagers are first births, which may help explain the observed increase in perineal lacerations. Mydam et al. (2023) reports that high birth weight rates are highest among White, non-Hispanic, U.S. born mothers, while Hornemann et al. (2010) finds that advanced maternal age is associated with severe lacerations. Moreover, Yee et al. (2021) show that inadequate maternal health literacy, often linked to lower educational attainment, is correlated with a higher likelihood of major perineal lacerations. These patterns indicate that abortion restrictions reshaped the composition of women giving birth, particularly increasing births among older and less educated mothers, thereby changing the demographic and risk profile of the birthing population.

Table 9 reports the results and the findings offer suggestive evidence that as access to abortion becomes more limited, women with higher baseline health risks appear more likely to carry pregnancies to term. Panel A reports estimates using distance bins with the reference group consisting of counties located within 0–50 miles of an abortion provider. Panel A shows that increased travel distance to abortion services is associated with significant increases in births to women with risk factors with the largest coefficients observed at the 150–200 and 200 plus mile thresholds. The burden of increased distance is pronounced for women who experience gestational hypertension and chronic diabetes across almost all distance bins. Panel B presents results using a continuous measure of distance to the nearest abortion clinic. The estimated coefficients indicate that a 100-mile increase in distance is associated with a 33.24% increase in births to women with chronic hypertension, a 19.6% increase in births to women with gestational hypertension, a 19.24% increase in births to women who experienced a previous preterm pregnancy, and a 14.45% increase in births to women with gestational diabetes. All estimates are statistically significant. These findings support the hypothesis that restricted access to abortion services contributes to a compositional shift in the maternal population, increasing the likelihood that higher-risk pregnancies are carried to term.

Taken together, the evidence points to a clear selection mechanism: as abortion becomes less accessible, women who are unable to terminate pregnancies are disproportionately those with socioeconomic or health-related constraints, including lower education, chronic health conditions. These factors are also predictive of complications such as uterine rupture and severe perineal trauma during delivery. Hence, the observed rise in perineal lacerations and uterine rupture cases following HB2 is consistent with a compositional shift toward higher-risk pregnancies and less favorable delivery conditions, rather than with changes in clinical practice or reporting alone.

This shift in the health and demographic composition of the birthing population provides a plausible mechanism for the observed increases in maternal morbidity following HB2. The evidence thus strengthens the case that the deterioration in maternal and infant health outcomes is not merely a statistical artifact or driven by unobserved confounders, but may instead reflect a real and policy-relevant consequence of limiting abortion access. These findings underscore the importance of access to abortion services as part of broader maternal and infant health policy. If restrictions disproportionately affect women with elevated health risks, whether due to socioeconomic constraints, chronic conditions, the burden on the healthcare system and associated maternal and infant health disparities may widen.

8 Robustness Checks

To test the validity of the identification strategy, I conduct two falsification tests using placebo outcomes that should not be directly affected by abortion access: male mortality and non-pregnancy-related female mortality. If the travel distance to the nearest abortion clinic were merely capturing an unobserved confounder, such as a general decline in local healthcare access or a negative economic shock, I might expect to see a spurious correlation with these placebo outcomes. Finding null results would support the exogeneity assumption of the model.

Table 10 presents the results for male mortality. The aggregate model (Column 1) and the urban model (Column 3) show no systematic or statistically significant effects, while the rural model (Column 2) indicates a modest increase in male deaths with greater travel distance. Both the distance bins and continuous distance measures reveal this pattern in rural counties, suggesting that factors correlated with distance may have some influence on male health outcomes in these areas. In contrast, Table 11, which examines non-pregnancy-related female mortality, shows a consistent null effect for the linear distance variable across all samples in Panel B. Although some coefficients in Panel A are significant at shorter distances, the overall pattern does not indicate a systematic relationship. These results largely suggest that the model is successfully isolating effects specific to pregnancy-related outcomes, lending credibility to the main findings regarding maternal and infant health.

As a robustness check, I re-estimate Equation (1) using the population of females aged 15–44 as the exposure variable, instead of the number of births. The results, presented in Table A4, remain remarkably consistent with the main findings in Table 2. I also estimate Equation (1) using the full sample of births in Texas for women aged 12–50. These results, shown in Table A5, are likewise consistent with the main results. The persistence of these findings across different exposure variables and sample sizes reinforces the robustness of the estimated effects.

As an additional robustness check, I control for potential changes in local healthcare infrastructure by including the lagged number of hospitals and physician offices in the model. Accounting for these factors ensures that the estimated effects are not driven by contemporaneous shifts in the availability of healthcare facilities. The results, presented in Table A7, remain consistent in magnitude and significance, reinforcing the robustness of the main findings.

As a sensitivity check, I examine whether sample selection could be influencing the results. Specifically, I restrict the analysis to counties that recorded at least one case of ruptured uterus and re-estimate the regressions for all other maternal morbidity indicators within this subsample. This allows for a direct assessment of whether counties with ruptured uterus cases differ systematically in their patterns of other complications. If the results for other morbidity outcomes remain consistent in sign, magnitude, and significance within this restricted sample, it suggests that the main findings are not driven by which counties happen to have ruptured uterus cases. Conversely, if the estimates change substantially, it would indicate that the results are sensitive to sample composition. The results presented in Table A6 are consistent with those in Table 3, providing reassurance that selection into the ruptured uterus sample is unlikely to be driving the main findings.

9 Conceptual Exercise

To quantify the real-world impact of travel distance on maternal and infant health, I perform a counterfactual analysis. Specifically, I ask what maternal and infant health outcomes would look like if all counties were within 50 miles of a facility. This simulation models a hypothetical scenario where all counties have access to an abortion facility within a 50-mile radius. This 50-mile cutoff is not arbitrary; it is selected to reflect the legal threshold for "undue burden" on access as previously defined by standards set under Roe v. Wade. This counterfactual is implemented using the coefficient on travel distance from Equation (1). For each outcome, I first calculate the proportional reduction in the expected rate that would occur if distances were truncated to 50 miles. I then apply this percentage reduction to the observed counts of each health outcome. This specific approach is necessary as it correctly accounts for the unobserved, baseline county-level heterogeneity.

The results suggest that bringing all counties within 50 miles would have prevented an estimated 952 cases of any maternal morbidity. The largest reductions are seen for severe perineal lacerations, with roughly 771 cases avoided, maternal transfusions with 123 avoided cases, unplanned hysterectomy with approximately 43 avoided cases, and ruptured uterus with about 24 avoided cases. Smaller reductions are observed for intensive care admissions, reflecting either lower baseline incidence or smaller sensitivity to distance.

For infant health outcomes, I estimate approximately 950 fewer NICU admissions, about two fewer fetal deaths, and roughly 279 fewer cases of infant health complications. Some outcomes, such as low Apgar scores, exhibit negative estimates, suggesting negligible or counterintuitive changes, which likely reflect statistical noise.

Overall, this exercise illustrates that reducing driving distances to abortion facilities could have modest but meaningful impacts on maternal and infant health at the population level. While the absolute reductions are largest for outcomes with higher baseline incidence, the relative reductions are consistent across multiple measures of morbidity.

10 Conclusion

This paper provides causal evidence that restrictions on abortion access, specifically those that increase the travel distance to the nearest abortion facility, have measurable and adverse effects on maternal health. Exploiting the quasi-experimental setting created by HB2, I use county-level variation in driving distance to identify the health consequences of policy-induced changes in abortion access. The estimates indicate that a 100-mile increase in travel distance is associated with a 31% rise in maternal morbidity, equivalent to roughly 1.13 additional cases per county-quarter. These effects are driven by large and statistically significant increases in severe obstetric complications, including a 47.6% increase in perineal lacerations and a 35% increase in uterine rupture cases. Given the rarity and severity of these outcomes, such magnitudes are meaningful and highlight a substantial deterioration in maternal health following the implementation of HB2.

