



## Original Research Article

Time from first clinical contact to abortion in Texas and California<sup>☆☆☆</sup>

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## ABSTRACT

**Objective:** To assess whether having an abortion in Texas, a U.S. state with many restrictive abortion laws, is associated with increased time between contacting an abortion provider and receiving an abortion, compared to having an abortion in California, a less restrictive U.S. state.

**Study design:** This is a multisite, cross-sectional survey of 434 patients in 12 abortion facilities (ambulatory surgical centers and clinics) in Texas (n = 291) and three abortion clinics in California (n = 143) from 2018 to 2019. At 11 facilities in Texas the response rate was 76%. The response rate was not collected at other sites. We compare the clinical-contact-to-abortion time interval between the facilities in these two states using mixed-effects multivariable logistic regression, adjusting for age, race, education, household income, parity, marital status, and insurance status. We also compare barriers to scheduling and traveling to abortion appointments.

**Results:** Median clinical-contact-to-abortion time is similar among respondents in Texas and California [(9 vs 8 days,  $p = 0.86$ ). The odds of having a clinical-contact-to-abortion time  $\geq 7$  days is similar among respondents in Texas compared to California (adjusted odds ratio 1.0 (95% confidence interval, 0.4–2.6,  $p = 0.98$ ). Respondents in Texas travel farther for their abortion (mean 22.1 vs 13.5 miles,  $p < 0.01$ ), are more likely to sell something of value or delay paying another expense to pay for their abortion (49.7% vs 11.4%,  $p < 0.01$ ), and to miss work to attend their abortion (73.9% vs 61.3%,  $p = 0.03$ ).

**Conclusions:** In this study, we found no difference in clinical-contact-to-abortion time between respondents in Texas and those in California. Respondents in Texas, however, face other significant barriers in obtaining abortion care, which result in life disruptions and financial hardship.

**Implications:** Patients face greater financial barriers when seeking abortion in Texas compared to California. Though we found no significant difference in clinical-contact-to-abortion time in this sample between the two states, clinical-contact-to-abortion time may be a useful measure of facility congestion and the obstacles patients face obtaining abortion care.

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## 1. Introduction

Federal and state governments regulate abortion provision in ways that they do not legislate other medical procedures of similar complexity [1]. Regulations impose waiting periods, mandate the content of counseling provided to patients, require facilities to meet ambulatory surgical center standards and require physicians to have admitting privileges at hospitals [1,2]. While states pass these measures under the pretext of ensuring informed consent and safety [1,3,4], there is no evidence that these laws improve abortion care [1,5,6].

Abortion is widely restricted in Texas. Texas laws require an additional counseling visit and mandatory ultrasound with a 24-hour wait time before procedures, prohibits abortion coverage for private plans purchased on exchanges, and public funding is only available for abortion in the case of endangerment of a “woman’s life, rape, or incest” [7]. Additionally, Texas bans abortions past 22 weeks from last menstrual period and prohibits prescription of medication abortions via telehealth [8].

In 2013, Texas passed sweeping regulations of abortion providers [9,10]. The number of facilities providing abortions decreased from 41 in 2013 to 19 in 2014 when facilities were unable to meet the new requirements [10]. As of 2018, only 21 facilities provided abortion across Texas [11]. In communities with clinic closures, more patients have to travel over 50 miles, stay overnight, and incur out-of-pocket expenses greater than \$100 for abortion care [10]. The abortion rate in Texas decreased by 20% between 2012 and 2015; this reduction was disproportionately greatest in communities with clinic closures [12].

Clinic closures were also associated with an increased proportion of second-trimester abortions in Texas, suggesting a possible delay in abortion care [13,14]. Although abortion is a very safe procedure, the risk of morbidity and mortality is greater with increased gestational age [15]. This study assessed whether abortion restrictions in Texas, a Southern U.S. state, were associated with an increase in the number of days between first clinical contact to abortion as well as other barriers to obtaining care. We compared this interval and experiences accessing abortion care between patients at 12 abortion facilities (ambulatory surgical centers and clinics) in Texas and 3 abortion clinics in California, a state in the Western U.S. with fewer restrictions. California restricts abortions past the point of fetal viability based on clinic judgment with no specific gestational age limit, does not impose a waiting period, and has no restrictions on public funding for abortion [7].

