

# Distance Traveled to Obtain Clinical Abortion Care in the United States and Reasons for Clinic Choice

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## Abstract

**Introduction:** Greater distance to abortion facilities is associated with greater out-of-pocket costs, emergency room follow-up care, negative mental health, and delayed care among U.S. abortion patients. However, the distance U.S. abortion patients travel has not been reported since 2008, and no study has examined reasons abortion patients choose the particular facility where they obtain their abortion.

**Materials and Methods:** We analyzed data from the 2014 Abortion Patient Survey and Abortion Provider Census to report abortion patients' one-way travel from their resident zip code to their abortion clinic, whether they went to the closest clinic, and reasons for facility choice. We report unadjusted and adjusted associations of patients' characteristics with travel distance and differences in average travel distance by abortion patients' reported reasons for choosing their facility.

**Results:** In 2014, 65% of abortion patients traveled less than 25 miles one-way, 17% traveled 25–49 miles, and 18% traveled more than 50 miles. Abortion patients who were white, college-educated, U.S.-born,  $\geq 12$  weeks pregnant, and lived outside metropolitan areas were more likely to travel farther. Nearly half of abortion patients went to their nearest provider and 32% chose their facility because it was the closest.

**Conclusion:** These results indicate that travel distance is an important determinant of abortion care access in the United States. Nearly, one-fifth of U.S. abortion patients traveled more than 50 miles one-way and the most common reason reported for clinic choice was that it was the closest.

**Keywords:** abortion, distance traveled, clinic choice

## Introduction

TRAVEL DISTANCE IS an important determinant of access to health services,<sup>1,2</sup> including abortion care; in 2016, the decision of the Supreme Court of the United States in *Whole Women's Health v. Hellerstedt* upheld that increased driving distances can contribute to an undue burden on access to abortion care. In the United States, 95% of abortions were provided in specialized clinic settings in 2014, and 39% of U.S. women of reproductive age lived in a county with no such clinic.<sup>3</sup> In 2008, the most recent year for which there are data, 67% of U.S. abortion patients traveled less than 25 miles (one-way), and 6% traveled more than 100 miles. In adjusted analyses, abortion patients who were white and had graduated college traveled farther on average than black and Latina patients and those who had graduated high school or less, respectively. Abortion patients who did not live in metropolitan statistical areas (MSAs), urbanized areas of 50,000 or

more population,<sup>4</sup> and those who obtained abortions beyond 12 weeks of pregnancy were more likely to travel farther than their counterparts.<sup>5</sup>

Changes in the distribution and type of abortion facilities may affect how far people must travel for abortion services.<sup>6,7</sup> Between 2008 and 2014, the number of abortion clinics in the United States declined 7%, from 851 to 788.<sup>3</sup> During this time, three states also implemented bans on abortions to those whose pregnancies are 22 weeks or more from the last menstrual period. Some women may have had to travel farther to obtain abortion care because of clinics closures and abortion bans. However, others may have been unable to overcome the increased distance and thus prevented from obtaining abortion care at all.<sup>8</sup>

Several studies have found that greater distances to abortion facilities are associated with increased burden among patients, including higher associated out-of-pocket costs,<sup>7</sup> greater difficulty getting to the clinic,<sup>7</sup> negative mental health outcomes,<sup>9</sup>

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higher likelihood of emergency room-based follow-up care,<sup>10</sup> delayed care,<sup>11</sup> and decreased use of abortion services.<sup>12–14</sup> Similar burdens have been documented in Canada, which bears both cultural and infrastructural similarities to the United States.<sup>15</sup> In Texas, increased distance to the nearest abortion provider after clinic closures in 2013 was associated with a decrease in the abortion rate,<sup>16</sup> and in particular, among counties where the distance to the nearest abortion provider increased by  $\geq 100$  miles, the number of abortions to county residents declined by 50%.<sup>17</sup> Another study estimated a 69% decline in the  $\geq 16$ -week abortion rate to Texas residents after nonhospital  $\geq 16$  week abortions became unavailable and the average distance to the nearest provider increased by 219 miles. This estimate accounted for secular decline in the abortion rate and Texas residents who still obtained out-of-state abortion care, suggesting that many women could not overcome the additional travel distance to farther facilities after their local providers closed.<sup>18</sup>