The analysis further demonstrates that these results are not driven by broad declines in healthcare access. There is no evidence that travel distance is correlated with maternity ward closures, reductions in prenatal care utilization, or other indicators of local healthcare contraction. Instead, the mechanism operates primarily through selection into childbirth. Restricted access to abortion alters the composition of the birthing population, specifically by increasing the share of births among women with preexisting or pregnancy-related health risks such as chronic hypertension, diabetes, and prior preterm birth as well as among women with lower socioeconomic status. Although the policy did not substantially alter total birth counts, it shifted who was giving birth, concentrating deliveries among women facing greater medical and social vulnerability. This selection mechanism provides a coherent explanation for why maternal morbidity rose even as overall birth numbers remained stable.

In addition to worsening maternal health outcomes, the results reveal heterogeneous effects on infant health. While the overall pattern is complex, counties located 100 to 200 miles from the nearest provider experience significant increases in NICU admissions. At the same time, Apgar scores improve slightly at greater distances, suggesting that the composition of surviving births may include a subset of healthier infants, perhaps reflecting a combination of selection effects and increased medical intervention during delivery. These mixed results underscore that the pathways through which abortion restrictions affect infant health are multifaceted and warrant further investigation.

Importantly, the findings show that these effects are not confined to rural areas, where clinic closures were most pronounced. Both rural and urban counties exhibit increases in maternal morbidity, indicating that travel burden itself rather than rural healthcare infrastructure drives the adverse outcomes. This reinforces the view that access barriers operate along a continuum: even moderate increases in travel distance can have serious health consequences, irrespective of baseline healthcare availability.

The results contribute to a growing body of evidence demonstrating that abortion policy has broad and unintended spillovers into maternal health. By restricting abortion access, policies such as HB2 effectively raise the medical risk profile of the birthing population, amplifying rates of severe complications during labor and delivery. These findings align with a growing literature documenting that barriers to abortion access influence a wide range of socioeconomic and health outcomes, from fertility timing to financial distress (Springer, 2025; Fischer et al., 2018; Presser et al., 2025; Gardner, 2024). In this context, maternal morbidity provides a stark and measurable health endpoint that captures the human cost of reduced reproductive autonomy.

Finally, these findings carry important policy implications. As abortion restrictions continue to expand across U.S. states following the Dobbs decision, the Texas experience offers a cautionary example of how regulatory barriers can translate into measurable harm for pregnant individuals. The evidence presented here suggests that policies that increase travel distances to abortion services not only limit reproductive choice but also have direct and adverse effects on maternal well-being. In a broader sense, the results underscore the interconnectedness of reproductive and maternal healthcare: when access to one is restricted, the other inevitably suffers. Understanding these linkages is essential for policymakers seeking to safeguard maternal health in a post-Roe policy environment.

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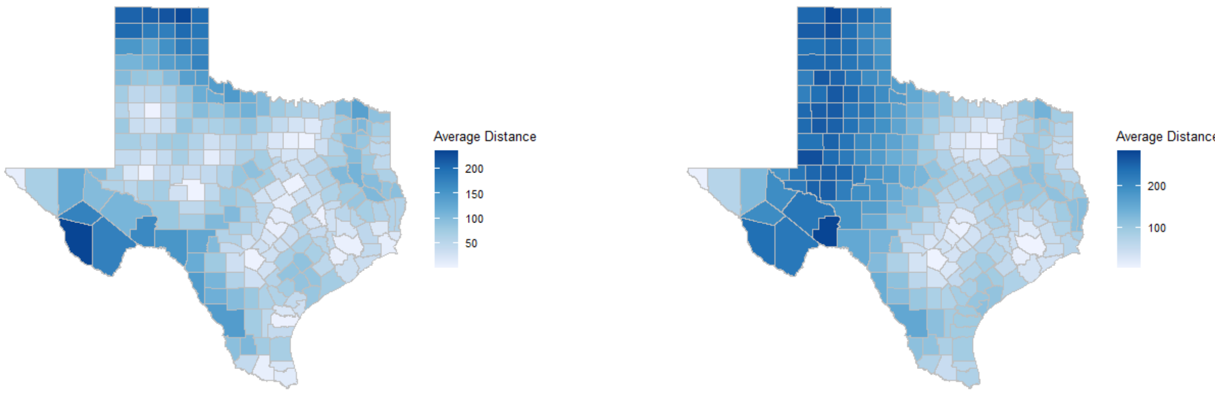
Figures

Figure 1: Average travel distance to the nearest open abortion facility



Note: The figure on the left presents the average county-level distance to abortion providers before HB2 went into effect in June 2013, and the figure on the right shows the average distance after the policy change. Areas shaded in darker blue indicate greater travel distances.

Figure 2: Change in Distance to the Nearest Abortion Clinic, Quarter 2 2013 to Quarter 4, 2013

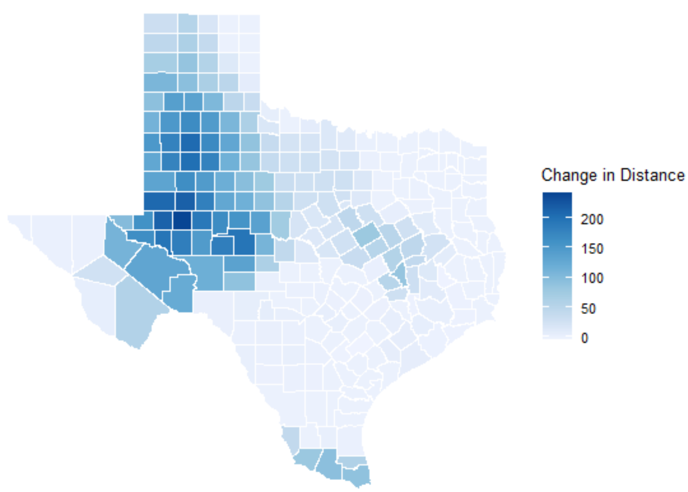


Figure 3: Average distance to the nearest open abortion facility across Treatment Dose Groups

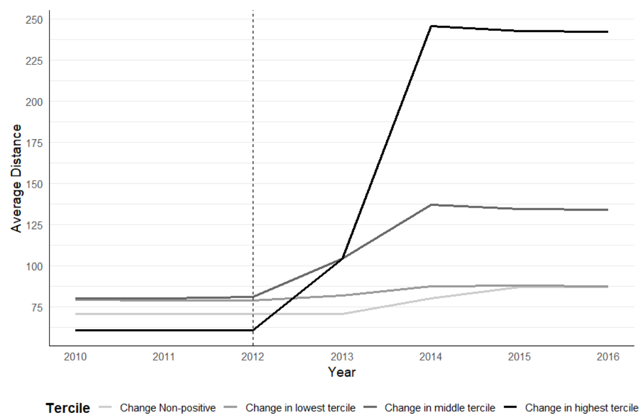


Figure 4: Trends of Maternal Morbidity across Treatment Dose Groups

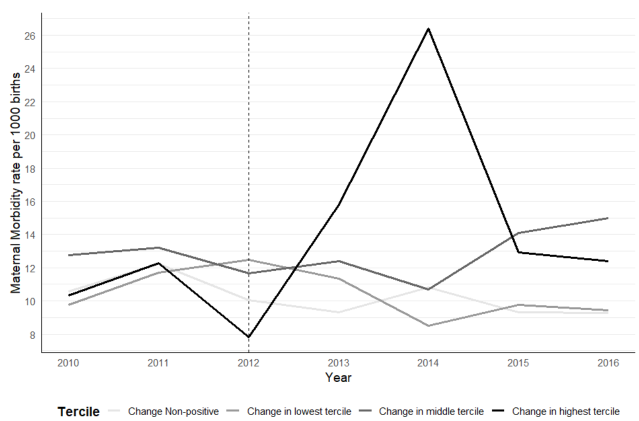
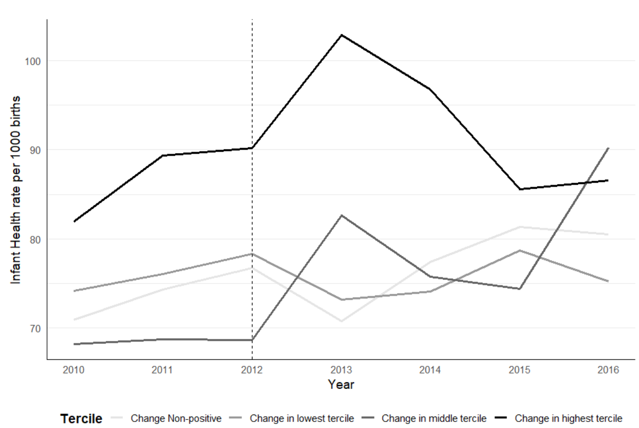


Figure 5: Trends of Adverse Infant Health across Treatment Dose Groups



Note: Treatment Dose is the change in distance between Quarter 2, 2013 and Quarter 4 2013. The vertical line highlights the final year of data before HB2 was enacted.