## 2. Material and methods

### 2.1. Data Source

In this multisite, cross-sectional study, we surveyed patients who obtained an abortion at participating facilities in Texas or California. We assessed demographics, health insurance status and ability to schedule, travel to, and pay for abortion care. Our primary outcome was the number of days from patients’ first self-reported attempt to contact a provider for the purpose of seeking an abortion to the abortion appointment. We asked respondents, “When did you first contact a clinic or medical provider for abortion services?” (including primary care physicians, gynecologists, abortion clinics, or crisis pregnancy centers). We termed this interval the clinical-contact-to-abortion time.

### 2.2. Data collection

We surveyed patients seeking abortions at in Texas and California from June 2018 to November 2019. We collected data at 12 free-standing abortion facilities in Texas that offered abortion beyond 14 weeks that provide both medication and procedural abortions. At the time, it is estimated that 21 facilities provided abortion care in Texas [16]. We used the same survey to collect data among patients in California who presented for an abortion visit at three free-standing clinics in the Planned Parenthood of the Pacific Southwest (PPPSW) system of San Diego and Imperial Counties. At the time, it is estimated that 161 clinics provided abortion care in the state [16].

Front-desk team members identified and notified eligible patients about the study at the ultrasound or abortion visit in Texas facilities and at the abortion visit in California clinics. A research

staff member screened interested patients in a private area and obtained consent. At 11 of the 12 sites in Texas, we collected data on all participants who were approached for the study. We did not collect data on participants who were approached but did not participate in California. To complete the survey, we gave respondents an electronic tablet to self-administer the 15-minute survey. Respondents were able to complete the survey any time after checking in and before their abortion visit. All patients at least 18 years old and able to complete the survey in English or Spanish were eligible and received a \$20 gift card to compensate them for their time.

The survey included questions about sociodemographic factors and the timing, cost, and convenience of each respondent’s abortion. We asked respondents when they first confirmed their pregnancy, when they first contacted a medical provider for abortion services, and how much they paid out-of-pocket for their abortion. We also asked respondents whether they needed to sell something of value or delay paying another expense to pay for abortion services or travel, as well as whether they needed to take time off from work or obtain childcare.

### 2.3. Statistical analyses

We analyzed bivariate comparisons using the chi-squared test or Fisher’s Exact test for categorical variables and t-test or Wilcoxon rank-sum for continuous variables. We compared clinical-contact-to-abortion time between respondents in Texas and California. We used mixed-effects multivariable logistic regression to compare the odds of having a clinical-contact-to-abortion time of 7 days or more between the two groups and account for clustering in the assessment of differences by site. To account for other unmeasured within-clinic clustering, the models included random intercepts for site. We dichotomized clinical-contact-to-abortion time to less than 1 week or greater than or equal to 1 week because some facilities perform procedures only on certain days of the week (meaning a 1–2 day difference in clinical-contact-to-abortion time could be due to clinic schedule rather than availability or delays) and because less than 1 week is unlikely to be a clinically meaningful difference in procedural difficulty or safety. We controlled for the following potential confounders, selected a priori due to their established association with gestational age and/or abortion: age, education, socioeconomic status (estimated by whether the respondent is living on an income above or below 200% of the federal poverty level, relationship status, parity, insurance status, ethnicity, and race) [17].

We also completed 3 post-hoc sensitivity analyses: first, including only participants who received a surgical abortion due to the different distribution of abortion types between the 2 samples and because surgical abortion appointments may be less widely available than MAB appointments; second, restricted to those with and without insurance coverage; and third, conducting a negative binomial regression examining the continuous clinical-contact-to-abortion time outcome, to assess whether our findings are sensitive to variable definition.

We estimated distance from abortion facility using the shortest driving distance via road between the centroid of respondents’ home zip code and the facility address. We assessed the association between distance to abortion facility and clinical-contact-to-abortion time. We used Stata software (15.1) to complete statistical analyses and ArcGIS Pro software (2.4.3) to calculate distances.

In order to detect a 7-day difference or more in clinical-contact-to-abortion time with 80% power and a 2-sided alpha of 0.05, we estimated that a total of at least 68 respondents were required (34 in each state). We aimed to further enrich enrollment to allow for inclusion of covariates in multivariable analysis. Data collection and sample size were planned in Texas as part of a parent study.