Abortion access is also determined by factors other than distance; individuals seeking abortion care must weigh preferences, needs, and available resources against considerations such as the procedure fee, health insurance coverage, availability and timing of appointments, type and severity of restrictive abortion laws where they live, type of procedure offered (medical or surgical), and pregnancy gestation limits.<sup>9,19</sup> As a result, some patients may travel farther than their nearest abortion provider if they can, although the proportion of abortion patients who travel beyond their nearest provider, how much farther they travel, and for what reasons have not been studied in a national sample of abortion patients.

The aims of this study were to describe the distance U.S. abortion patients traveled for abortion services in 2014, the proportion of abortion patients who went to their nearest provider, and patient characteristics and reasons patients chose the facility where they obtained their abortion associated with travel distance.

## Materials and Methods

This cross-sectional, descriptive study uses the 2014 Abortion Patient Survey, which is nationally representative of nonhospital abortion patients in the United States.<sup>20</sup> This study obtained human subjects ethics approval from the Guttmacher Institute's federally registered Institutional Review Board. A detailed description of the dataset is published elsewhere<sup>20</sup>; a synopsis is provided below.

Between April 2014 and June 2015, a four-page questionnaire (available in English and Spanish) was distributed to all patients who obtained an abortion at each of 87 participating facilities; each facility's data collection period lasted a 2 to 12-week fielding period inversely proportional to the facility's size. During the 14-month fielding period, facilities provided 11,024 abortions and returned 8,380 patient surveys, representing a 76% response rate. Questionnaire domains included demographic information and abortion and other reproductive health-related experiences, including reasons the patient selected the facility at which they were obtaining an abortion. It also requested participants' resident state and zip code. Weights were constructed to account for nonresponse, rendering the data representative of all U.S. women obtaining abortions.

We calculated two distance measures. The first was the one-way distance from each patient's resident zip code to the abortion facility where they obtained their abortion; in other

words, the distance actually traveled for abortion services. We used the "traveltime3" program in Stata, which accesses the Google Maps application programming interface, to calculate driving distance in miles between patients' zip codes and facility zip codes. Distances for 33 patients for whom the areas between their zip code and abortion clinic traversed undeveloped land (*i.e.*, forests, bodies of water) were calculated using Google Maps individually since these calculations returned errors in traveltime3. Patients who obtained abortions in their resident zip code were coded as having traveled zero miles. One-way distance traveled to the abortion facility was recorded into a categorical variable indicating less than 25, 25–49, 50–100 and  $>100$  miles; these categories were used in previously published research.<sup>5</sup>

The second distance measure was the one-way distance to the abortion clinic *nearest* to each patient's zip code. Using Guttmacher Institute's 2014 database of all known abortion facilities, we found the nearest health care facility defined as a health care facility that provided at least 400 abortions in 2014, or Planned Parenthood affiliate that provided at least one abortion in 2014, by straight-line distance from each patient's zip code centroid using Maptitude. As per previous research, these metrics are meant to identify access points for abortion care that are accessible and discoverable by people seeking abortion care.<sup>21</sup> We then calculated the driving distance using "traveltime3" and subtracted it from the distance each patient actually traveled to determine the proportion of patients who went to their nearest abortion provider, and among those who did not, how much farther than their nearest provider they traveled.\*

Eight percent of abortion patients ( $n = 633$ ) did not provide a valid zip code and were excluded from analysis. This level of missing information was similar to the overall level of nonresponse on sensitive items, and Chi-square statistics revealed that those patients for whom we lacked distance information did not differ from the full sample of patients on any characteristic (not shown). We excluded 44 patients as outliers because they traveled more than 400 miles, were vast majority  $\geq 18$  years old, obtained first trimester procedures, and lived in states with multiple abortion providers. These cases likely represent students living away from home, patients traveling for vacation, to areas where friends or family reside, or for other reasons, and therefore, do not represent the typical abortion patient in terms of travel burden. Although an additional 15 patients met these same outlier criteria, we included them in the analysis because they lived in Alaska and did not cross state lines to obtain an abortion, and therefore more likely represent the typical abortion patient in their state.