Figure 6: Pre-period Event Study of Maternal Morbidity

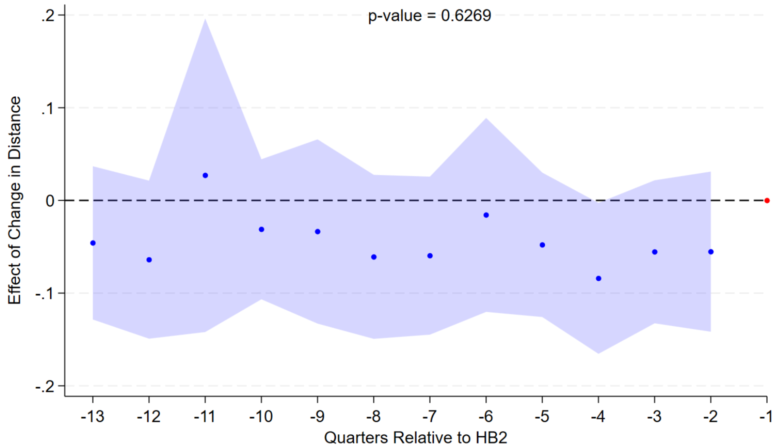
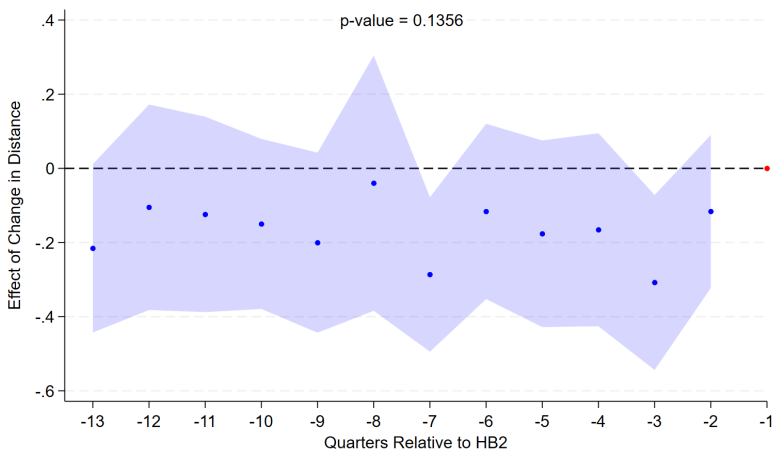


Figure 7: Pre-period Event Study of Infant Health



Note: The p-value corresponds to a joint F-test for the significance of all pre-treatment period coefficients, providing a formal test of the parallel trends assumption.

Figure 8: Heterogeneous Impacts of Abortion access on Maternal Morbidity

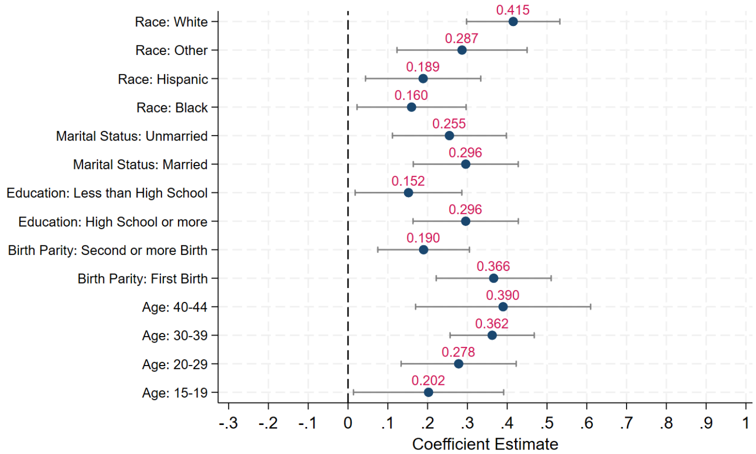
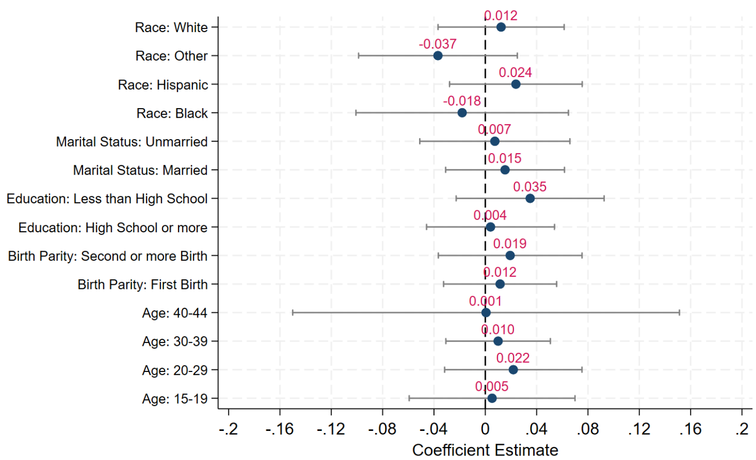
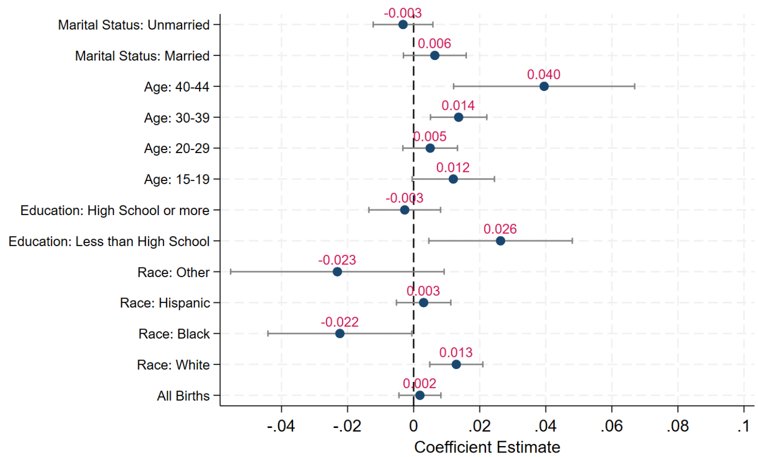


Figure 9: Heterogeneous Impacts of Abortion access on Infant Health



Note: Estimates are the effect of a 100-mile increase in the driving distance to the nearest abortion facility. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. If the category of a control variable is the one being studied, the variable is omitted from the regression.

Figure 10: Estimated Impacts of Abortion access on Birth Rates



Note: Estimates are the effect of a 100-mile increase in the driving distance in quarter t to the nearest abortion facility on expected births occurring in quarter t+2. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator.