**Table 1**  
Demographic characteristics among study respondents obtaining abortion in 12 abortion facilities in Texas and three abortion clinics in California (N = 434)

Characteristic	All patients (n = 434)	Texas (n = 291)	California (n = 143)	p-value
Age (years)	26 (22-31)	26 (22-31)	27 (22-32)	0.70
Race/Ethnicity				<0.01
White	116 (26.7%)	67 (24.1%)	49 (34.5%)	
Black or African American	80 (18.4%)	65 (23.4%)	15 (10.6%)	
Hispanic or Latina	181 (41.7%)	128 (46.0%)	53 (37.3%)	
Other	43 (9.9%)	18 (6.4%)	25 (17.6%)	
Gestational age at appointment				0.19
First trimester	371 (91.9%)	264 (90.7%)	108 (94.7%)	
Second trimester	33 (8.2%)	27 (9.3%)	6 (5.3%)	
Medication abortion	138 (31.8%)	129 (44.3%)	9 (6.3%)	<0.01
Previous birth	247 (56.9%)	179 (61.5%)	68 (47.6%)	<0.01
Previous abortion	150 (36.2%)	95 (34.6%)	55 (39.6%)	0.32
Relationship status				0.02
Single	139 (33.0%)	105 (37.6%)	34 (23.9%)	
Married or relationship	267 (63.4%)	164 (58.8%)	103 (72.5%)	
Separated or divorced	15 (3.6%)	10 (3.6%)	5 (3.5%)	
Primary language spoken at home				0.82
English	335 (79.6%)	220 (78.9%)	115 (81.0%)	
Spanish	18 (4.3%)	12 (4.3%)	6 (4.2%)	
Both English and Spanish	61 (14.5%)	41 (4.7%)	20 (14.0%)	
Other	7 (1.7%)	6 (2.2%)	1 (0.7%)	
Highest level of education				<0.01
High school, GED or below	126 (30.0%)	97 (34.8%)	29 (20.4%)	
Some college	158 (37.5%)	94 (33.7%)	64 (45.1%)	
College graduate or postgraduate	137 (32.5%)	88 (31.5%)	49 (34.5%)	
Working a paid job	290 (69.1%)	184 (66.1%)	106 (74.7%)	0.08
Monthly household income below 200% FPL	207 (51.2%)	164 (62.4%)	43 (30.5%)	<0.01
Has health insurance	270 (63.7%)	152 (53.7%)	118 (83.7%)	<0.01

FPL, federal poverty line.

Data are presented as n (%) or median (interquartile range).

We estimated enrollment in Texas to contribute approximately 280 respondents. We aimed to enroll 140 respondents in California to allow for a 2:1 ratio for Texas to California respondents.

The Human Research Protection Programs at University of California, San Diego and University of Texas, Austin approved this study.

### 3. Results

#### 3.1. Demographics

At 11 of 12 Texas sites, we approached 740 patients and 561 participated in the study at their ultrasound, abortion or follow-up visit (76% response rate). The response rate was not collected at other sites. For greater comparability between the two state samples, we excluded respondents in Texas who were not attending their abortion visit (N = 270), for a final analytic sample of 291 respondents at Texas facilities and 143 respondents at California clinics, all of whom completed the survey at their abortion visit. Respondents in Texas were less likely to be white (24.1% vs 34.5%,  $p < 0.01$ ), to be in a committed relationship (58.8% vs 72.5%,  $p < 0.01$ ) to have attended at least some college (65.0% vs 78.9%,  $p < 0.01$ ) and to have any health insurance at the time of their abortion (53.7% vs 83.7%,  $p < 0.01$ ). Among respondents in Texas, 62.4% were below 200% of the federal poverty level, compared to 30.5% in California ( $p < 0.01$ ). More respondents having a medication abortion completed the survey in Texas (44.3% vs 6.3%  $p < 0.01$ ; Table 1).

Over one-third of respondents in each state reported at least one previous abortion; 61.5% of Texas respondents had at least one previous birth compared to 47.6% in California ( $p < 0.01$ ). Respondents in Texas lived farther away from their abortion clinic: the

median distance from home zip code to abortion site was 22.1 miles in Texas and 13.5 miles in California ( $p < 0.01$ ). Respondents in Texas were more likely to live in zip codes 25 or more miles away from their abortion clinic (44.3% vs 30.1%,  $p < 0.01$ ).