We hypothesized that 14 independent characteristics and two policy measures would be associated with travel. The first policy measure was whether patients lived in a state with a waiting period law; this included "two-visit" laws

\*Respondents who traveled within 1 mile of their nearest provider were coded as having traveled to their nearest provider (traveled zero miles) since Google Maps does not calculate to this level of precision (*i.e.* the same calculation could be more than 1 mile different on two separate tries for the same calculation). In addition, patients who traveled very small distances, such as 1 mile, beyond their nearest provider, could be traveling the same as or negligibly farther distances than their nearest provider if they lived in a geographically large zip code or on the border of their zip code.

(requiring an *in-person* visit to the abortion facility followed by a waiting period of at least 24 hours before obtaining the procedure), “24 hour” laws, (requiring patients to wait at least 24 hours from making their appointment before obtaining an abortion without a requisite in-person visit), or no waiting period law. The second policy measure was whether minors lived in a state with parental involvement laws, including parental notification and parental consent laws. Demographic variables included age, U.S.-born or not, education level, poverty status (according to percent of federal poverty level), relationship status, parity, and race/ethnicity. Race/ethnicity was measured by first asking “Are you Spanish, Hispanic, or Latina?” and then asking respondents to choose one or more races they consider themselves to be. Responses were coded into the following categories: black, white, Asian or Pacific Islander, Hispanic, or Other. “Other” includes respondents who chose American Indian, Other, or marked more than one race. We coded respondents who identified as Spanish, Hispanic, or Latina as Hispanic regardless of race. Situational variables included the number of disruptive life events the abortion patient experienced over the last year, pregnancy gestational length ( $\leq 12$  weeks, 13–15 weeks, and  $\geq 16$  weeks) and how they paid for the abortion. We also categorized patients by region (Northeast, Midwest, South, and West), whether they lived in an MSA, and whether they crossed state lines to obtain an abortion.

We tabulated the percent distributions of patient characteristics overall and by category of distance traveled using Chi-square statistics to assess significant differences. We modeled all variables using ordered logistic regression model, a regression technique that assumes that the proportional relationship between each pair of outcome groups is the same. In other words, the relationship between those traveling the least distance compared with all higher categories of distance is the same as relationship between the next lowest category and all higher categories. Margins were

calculated to obtain predicted probabilities of each category of distance traveled for the selected characteristics while holding all covariates at their means.

We also report travel distance by reasons patients chose the facility where they obtained their abortion. In response to the question “Which, if any, of the below influenced your decision to come to THIS particular facility?,” patients could choose as many of the 11 closed-ended responses and “Some other reason” (which included a write-in text box) as applied to them. We present the nine most commonly reported reasons; all other reasons were reported by  $\leq 1\%$  of respondents each. We compared the average distance traveled and distance to the nearest provider among those who chose each reason to the distances of those who did not choose that reason using t-tests. We conducted all analyses in Stata version 14.1 (StataCorp, College Station, TX).

**Results**

Abortion patients traveled a mean of 34 miles one-way to the facility where they obtained their abortions, with a median of 16 miles (Table 1). Two-thirds (65%) of abortion patients traveled less than 25 miles, 17% traveled 25–49 miles, 10% traveled 50–100 miles, and 8% traveled more than 100 miles. The mean distance to the nearest provider was 22 miles, with a median of 9 miles. Nearly half of all abortion patients obtained an abortion at their nearest provider (47%), and 6% traveled  $\geq 50$  miles farther than their nearest provider.