Table 1: Summary Statistics

Variable	Mean	S.D	Number of Observations
Maternal Morbidity Measures			7112
Maternal Transfusion	0.86	3.33	
Third or Fourth degree Perineal Larceration	1.89	7.01	
Ruptured Uterus	0.08	0.45	
Unplanned Hysterectomy	0.11	0.55	
Admission to ICU	0.89	8.56	
Maternal Risk Factors			7112
Chronic Hypertension	4.47	18.65	
Gestational Hypertension	20.81	79.14	
Chronic Diabetes	2.75	11.57	
Gestational Diabetes	17.00	70.92	
Previous Preterm	7.60	29.20	
Infant Health Outcomes			7112
NICU Admission	30.28	119.68	
Fetal Death	1.48	6.60	
Low Apgar 5 Score	6.02	22.08	
Low Apgar 10 Score	1.67	6.99	
Measure of Abortion Access			7112
Distance (miles)	94.57	71.01	
Mother's Race			7034
Non-Hispanic White	50.55%		
Non Hispanic Black	5.81%		
Hispanic	40.84%		
Other	1.82%		
Age Distribution			7112
Age 15-19	12.17%		
Age 20-29	59.33%		
Age 30-39	25.83%		
Age 40-44	1.57%		
Mother's Education			7112
Less than High school	20.99%		
High school & more	77.83%		
Pregnancy Characteristics			
Gestational Age (weeks)	38.01	4.05	7112
Number of Prenatal Visits	10.73	2.44	7112
Number of Births	382.48	1461.104	7112

Notes: Summary statistics are calculated at the county-quarter level using natality data from the NCHS.

Table 2: **Effects of Restricted Abortion Access on Maternal Morbidity**

	Maternal Morbidity (1)	Maternal Morbidity (2)	Maternal Morbidity (3)
Panel A			
dist_50_100	0.291**	0.292**	0.209
	(0.132)	(0.131)	(0.120)
dist_100_150	0.230	0.229	0.158
	(0.143)	(0.141)	(0.137)
dist_150_200	0.507***	0.507***	0.509***
	(0.167)	(0.169)	(0.156)
dist_200_plus	0.771***	0.768***	0.687***
	(0.211)	(0.211)	(0.192)
Mean per 1000 births ($dist\_0\_50$)	**9.00**	**9.00**	**9.00**
Panel B			
Distance (100s miles)	0.297***	0.297***	0.272***
	(0.075)	(0.075)	(0.067)
Impact	**34.58%**	**34.58%**	**31.26%**
Mean per 1000 births	**11.60**	**11.60**	**11.60**
Time Fixed Effects	Yes	Yes	Yes
County Fixed Effects	Yes	Yes	Yes
Family Plannning X Post-2012	No	Yes	Yes
Socio-economic Controls	No	No	Yes
Number of counties	242	242	242
N	6758	6758	6758

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on maternal morbidity for births occurring in quarter t+2 to mothers aged 15-44. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table 3: **Effects of Abortion Access on measures of Maternal Morbidity**

	Maternal Transfusion	**3rd/4th Degree Perineal Laceration**	**Ruptured Uterus**	**Unplanned Hysterectomy**	**Admission to ICU**
	(1)	(2)	(3)	(4)	(5)
Panel A					
dist_50_100	0.005	0.420**	-0.926**	-0.211	-0.041
	(0.150)	(0.166)	(0.386)	(0.320)	(0.182)
dist_100_150	-0.110	0.355**	-0.854	-0.207	-0.012
	(0.155)	(0.174)	(0.454)	(0.341)	(0.252)
dist_150_200	0.150	0.634***	-0.289	0.965	0.644
	(0.249)	(0.134)	(0.976)	(0.641)	(0.369)
dist_200_plus	0.295	0.963***	0.884***	1.046**	-0.095
	(0.266)	(0.231)	(0.307)	(0.466)	(0.368)
Mean per 1000 births (*dist_0_50*)	**2.18**	**5.31**	**0.21**	**0.25**	**1.59**
Panel B					
Distance (100s miles)	0.104	0.389***	0.300**	0.356	-0.039
	(0.113)	(0.067)	(0.149)	(0.196)	(0.141)
Impact	**10.96%**	**47.55%**	**34.99%**	**42.76%**	**-3.82%**
Mean per 1000 births	**3.72**	**6.65**	**0.26**	**0.37**	**1.36**
Number of counties	209	236	102	126	185
N	5846	6595	2856	3528	5178

Notes: *** $p<0.01$, ** $p<0.05$. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on measures of maternal morbidity for births occurring in quarter t+2 to mothers aged 15-44. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta}-1)*100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table 4: **Effects of Restricted Abortion Access on Infant Health**

	Infant Health (1)	**Infant Health (2)**	**Infant Health (3)**
Panel A			
dist_50_100	0.040	0.040	0.017
	(0.048)	(0.047)	(0.045)
dist_100_150	0.095	0.095	0.082
	(0.051)	(0.051)	(0.047)
dist_150_200	0.113**	0.113**	0.110**
	(0.054)	(0.054)	(0.052)
dist_200_plus	0.040	0.039	0.021
	(0.065)	(0.064)	(0.056)
Mean per 1000 births (*dist_0_50*)	**85.19**	**85.19**	**85.36**
Panel B			
Distance (100s miles)	0.016	0.016	0.009
	(0.028)	(0.028)	(0.025)
Impact	**1.61%**	**1.61%**	**0.90%**
Mean per 1000 births	**78.89**	**78.89**	**78.89**
Time Fixed Effects	Yes	Yes	Yes
County Fixed Effects	Yes	Yes	Yes
Family Plannning X Post-2012	No	Yes	Yes
Socio-economic Controls	No	No	Yes
Number of counties	252	252	252
N	7017	7017	7017

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on infant health for births occurring in quarter t+2 to women aged 15-44. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table 5: **Effects of Restricted Abortion Access on Measures of Infant Health**

	NICU Admission (1)	**Fetal Death (2)**	**Low Apgar 5 Score (3)**	**Low Apgar 10 Score (4)**
Panel A				
dist_50_100	-0.001	0.043	-0.016	-0.027
	(0.054)	(0.164)	(0.067)	(0.081)
dist_100_150	0.119**	-0.206	-0.245***	-0.064
	(0.050)	(0.128)	(0.081)	(0.096)
dist_150_200	0.190***	-0.200	-0.274**	-0.212
	(0.071)	(0.174)	(0.117)	(0.138)
dist_200_plus	0.084	0.053	-0.326***	-0.166
	(0.047)	(0.148)	(0.125)	(0.143)
Mean per 1000 births ($dist\_0\_50$)	**74.33**	**4.18**	**20.41**	**4.69**
Panel B				
Distance (100 miles)	0.035	0.002	-0.136***	-0.080
	(0.022)	(0.059)	(0.042)	(0.053)
Impact	**3.56%**	**0.2%**	**-12.72%**	**-7.69%**
Mean per 1000 births	**66.77**	**3.94**	**22.47**	**5.38**
Number of counties	252	221	251	235
N	7017	6182	6994	6568

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on measures of infant health occurring in quarter t+2 to women aged 15-44. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table 6: **Effects of Restricted Abortion Access on Maternal Morbidity by Demographic Characteristics**