#### 3.2. Experiences with scheduling and payment

A majority of respondents in both states reported that traveling to their abortion appointment was easy, but nearly half scheduled their abortion later than they would have preferred (Table 2). This did not differ significantly between respondents in Texas and California. Respondents in Texas were more likely to miss work (73.9% vs 61.3%,  $p = 0.03$ ), need to arrange care for a child or another dependent to attend their appointment (46.3% vs 35.2%,  $p = 0.03$ ) and to have sold something of value or delayed paying another expense to fund their abortion (49.7% vs 11.4%,  $p < 0.01$ ).

#### 3.3. Clinical contact to abortion time

There was no difference in median clinical-contact-to-abortion time (9 vs 8 days,  $p = 0.86$ ), reporting a clinical-contact-to-abortion time of 7 days or more (67.7% vs 61.4%,  $p = 0.21$ ), or time from pregnancy confirmation to abortion procedure reported by respondents (16 vs 14 days,  $p = 0.66$ ) in Texas compared to California.

The odds of having a clinical-contact-to-abortion time of at least 7 days was similar among respondents in Texas compared to California (adjusted odds ratio = 1.0 95% CI: 0.4-2.6,  $p = 0.98$ ) controlling for age, race, education, household income, parity, relationship status, and insurance status (Table 3). Sensitivity analyses restricted to those respondents who received a surgical abortion and those with insurance did not meaningfully affect these re-

**Table 2**

Ability to schedule and travel to abortion appointment among study respondents obtaining abortion care in 12 abortion facilities in Texas and three abortion clinics in California (N = 434) Data are presented as n (%) or median (interquartile range).

	All patients (n = 434)	Texas (n = 291)	California (n = 143)	p-value
Travel to abortion appointment was easy	334 (78.4%)	220 (77.5%)	114 (80.3%)	0.51
Total clinic visits for this abortion	2 (1-2)	2 (1-3)	1 (1-1)	<0.01
Had to take time off work for this abortion appointment (among those currently employed)	201 (69.3%)	136 (73.9%)	65 (61.3%)	0.03
Had to arrange childcare or other dependent care for abortion appointment	181 (42.6%)	131 (46.3%)	50 (35.2%)	0.03
Scheduled abortion appointment later than preferred	188 (43.7%)	121 (42.2%)	67 (46.9%)	0.36
Had to sell something of value or delay paying another expense to fund abortion costs	156 (36.9%)	140 (49.7%)	16 (11.4%)	<0.01
Miles from home zip code to abortion site	18.5 (9.1-39.4)	22.1 (10.7-59.8)	13.5 (7.0-31.7)	<0.01

**Table 3**

Clinical-contact-to-abortion time above or equal to 7 days between patients obtaining abortion care in 12 abortion facilities in Texas and three abortion clinics in California (N = 434)

Variable	Adjusted odds ratio	95% CI		p-value
		Lower bound	Upper bound	
California	(reference)			
Texas	1.0	0.4	2.6	0.98
Age (years)	1.0	0.9	2.3	0.50
Race/Ethnicity				
White	(reference)			
Black or African American	0.9	0.4	1.8	0.75
Hispanic or Latina	1.1	0.6	1.9	0.59
Other	0.9	0.4	2.0	0.80
Highest level of education				
High school, GED or below	(reference)			
Some college	1.2	0.6	2.2	0.57
College graduate or postgraduate	0.9	0.4	1.7	0.67
Monthly household income status below 200% FPL	1.4	0.9	2.3	0.15
Parity	1.2	0.9	1.5	0.16
Married or in a committed relationship	1.0	0.6	1.6	0.85
Has health insurance	0.7	0.4	1.2	0.20

<sup>a</sup> Mixed-effects regression was used to account for clustering in the assessment of differences.

results (data not shown). As an additional post-hoc sensitivity analysis, we replicated this adjusted model using continuous measure of clinical-contact-to-abortion time and a negative binomial model specification; in this analysis, there was no difference in clinical-contact-to-abortion time between respondents in Texas and those in California (adjusted incidence rate ratio = 0.8, 95% CI 0.7–1.01, p = 0.07).

There was no difference in median clinical-contact-to-abortion time among respondents living <25 miles and ≥25 miles from facility (8 vs 9 days, p = 0.42). Among all respondents who lived ≥25 miles from facility, the median clinical-contact-to-abortion time was nine days for respondents in both Texas and California.

**4. Discussion**

We did not find a difference in the odds of having a clinical-contact-to-abortion time of seven days or more between respondents who were able to access abortion care at participating facilities in Texas compared to those in California. We found that respondents in Texas were more likely to face significant hardships and make meaningful sacrifices in order to travel to and pay for their abortion.