Demographic characteristics of U.S. abortion patients in 2014 have been published elsewhere,<sup>20,22</sup> but we describe several variables not previously reported; for example, 89% of abortion patients resided in an MSA (Table 2). Among abortion patients aged 17 and younger, 55% lived in state requiring parental involvement to obtain an abortion. Nearly a quarter (24%) of abortion patients lived in a state with a two-visit waiting period law.

TABLE 1. WEIGHTED MEAN, MEDIAN, AND PERCENT DISTRIBUTION OF 2014 U.S. ABORTION PATIENTS BY MILES TRAVELED TO ABORTION FACILITY, LIVED FROM NEAREST ABORTION FACILITY, AND TRAVELED BEYOND NEAREST FACILITY (UNWEIGHTED  $N=7,688$ ; WEIGHTED  $N=889,142$  NONHOSPITAL ABORTIONS)

	Mean	95% CI	Median	95% CI				
Miles traveled to abortion facility	33.5	28.2–38.7	15.7	13.6–17.8				
Miles to nearest abortion facility	22.0	17.1–26.9	9.3	7.7–11.0				
Miles traveled beyond nearest abortion facility	12.2	10.5–13.9	1.8	0.0–3.6				
<i>Miles</i>								
	<25		25–49		50–100		>100	
	Weighted n	%	Weighted n	%	Weighted n	%	Weighted n	%
Miles traveled to abortion facility	579,365	65.2	154,622	17.4	87,483	9.8	67,744	7.6
Miles lived from nearest abortion facility	690,152	77.6	101,629	11.4	63,485	7.1	33,876	3.8
Miles traveled beyond nearest abortion facility	782,267	88.0	50,770	5.7	32,987	3.7	23,118	2.6
<i>Miles traveled beyond nearest abortion facility</i>								
	Weighted n		%					
Traveled to nearest	421,453		47.4					
Within 15	296,262		33.3					
15–49 beyond	115,322		13.0					
$\geq 50$ beyond	56,105		6.3					

CI, confidence interval.

TABLE 2. PERCENT DISTRIBUTIONS OF 2014 U.S. ABORTION PATIENTS BY SELECTED CHARACTERISTICS AND MILES TRAVELED TO ABORTION FACILITY (UNWEIGHTED N=7,688; WEIGHTED N=889,142 NONHOSPITAL ABORTIONS)