	Black	**White**	**Hispanic**	**Other**	**15-19**	**20-29**	**30-39**	**40-44**	**First Birth**	**2nd+ Birth**	**Married**	**Unmarried**	**<HS**	**HS+**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Panel A														
dist_50_100	0.299	0.390***	0.090	0.565	0.142	0.268**	0.248	0.121	0.469***	0.035	0.193	0.292**	0.111	0.264**
	(0.208)	(0.113)	(0.136)	(0.334)	(0.144)	(0.128)	(0.198)	(0.336)	(0.141)	(0.132)	(0.131)	(0.139)	(0.138)	(0.130)
dist_100_150	0.264	0.474***	0.033	0.008	0.124	0.100	0.408***	0.700**	0.320**	0.036	0.197	0.184	0.100	0.199
	(0.327)	(0.177)	(0.103)	(0.255)	(0.192)	(0.151)	(0.149)	(0.297)	(0.161)	(0.115)	(0.151)	(0.141)	(0.132)	(0.155)
dist_150_200	0.604**	0.746***	0.346**	0.403	0.399	0.415**	0.818***	0.214	0.634***	0.372**	0.616***	0.328	0.315	0.502***
	(0.306)	(0.190)	(0.156)	(0.320)	(0.213)	(0.191)	(0.235)	(1.043)	(0.170)	(0.187)	(0.181)	(0.181)	(0.193)	(0.173)
dist_200_plus	0.198	1.078***	0.498***	0.642***	0.504**	0.706***	0.957***	1.111***	0.926***	0.492***	0.749***	0.659***	0.416**	0.757***
	(0.280)	(0.210)	(0.182)	(0.201)	(0.249)	(0.205)	(0.171)	(0.309)	(0.222)	(0.154)	(0.208)	(0.187)	(0.173)	(0.202)
Mean per 1000 births($dist\_0\_50$)	**8.11**	**8.19**	**8.95**	**13.99**	**12.81**	**8.12**	**7.97**	**9.49**	**15.30**	**5.74**	**8.77**	**9.44**	**10.49**	**8.22**
Panel B														
Distance (100s miles)	0.160**	0.415***	0.189**	0.287***	0.202**	0.278***	0.362***	0.390***	0.366***	0.190***	0.296***	0.255***	0.152**	0.296***
	(0.070)	(0.060)	(0.074)	(0.083)	(0.096)	(0.074)	(0.054)	(0.112)	(0.074)	(0.059)	(0.067)	(0.073)	(0.068)	(0.067)
Mean per 1000 births	**10.49**	**11.18**	**12.11**	**17.50**	**16.89**	**11.13**	**10.12**	**11.24**	**20.55**	**7.82**	**11.12**	**12.11**	**13.69**	**11.00**
Impact	**17.35%**	**51.44%**	**20.80%**	**33.24%**	**22.38%**	**32.05%**	**43.62%**	**47.70%**	**45.20%**	**20.92%**	**34.45%**	**29.05%**	**17.59%**	**34.45%**
Number of Counties	115	228	220	95	197	235	206	94	234	225	235	224	212	252
N	3,008	6,324	6,050	2,219	5289	6535	5696	2208	6413	6280	6546	6212	5767	7008

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the heterogeneous effects of abortion access in quarter t on maternal morbidity for births occurring in quarter t+2. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table 7: **Effects of Restricted Abortion Access on Infant Health by Demographic Characteristics**

	Black	White	Hispanic	Other	15-19	20-29	30-39	40-44	First Birth	2nd+ Birth	Married	Unmarried	<HS	HS+
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Panel A														
dist_50_100	0.074	0.054	-0.004	-0.101	0.025	0.017	0.029	0.308***	-0.003	0.049	0.025	0.026	0.046	0.020
	(0.045)	(0.051)	(0.054)	(0.110)	(0.069)	(0.047)	(0.048)	(0.117)	(0.058)	(0.046)	(0.057)	(0.041)	(0.052)	(0.049)
dist_100_150	-0.034	0.078	0.122**	-0.041	0.121	0.067	0.117**	0.156	0.037	0.120**	0.068	0.111	0.160***	0.067
	(0.092)	(0.046)	(0.055)	(0.072)	(0.069)	(0.054)	(0.046)	(0.093)	(0.053)	(0.051)	(0.035)	(0.068)	(0.055)	(0.050)
dist_150_200	0.074	0.046	0.188***	-0.079	-0.046	0.161**	0.097**	-0.048	0.008	0.165***	0.115**	0.117	0.055	0.111
	(0.119)	(0.077)	(0.062)	(0.206)	(0.098)	(0.070)	(0.046)	(0.184)	(0.049)	(0.064)	(0.058)	(0.071)	(0.085)	(0.063)
dist_200_plus	-0.080	0.042	0.040	-0.046	0.013	0.062	0.012	-0.133	0.027	0.048	0.038	0.013	0.088	0.007
	(0.109)	(0.064)	(0.054)	(0.088)	(0.078)	(0.065)	(0.045)	(0.191)	(0.055)	(0.063)	(0.056)	(0.066)	(0.068)	(0.058)
Mean per 1000 births (*dist_0_50*)	**117.76**	**86.77**	**75.85**	**84.06**	**85.05**	**80.69**	**93.53**	**121.63**	**94.60**	**81.42**	**82.91**	**89.12**	**80.99**	**86.37**
Panel B														
Distance (100s miles)	-0.018	0.012	0.024	-0.037	0.005	0.022	0.010	0.001	0.012	0.019	0.015	0.007	0.035	0.004
	(0.042)	(0.025)	(0.026)	(0.032)	(0.033)	(0.027)	(0.021)	(0.077)	(0.022)	(0.029)	(0.024)	(0.030)	(0.029)	(0.025)
Mean per 1000 births	**104.75**	**79.87**	**71.51**	**75.81**	**78.42**	**75.05**	**85.56**	**117.21**	**87.06**	**75.66**	**77.07**	**81.38**	**74.63**	**79.98**
Impact	**-1.78%**	**1.21%**	**2.43%**	**-3.63%**	**0.50%**	**2.22%**	**1.01%**	**0.10%**	**1.21%**	**1.92%**	**1.51%**	**0.70%**	**3.56%**	**0.40%**
Number of Counties	177	250	245	164	238	251	248	197	249	252	251	250	240	252
N	4052	6858	6623	3201	6222	6945	6687	3618	6743	6982	6960	6785	6442	7008

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the heterogeneous effects of abortion access in quarter t on infant health for births occurring in quarter t+2. The impact row provides percent effects of distance measured in 100s of miles from the Poisson model and are calculated as $(e^{\beta} - 1) * 100\%$. Births are measured for all women who live and give birth in Texas. The exposure variable is number of births. All models include county fixed effects, quarter-year fixed effects, demographics, indicator for the presence of a family planning clinic in the county, and this indicator's interaction with post-2012. Standard errors are robust and clustered at the county level.

Table 8: **Effects of Restricted Abortion Access on Births**

	All Births	White	Black	Hispanic	Other	Less than High School	High School and more	15-19	20-29	30-39	40-44	Married	Unmarried
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
dist_50_100	0.009	0.003	0.005	0.013	-0.017	0.008	0.007	0.027	0.011	0.003	0.034	-0.018	0.043***
	(0.007)	(0.009)	(0.017)	(0.008)	(0.036)	(0.015)	(0.007)	(0.014)	(0.008)	(0.013)	(0.035)	(0.011)	(0.009)
dist_100_150	0.012	0.016	-0.009	0.011	-0.039	0.018	0.013	0.019	0.015**	0.020	0.057**	0.019**	0.007
	(0.006)	(0.012)	(0.031)	(0.008)	(0.041)	(0.014)	(0.010)	(0.014)	(0.007)	(0.010)	(0.028)	(0.009)	(0.012)
dist_150_200	0.007	0.010	-0.011	0.019	0.001	0.118***	-0.025**	0.063***	0.012	0.004	0.137**	-0.002	0.014
	(0.011)	(0.013)	(0.038)	(0.013)	(0.085)	(0.018)	(0.012)	(0.019)	(0.015)	(0.016)	(0.061)	(0.012)	(0.013)
dist_200_plus	0.004	0.043***	-0.066**	0.007	-0.070	0.061**	-0.004	0.035**	0.012	0.038***	0.100**	0.015	-0.009
	(0.008)	(0.011)	(0.028)	(0.011)	(0.042)	(0.028)	(0.013)	(0.018)	(0.011)	(0.012)	(0.045)	(0.013)	(0.012)
Mean per 1000 women (*dist_0_50*)	17.26	15.79	14.24	19.70	17.31	3.49	13.74	10.89	30.99	15.42	1.89	10.04	7.22
N	7084	7084	6432	7084	6748	7056	7084	7056	7084	7084	6944	7084	7084
Number of counties	253	253	230	253	241	252	253	252	253	253	248	253	253

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on expected births occurring in quarter t+2. The impact row provides percent effects of distance measured in 100s of miles from the Poisson model and are calculated as $(e^{\beta}-1)*100\%$. Births are measured for all women who live and give birth in Texas. The exposure variable represents the number of women in each subgroup, except for Columns 1, 6, 7, 12, and 13, where the total number of women aged 15–44 is used due to the unavailability of population estimates for the specific subgroup. All models include county fixed effects, quarter-year fixed effects, demographics, indicator for the presence of a family planning clinic in the county, and this indicator's interaction with post-2012. Standard errors are robust and clustered at the county level.