These results contrast findings of previous nationwide and state-specific studies. A 2016 nationwide study of abortion wait times by various state policies showed that patients living in states with mandatory waiting periods experience increased abortion wait times [18]. Previous research has shown that the implementation of restrictive abortion laws in Texas resulted in increased gestation at time of abortion [13,14]. A recent analysis found that restrictions limiting public funding for abortion to only cases of

rape, incest, or endangerment (currently 34 U.S. states including Texas) are associated with an increase in second-trimester abortions [19]. A study in Nebraska, another restrictive U.S. state, found a mean time between deciding and obtaining an abortion of 16 days, which is longer than we found in either state [20]. One possible explanation for these differences is that our study recruited in areas with multiple open facilities, while some previous studies have included regions with only one abortion facility. Our sample may not represent the experience of patients obtaining abortion in areas of Texas with more limited services. In addition, due to the practice pattern at the clinics in California where we recruited patients, significantly more respondents underwent surgical compared to medication abortion. This could result in longer clinical-contact-to-abortion time among California patients due to longer waits for surgical appointments. However, a sensitivity analysis restricted to only respondents who received a surgical abortion did not meaningfully change the results.

Our results demonstrate that patients in Texas tend to live farther from their abortion facility, are more likely to miss work or need to arrange childcare for their abortion and to sell something of value or delay paying another expense to fund their abortion. This could be related to both the lack of state abortion funding for Medicaid-eligible patients in Texas, as well as the additional costs associated with the logistics of accessing distant facilities. In light of the recent implementation of Senate Bill 8 (SB8) in Texas, effectively banning abortion beyond 6 weeks from last menstrual period, these hardships will likely have an even greater impact on people seeking abortion. In addition, when people only have 6 weeks from last menstrual period to diagnosis a pregnancy and seek abortion care, the clinical-contact-to-abortion time we found

in Texas of nine days may prevent people from being able to access abortion care at all.

Our sample represents only those who were able to overcome these barriers to obtain an abortion at a facility within the states' gestational limits [8,21]. The Texas facilities offer abortion up to 14 to 22 weeks while the California clinics provide care up to 24 weeks. Thus, our Texas sample did not include many patients later in pregnancy, so we are missing patients who may have presented at Texas facilities but were unable to obtain care at that location or at all due to barriers such as inability to pay or mandated waiting periods. People who were not included may have carried their pregnancy to term, self-managed their abortion, or traveled outside of the state. In a study among abortion patients in Texas, 6.9% report that they attempted to self-manage their abortion before seeking a clinic compared to 2.2% nationally [22]. A recent study showed that many people living in Texas sought abortion care in neighboring states following widespread clinic closures [23]. Following implementation of SB8, many more people desiring abortion in Texas will likely carry their pregnancy to term, self-manage their abortion, or travel outside of the state.

This study has several strengths. While previous studies compare abortion access across many states, this study is unique in examining the effects of restrictive laws by comparing the experiences of patients seeking abortion at facilities in 2 U.S. states that differ by abortion restrictions. Finally, the study includes a diverse sample of patients in terms of race and ethnicity, socioeconomic background, and level of education.

This study has several limitations. While California and Texas are in some ways similar (e.g., they are both U.S. border states with large immigrant populations and encompass large landmass), there are key differences between the states beyond the regulation of abortion and access to publicly funded insurance. Respondents in Texas were sampled from 12 abortion facilities across the state, but in California enrollment was restricted to 3 clinics in San Diego and Imperial counties; our sample thus should not be considered representative of the state as a whole. However, these counties do reflect a region with fairly widespread abortion availability in a state with relative few abortion restrictions, making the comparison between high- and low-restriction areas possible. Our sample under-represents medication abortion in California, which is available from a greater number of providers than surgical abortion and may thus possibly be obtained in a shorter amount of time. This may bias our results toward the null. Social stigma could differ between states, potentially impacting time to seek an abortion. In addition, we also did not collect any facility variables such as appointment availability data, which could be helpful in contextualizing this data.

We did not find a difference in clinical-contact-to-abortion time visit between states. However, our research highlights the significant cost, time, and other burdens associated with seeking an abortion in Texas. Currently, abortion patients in Texas must make financial sacrifices and shoulder life disruptions to access abortion. Elimination of restrictive laws and expansion of state funding for abortion care may help alleviate these burdens so that patients do not need to choose between obtaining an abortion and fulfilling obligations at work and home.

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