Characteristic	Weighted n	%	<25	25–49	50–100	>100	p-Value
All			65.2	17.4	9.8	7.6	
Waiting period law							0.00
Two visit requirement	210,904	23.7	59.9	17.4	12.9	9.9	
Waiting period requirement	189,832	21.4	52.8	19.5	13.9	13.8	
No waiting period law	488,495	54.9	72.2	16.6	6.9	4.2	
Parental notification and consent							0.02
Limited to <18 <sup>a</sup>							
Yes	17,607	54.9	60.6	19.7	9.0	10.7	
No	14,464	45.1	79.7	10.1	8.0	2.2	
Age							0.43
<18	32,071	3.6	69.2	15.4	8.5	6.9	
18–19	74,795	8.4	66.1	15.9	9.9	8.2	
20–24	300,352	33.8	63.8	16.9	10.9	8.4	
25–29	236,512	26.6	65.5	18.3	9.4	6.8	
30–34	139,151	15.7	66.0	17.7	8.7	7.6	
35–39	80,396	9.0	63.8	18.9	9.4	7.9	
40+	25,883	2.9	69.9	15.1	10.6	4.4	
Race/ethnicity							0.00
Non-Hispanic White	346,232	38.9	55.1	21.8	13.0	10.1	
Non-Hispanic Black	247,537	27.8	72.7	12.9	8.9	5.5	
Hispanic	216,951	24.4	72.9	15.5	6.9	4.6	
Non-Hispanic Asian or Pacific Islander	48,583	5.5	70.6	16.7	6.4	6.4	
Non-Hispanic Other	29,813	3.4	53.6	18.4	7.6	20.3	
Born in the United States							0.00
Yes	748,924	84.2	63.5	17.8	10.6	8.2	
No	140,218	15.8	74.1	15.3	5.9	4.7	
Highest level of education							0.00
Less than high school	109,631	12.3	72.2	13.3	9.4	5.1	
High school graduate	259,985	29.2	65.9	16.4	10.0	7.8	
Some college	351,211	39.5	62.4	19.0	10.4	8.3	
College graduate	168,315	18.9	65.2	18.4	8.7	7.7	
Poverty status							0.07
<100%	439,770	49.5	66.7	16.0	10.1	7.2	
100%–199%	227,709	25.6	63.8	17.9	10.0	8.4	
200+%	221,663	24.9	63.6	19.6	9.2	7.6	
Relationship status							0.03
Married	123,591	13.9	62.5	19.8	9.9	7.9	
Cohabiting	278,124	31.3	65.5	18.2	8.9	7.4	
Never married	409,806	46.1	66.6	16.1	9.9	7.4	
Previously married	77,640	8.7	60.6	17.6	12.6	9.2	
Number previous births							0.57
0	361,614	40.7	66.0	16.9	9.4	7.7	
1–2	400,825	45.1	63.8	18.0	10.5	7.7	
3 or more	126,703	14.3	66.9	17.0	8.9	7.3	
Gestation (weeks from LMP)							0.00
≤12 weeks	799,872	90.0	65.9	17.4	9.5	7.1	
13–15 weeks	52,753	5.9	61.5	16.9	11.0	10.6	
16+ weeks	36,544	4.1	53.4	17.1	15.7	13.8	
Crossed state line for abortion							0.00
Yes	56,487	6.4	26.8	15.6	21.4	36.2	
No	832,681	93.7	67.8	17.5	9.1	5.7	
Resides in MSA							0.00
Yes	791,959	89.1	71.4	17.1	7.4	4.1	
No	97,183	10.9	14.7	19.7	29.6	36.0	
Region of residence							0.00
Northeast	207,081	23.3	77.8	14.5	5.8	1.9	
Midwest	122,257	13.8	50.2	22.4	13.0	14.4	
South	309,688	34.8	59.3	19.0	12.7	9.0	
West	250,027	28.1	69.3	15.4	8.0	7.3	

(continued)

TABLE 2. (CONTINUED)

Characteristic	Weighted n	%	<25	25–49	50–100	>100	p-Value
Number disruptive life events							0.42
0	386,599	43.5	65.1	17.6	9.7	7.5	
1	292,617	32.9	66.4	17.2	9.2	7.3	
2 or more	209,926	23.6	63.4	17.3	11.0	8.3	
Abortion payment method							0.00
Out of pocket/self	414,696	46.6	59.8	18.4	11.8	10.1	
Financial assistance	121,990	13.7	59.4	19.4	11.2	10.0	
Private insurance	125,814	14.2	70.2	18.4	7.7	3.7	
Medicaid	210,460	23.7	74.6	14.2	6.8	4.5	
Other	16,191	1.8	72.9	16.5	7.1	3.5	

<sup>a</sup>Not all variables in distance sample contain the full 7688 cases as a small number of cases may be missing. LMP, last menstrual period; MSA, metropolitan statistical area.

Several characteristics were associated with travel distance in unadjusted analyses. The proportion of patients living in a state with a two-visit waiting period law were twice as likely as those who lived in a state with no waiting period to have traveled more than 100 miles one-way (10% vs. 4%); those in states with waiting period laws not requiring two visits were three times as likely (14% vs. 4%). Among abortion patients aged 17 and younger, 11% of those in a parental involvement state traveled more than 100 miles compared with 2% in states with no such law. White patients and “other” race/ethnicity-identified patients were most likely to travel more than 100 miles (10% and 20%, respectively); only between 5% and 6% of black, Latina/o, and Asian patients traveled more than 100 miles. There were no differences in travel distance by age, number of previous births, number of disruptive life events, or poverty level.