Table 9: **Effects of Restricted Abortion Access on the composition of births**

	Chronic Hypertension (1)	**Gestational Hypertension (2)**	**Chronic Diabetes (3)**	**Gestational Diabetes (4)**	**Hypertension Eclampsia (5)**	**Previous Preterm (6)**
Panel A						
dist_50_100	0.010	0.108	0.184	-0.001	0.161	0.184
	(0.106)	(0.066)	(0.105)	(0.075)	(0.210)	(0.212)
dist_100_150	0.163	0.117**	-0.053	-0.026	0.005	-0.037
	(0.200)	(0.055)	(0.101)	(0.050)	(0.363)	(0.137)
dist_150_200	0.628***	0.299***	0.446***	0.294	0.033	0.271**
	(0.160)	(0.108)	(0.159)	(0.183)	(0.458)	(0.129)
dist_200_plus	0.759**	0.465***	0.460**	0.393***	0.823***	0.462**
	(0.301)	(0.117)	(0.195)	(0.128)	(0.236)	(0.168)
Mean per 1000 births (*dist_0_50*)	**11.18**	**54.97**	**6.72**	**39.81**	**0.97**	**19.31**
Panel B						
Distance (100s miles)	0.287**	0.179***	0.165**	0.135**	0.279***	0.176**
	(0.115)	(0.042)	(0.078)	(0.053)	(0.105)	(0.076)
Impact	**33.24%**	**19.60%**	**17.94%**	**14.45%**	**32.18%**	**19.24%**
Mean per 1000 births	**13.53**	**56.80**	**6.98**	**42.54**	**1.08**	**24.22**
Number of counties	245	252	233	251	176	248
N	6828	7007	6516	6992	4926	6913

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on risk factors of mothers for births occurring in quarter t+2 to women aged 15-44. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table 10: **Effects of Restricted Abortion Access on Male Deaths**

	All Male Deaths	**Rural Male Deaths**	**Urban Male Deaths**
	(1)	(2)	(3)
Panel A			
dist_50_100	0.005	0.024**	0.004
	(0.006)	(0.010)	(0.007)
dist_100_150	-0.006	0.024	-0.013
	(0.007)	(0.016)	(0.007)
dist_150_200	-0.002	0.037**	-0.019**
	(0.009)	(0.017)	(0.009)
dist_200_plus	-0.011	0.028	-0.018
	(0.012)	(0.015)	(0.014)
Mean per 1000 men ($dist\_0\_50$)	**2.19**	**2.65**	**2.02**
Panel B			
Distance (100s miles)	-0.005	0.013**	-0.008
	(0.004)	(0.006)	(0.005)
Impact	**-0.05%**	**1.31%**	**-0.08%**
Mean per 1000 men	**2.60**	**2.80**	**2.19**
Number of counties	254	168	86
N	7112	4704	2408

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on deaths of males occurring in quarter t+2. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is the population of males. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, lagged number of hospitals and physician offices, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, education level and marital status. Standard errors are robust and clustered at the county level.

Table 11: **Effects of Restricted Abortion Access on Non-Pregnancy-Related Female Mortality**

	All Female Deaths	**Rural Female Deaths**	**Urban Female Deaths**
	(1)	(2)	(3)
Panel A			
dist_50_100	0.025***	0.018	0.023**
	(0.009)	(0.016)	(0.010)
dist_100_150	0.016**	0.008	0.011
	(0.008)	(0.018)	(0.006)
dist_150_200	0.003	-0.023	0.014
	(0.014)	(0.019)	(0.013)
dist_200_plus	-0.014	-0.018	-0.023
	(0.012)	(0.018)	(0.012)
Mean per 1000 women (*dist_0_50*)	**1.72**	**2.17**	**1.54**
Panel B			
Distance (100s miles)	-0.004	-0.011	-0.005
	(0.005)	(0.009)	(0.005)
Impact	**-0.4%**	**-1.09%**	**-0.05%**
Mean per 1000 women	**2.09**	**2.29**	**1.71**
Number of counties	254	168	86
N	7112	4704	2408

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on non-pregnancy related deaths of females occurring in quarter t+2. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is the population of females. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, lagged number of hospitals and physician offices, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, education level and marital status. Standard errors are robust and clustered at the county level.

Table A1: **Effects of Restricted Abortion Access on Maternity Ward Closures**

	Maternity Ward Closure (EM) (1)	**Maternity Ward Closure (SF)** (2)
Distance (100s miles)	-0.005	-0.004
	(0.006)	(0.009)
N	7104	7104

Notes: *** p<0.01, ** p<0.05. Estimates are based on a LPM model evaluating the effects of abortion access on maternal ward closures. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, an indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Standard errors are robust and clustered at the county level.

Table A2: **Effects of Restricted Abortion Access on Prenatal Care**

	Prenatal Care	**Began Prenatal Care in 1st Trimester**	**Number of Prenatal Visits**
	(1)	**(2)**	**(3)**
Panel A			
dist_50_100	0.027**	0.030	0.007
	(0.011)	(0.024)	(0.020)
dist_100_150	0.028***	0.042	-0.009
	(0.006)	(0.034)	(0.013)
dist_150_200	-0.001	0.027	-0.049***
	(0.010)	(0.029)	(0.017)
dist_200_plus	0.010	0.011	-0.043
	(0.007)	(0.029)	(0.028)
Mean per 1000 Births (*dist_0_50*)	**950.43**	**633.25**	**10.81**
Panel B			
Distance (100 miles)	0.007	-0.002	-0.014
	(0.004)	(0.011)	(0.010)
Impact	**0.70%**	**-0.20%**	**-1.39%**
Mean per 1000 Births	**961.83**	**633.22**	**10.73**
Number of counties	254	254	254
N	7034	7034	7034

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on measures of prenatal care utilization occurring in quarter t+2 to women aged 15-44. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table A3: **Effects of Restricted Abortion Access on Maternal Morbidity by Rural Designation**

	Maternal Morbidity (1)	**Rural Maternal Morbidity** (2)	**Urban Maternal Morbidity** (3)
Distance (100s miles)	0.272***	0.134**	0.252***
	(0.070)	(0.063)	(0.080)
Impact	**31.26%**	**14.34%**	**28.66%**
Mean per 1000 births	**11.60**	**12.82**	**9.25**
Number of counties	242	157	85
N	6758	4378	2380

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on maternal morbidity for births occurring in quarter t+2 to women aged 15-44. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is number of births, measured for all women who both reside and give birth in Texas. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table A4: **Effects of Restricted Abortion Access on Maternal Morbidity**

	Maternal Morbidity
Panel A	
dist_50_100	0.220
	(0.121)
dist_100_150	0.171
	(0.137)
dist_150_200	0.523***
	(0.155)
dist_200_plus	0.706***
	(0.191)
Mean per 1000 women ($dist\_0\_50$)	**0.15**
Panel B	
Distance (100s miles)	0.278***
	(0.066)
Impact	**32.05%**
Mean per 1000 women	**0.21**
Number of counties	242
N	6776

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on the maternal morbidity occurring in quarter t+2 to women aged 15-44. The impact row provides percent effects of distance measured in 100s of miles from the Poisson model and are calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is the population of females aged 15-44. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table A5: **Effects of Restricted Abortion Access on Maternal Morbidity**

	Maternal Morbidity
Panel A	
dist_50_100	0.212
	(0.120)
dist_100_150	0.160
	(0.136)
dist_150_200	0.514***
	(0.155)
dist_200_plus	0.675***
	(0.193)
Mean per 1000 births ($dist\_0\_50$)	**9.01**
Panel B	
Distance (100s miles)	0.268***
	(0.068)
Impact	**30.73%**
Mean per 1000 births	**11.61**
Number of counties	242
N	6758

Notes: *** $p<0.01$, ** $p<0.05$. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on the maternal morbidity occurring in quarter t+2 to women aged 12-50. The impact row provides percent effects of distance measured in 100s of miles from the Poisson model and are calculated as $(e^{\beta} - 1) * 100\%$. The exposure variable is the number of births. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, birth parity, education level, marital status and method of payment. Standard errors are robust and clustered at the county level.