The proportion of abortion patients at  $\geq 16$  weeks of gestation who traveled more than 100 miles was twice that of those at  $\leq 12$  weeks (14% vs. 7%). Patients who crossed state lines for their abortion were eight times more likely to travel more than 100 miles than those who did not (36% vs. 4%). Abortion patients living outside an MSA were eight times more likely to travel more than 100 miles than MSA-resident abortion patients (36% vs. 4%).

Abortion patients from the Midwest had the smallest proportion of patients traveling less than 25 miles (50%) for an abortion and the greatest proportion traveling more than 100 miles (14%). In contrast, more than three quarters of Northeast-resident abortion patients traveled less than 25 miles, and just 2% traveled more than 100 miles.

Most associations in the bivariate analysis were maintained after controlling for other variables with the exception of region of residence and marital status<sup>†</sup> (Table 3). Patients who lived in a state with a required waiting period (but without a two-visit requirement) had more than 1.5 times the odds of traveling each category of distance farther compared to those who lived in states with no waiting period. Black patients were half as likely to travel each category of distance farther compared with white patients, and non-MSA residents had 12 times greater odds of traveling compared to MSA residents. Compared to patients with some college education,

those with less than a high school education had 30% lower odds of traveling each category of distance farther. Compared to those obtaining abortions at  $\leq 12$  weeks of pregnancy, patients obtaining abortions at 13–15 weeks had 1.5 times greater odds of traveling each category of distance farther, and those at  $\geq 16$  weeks had 2.8 times the odds of traveling farther. Patients using private insurance to cover their abortion had 20% lower odds of traveling each category further compared to those paying out-of-pocket. Patients who crossed state lines for abortion services had five times greater odds of traveling each category of distance farther compared to those obtaining an abortion in their state of residence.

When asked why they obtained an abortion at the particular facility they did, 66% of respondents chose one reason; 30% gave more than one reason, and 5% gave no reason (not shown). Among abortion patients who provided a reason, nearly one-third (32%) said they chose their particular facility because it was the closest (Table 4). There was no difference in average miles traveled between those who went to their facility because it was closest and those who did not choose this reason; however, those who chose their facility because it was closest lived farther from their nearest provider compared with those who did not choose that reason (27 vs. 20 miles,  $p < 0.01$ ).

Abortion patients reported several aspects of clinical services that influenced their decision of facility. The 13% of abortion patients who chose their facility because it could schedule them the soonest traveled an average of 41 miles whereas those who did not choose this reason traveled an average of 32 miles ( $p < 0.01$ ), although there was no difference in distance to the nearest abortion facility between these groups.

Similarly, the 2% of abortion patients who were too far along in pregnancy to go to other providers traveled an average of 72 miles compared to an average of 33 miles traveled by those who did not choose this reason ( $p < 0.01$ ). Notably, when restricting the comparison to only those patients who obtained abortions at  $< 16$  weeks, those who were too far along still traveled farther on average—68 miles compared with 33 among those who did not choose this reason ( $p < 0.01$ ) (not shown).

The 15% of patients who chose their clinic because it offered medication abortion lived on average closer to their nearest clinic (20 vs. 23 miles,  $p < 0.001$ ) and traveled a shorter average distance (28 vs. 35 miles,  $p < 0.01$ ) than those who did not. Similarly, those who chose their clinic because it

<sup>†</sup> Living in a parental involvement state was not in the adjusted model because such policies only affect minors and the model was not restricted to minors.