Table A6: **Effects of Abortion Access on Measures of Maternal Morbidity**

	Maternal Transfusion (1)	**3rd/4th Degree Perineal Laceration** (2)	**Ruptured Uterus** (3)	**Unplanned Hysterectomy** (4)	**Admission to ICU** (5)
Panel A					
dist_50_100	-0.184	0.485**	-0.926**	-0.128	0.072
	(0.198)	(0.211)	(0.386)	(0.362)	(0.198)
dist_100_150	-0.118	0.302	-0.854	-0.589	-0.062
	(0.181)	(0.222)	(0.454)	(0.329)	(0.248)
dist_150_200	0.501***	0.939***	-0.289	1.200	1.150***
	(0.163)	(0.199)	(0.976)	(0.833)	(0.229)
dist_200_plus	0.361	0.935***	0.884***	1.030**	-0.314
	(0.297)	(0.293)	(0.307)	(0.490)	(0.409)
Mean per 1000 Births (*dist_0_50*)	**2.14**	**5.01**	**0.32**	**0.28**	**1.53**
Panel B					
Distance (100s miles)	0.108	0.381***	0.300**	0.288	-0.088
	(0.123)	(0.081)	(0.149)	(0.220)	(0.147)
Impact	**11.04%**	**46.34%**	**34.99%**	**33.38%**	**-8.42%**
Mean per 1000 Births	**3.44**	**6.63**	**0.64**	**0.44**	**1.54**
Number of counties	98	101	102	78	96
N	2744	2828	2856	2184	2688

Notes: *** $p<0.01$, ** $p<0.05$. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on measures of maternal morbidity for births occurring in quarter t+2. The impact row provides percent effects of distance measured in 100s of miles from the Poisson model and are calculated as $(e^{\beta} - 1) * 100\%$. Births are measured for all women who live and give birth in Texas. The exposure variable is number of births. All models include county fixed effects, quarter-year fixed effects, demographics, indicator for the presence of a family planning clinic in the county, and this indicator's interaction with post-2012. Standard errors are robust and clustered at the county level. The sample used here is the restricted sample that contained all ruptured uterus cases.

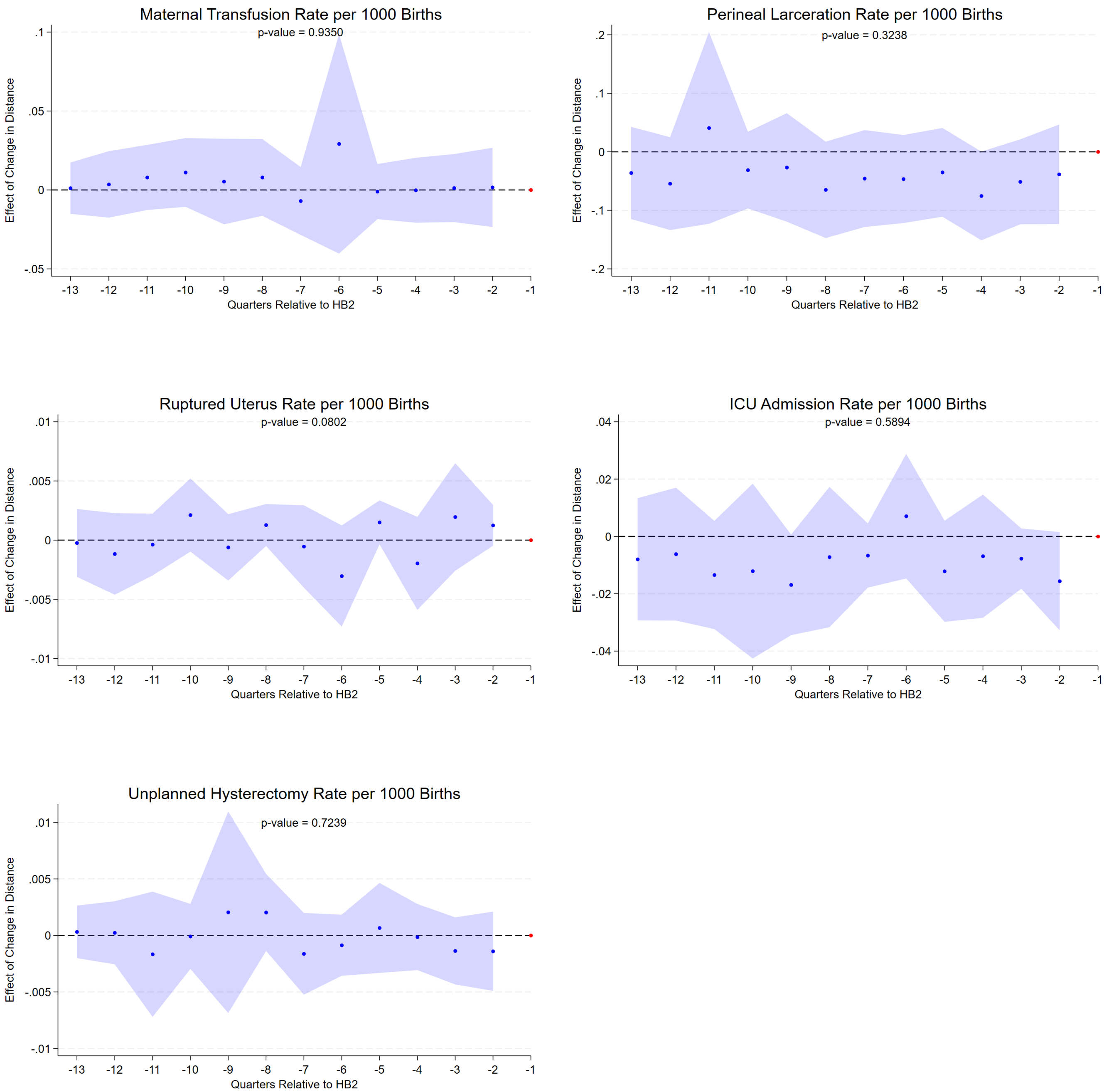
Table A7: **Effects of Restricted Abortion Access on Maternal Morbidity and Infant Health**

	Maternal Morbidity	**Infant Health**
	(1)	(2)
Panel A		
dist_50_100	0.154	-0.007
	(0.122)	(0.045)
dist_100_150	0.089	0.068
	(0.132)	(0.046)
dist_150_200	0.463***	0.083
	(0.147)	(0.048)
dist_200_plus	0.579***	-0.015
	(0.194)	(0.055)
Mean per 1000 births ($dist\_0\_50$)	**9.00**	**85.19**
Panel B		
Distance (100s miles)	0.230***	-0.005
	(0.071)	(0.024)
Impact	**25.86%**	**-0.50%**
Mean per 1000 births	**11.60**	**78.89**
Number of counties	223	228
N	6129	6225

Notes: *** p<0.01, ** p<0.05. Estimates are based on a Poisson Fixed Effects model evaluating the effects of abortion access in quarter t on pregnancy related deaths of females aged 15-44 occurring in quarter t+2. The impact row provides percent effects of distance measured in 100s of miles and is calculated as $(e^{\beta} - 1) * 100\%$. The first column identifies female deaths using the pregnancy status checkbox and cause of death. The second column identifies female deaths using only the cause of death information. The exposure variable is the population of females aged 15-44. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, lagged number of hospitals and physician offices, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator. Socio-economic controls include, race, age, education level and marital status. Standard errors are robust and clustered at the county level.