TABLE 3. PROPORTIONAL ODDS RATIOS AND 95% CONFIDENCE INTERVALS FOR SELECTED 2014 U.S. ABORTION PATIENT CHARACTERISTICS AND CATEGORY OF MILES TRAVELED TO ABORTION FACILITY AND THEIR PREDICTED PROBABILITIES, HOLDING ALL OTHER VARIABLES AT THEIR MEANS (N=7,406)

Characteristic	OR	p-Value	CI	<25	25-49	50-100	>100
Waiting period law							
Two visit requirement	1.4	0.099	0.9-2.0	62.9	22.4	10.0	4.7
Waiting period requirement	1.7	0.043	1.0-2.8	57.8	24.6	11.9	5.7
No waiting period law	ref	—	—	69.8	19.0	7.8	3.5
Age							
<18	1.3	0.174	0.9-1.8	58.7	24.2	11.5	5.5
18-19	0.9	0.321	0.7-1.1	66.8	20.5	8.7	4.0
20-24	ref	—	—	64.2	21.8	9.6	4.4
25-29	0.9	0.254	0.8-1.1	66.0	20.9	9.0	4.1
30-34	0.9	0.133	0.7-1.0	67.6	20.1	8.5	3.8
35-39	0.9	0.398	0.7-1.1	66.2	20.8	8.9	4.1
40+	0.7	0.027	0.5-1.0	72.8	17.3	6.8	3.0
Race/ethnicity							
Non-Hispanic White	ref	—	—	60.2	23.6	11.0	5.2
Non-Hispanic Black	0.5	0.000	0.4-0.6	74.9	16.1	6.2	2.7
Hispanic	0.8	0.104	0.6-1.0	65.1	21.3	9.3	4.3
Non-Hispanic Asian or Pacific Islander	0.9	0.547	0.6-1.3	62.7	22.5	10.1	4.7
Non-Hispanic Other	1.3	0.081	1.0-1.9	52.9	26.4	13.7	6.9
Born in the United States							
Yes	1.3	0.009	1.1-1.6	64.8	21.5	9.4	4.3
No	ref	—	—	70.6	18.5	7.5	3.4
Highest level of education							
Less than high school	0.7	0.004	0.6-0.9	70.6	18.5	7.5	3.4
High school graduate	0.9	0.054	0.7-1.0	66.5	20.7	8.8	4.0
Some college	ref	—	—	63.1	22.3	10.0	4.7
College graduate	0.9	0.092	0.7-1.0	66.7	20.5	8.7	4.0
Poverty status							
<100%	ref	—	—	65.0	21.4	9.3	4.3
100-199%	1.0	0.574	0.8-1.1	66.0	20.9	9.0	4.1
200+%	0.9	0.403	0.8-1.1	66.7	20.6	8.8	4.0
Relationship status							
Married	1.1	0.169	1.0-1.3	63.0	22.3	10.0	4.7
Cohabiting	0.9	0.166	0.8-1.0	67.7	20.0	8.4	3.8
Never married	ref	—	—	65.7	21.0	9.1	4.2
Previously married	1.2	0.114	1.0-1.4	62.3	22.6	10.2	4.8
Number previous births							
0	0.9	0.082	0.8-1.0	67.3	20.2	8.5	3.9
1-2	ref	—	—	64.4	21.7	9.5	4.4
3 or more	1.0	0.807	0.8-1.2	64.9	21.4	9.3	4.3
Number disruptive life events							
0	ref	—	—	65.5	21.1	9.2	4.2
1	1.0	0.661	0.8-1.1	66.2	20.8	8.9	4.1
2 or more	1.0	0.926	0.9-1.2	65.3	21.2	9.2	4.2
Gestation (weeks LMP)							
≤12 weeks	ref	—	—	67.2	20.3	8.6	3.9
13-15 weeks	1.5	0.008	1.1-2.0	57.9	24.5	11.8	5.7
16+ weeks	2.8	0.000	1.7-4.8	42.0	29.2	18.5	10.3
Abortion payment method							
Out of pocket/self	ref	—	—	63.5	22.1	9.8	4.6
Financial assistance	0.9	0.284	0.7-1.1	65.9	21.0	9.0	4.1
Private insurance	0.8	0.018	0.7-1.0	68.1	19.9	8.3	3.8
Medicaid	0.8	0.184	0.6-1.1	68.1	19.8	8.3	3.8
Other	0.8	0.232	0.5-1.2	69.2	19.3	7.9	3.6
Region of residence							
Northeast	0.6	0.063	0.4-1.0	74.1	16.6	6.4	2.8
Midwest	1.1	0.563	0.7-1.7	60.3	23.6	11.0	5.2
South	ref	—	—	63.2	22.2	9.9	4.6
West	1.0	0.922	0.6-1.5	63.7	22.0	9.7	4.5
Resides in MSA							
Yes	ref	—	—	71.5	18.0	7.2	3.2
No	11.6	0.000	6.7-20.1	17.8	24.7	29.7	27.8
Crossed state line for abortion							
Yes	5.2	0.000	3.1-8.7	29.2	29.3	24.7	16.8
No	ref	—	—	68.0	19.9	8.3	3.8