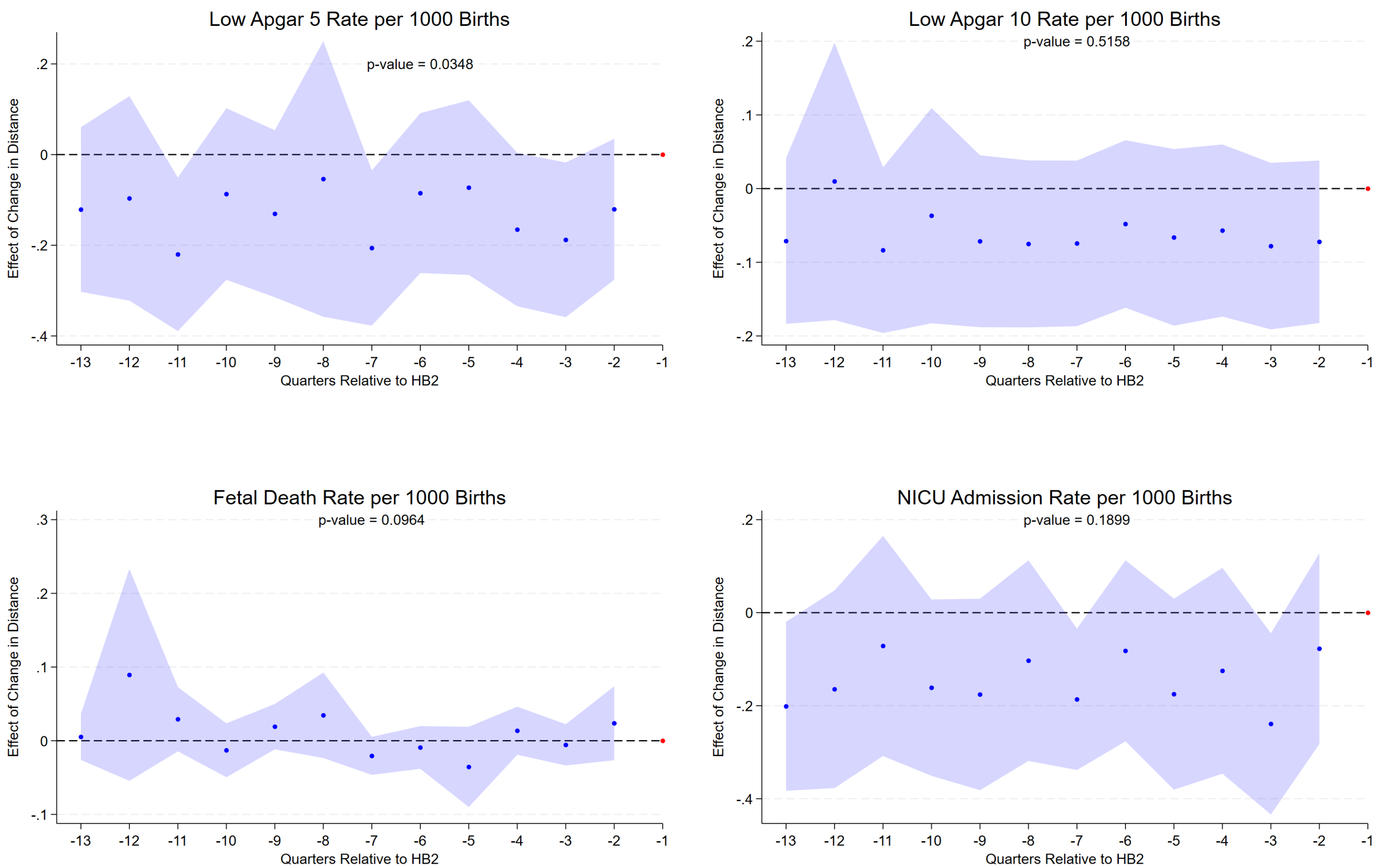
Appendix Figures

Figure A1: Pre-Period Studies of Measures of Maternal Morbidity



Note: The p-value corresponds to a joint F-test for the significance of all pre-treatment period coefficients, providing a formal test of the parallel trends assumption.

Figure A2: Pre-Period Event Studies of Measures of Infant Health



Note: The p-value corresponds to a joint F-test for the significance of all pre-treatment period coefficients, providing a formal test of the parallel trends assumption.

Figure A3: Effects of Travel Distance on Measures of Maternal Morbidity

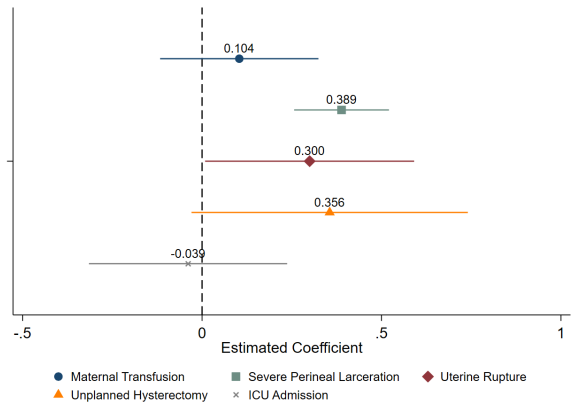


Figure A4: Effects of Travel Distance on Measures of Adverse Infant Health

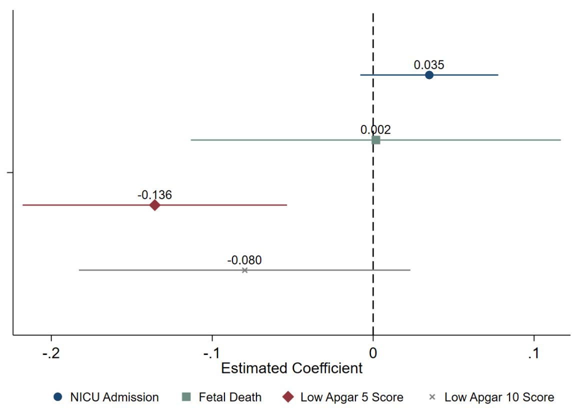
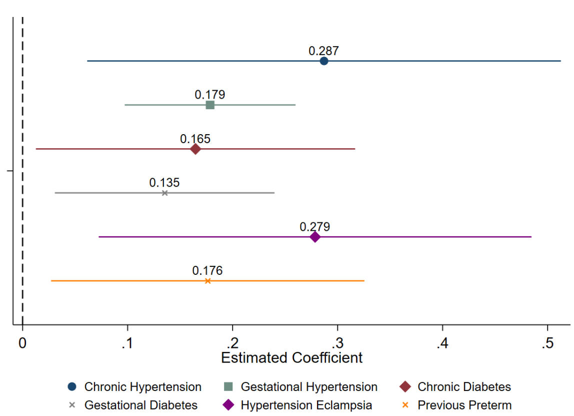


Figure A5: Effects of Travel Distance on Maternal Risk Factors



Note: Estimates are the effect of a 100-mile increase in the driving distance to the nearest abortion facility. All models include county fixed effects, quarter-year fixed effects, socio-economic controls, indicator for the presence of a family planning clinic in the county interacted with a post-2012 indicator.