OR, odds ratio.

TABLE 4. PERCENT DISTRIBUTION OF 2014 U.S. ABORTION PATIENTS' REASONS FOR CHOOSING ABORTION FACILITY (AMONG THOSE WHO PROVIDED  $\geq 1$  REASON)

	% Yes	Average Miles to Nearest Provider By Reason			Average Miles Traveled By Reason		
		Yes	No	p-Value	Yes	No	p-Value
It was the closest	31.9	27.4	19.7	0.01	35.0	32.9	0.49
I have been here before	20.2	16.6	23.6	0.001	23.3	36.1	0.001
It was recommended to me by a friend, family member or someone I trust	17.5	20.1	22.6	0.03	29.5	34.4	0.001
It offers medication abortion	15.2	19.6	22.7	0.03	28.4	34.5	0.001
It was the most affordable	14.6	21.6	22.3	0.71	34.4	33.4	0.68
It could see me the soonest	13.1	23.6	22.0	0.42	41.1	32.4	0.001
It was recommended to me by another health care provider	11.3	24.1	21.9	0.50	38.4	32.9	0.10
It takes my insurance	10.4	16.5	22.8	0.01	27.2	34.3	0.01
I am too far along in my pregnancy to go to other providers	2.1	21.3	22.2	0.82	72.0	32.7	0.001

Respondents indicated as many answers as applied to them; %s will not sum to 100.

took their insurance lived closer to their nearest clinic (17 vs. 23 miles,  $p < 0.01$ ) and traveled a shorter average distance (27 vs. 34 miles,  $p < 0.01$ ) compared to those who did not report this reason.

### Discussion and Conclusions

This study provides the first update of the distance U.S. abortion patients actually traveled one-way to the facility where they obtained care since the baseline was established in 2008. Nearly two-thirds of abortion patients (65%) traveled less than 25 miles for services in 2014, a proportion similar to the 2008 estimate of 67%,<sup>5</sup> despite some changes in the abortion service landscape and the national abortion patient profile since that time. Still, more than 17% of those obtaining an abortion in 2014—some 155,000 people—traveled 50 miles or more for abortion care. We also show that the provider being the closest was a main reason abortion patients chose their facility and that nearly half of all abortion patients traveled to their nearest provider, indicating that distance is an important determinant of abortion access.

Some groups of abortion patients were more likely to travel farther in 2014, in particular, more than 100 miles, compared to their counterparts. White patients, college-educated, and U.S.-born patients were more likely to travel farther for an abortion, which may reflect that these groups have more material, informational, and social resources to be able to travel, while those without the resources to travel the same distances are not represented in this sample if they were unable to overcome those obstacles. Farther travel among patients at higher gestational lengths likely reflects that abortion services at the second trimester are less commonly available and those patients therefore must travel beyond their nearest provider to obtain care. Notably, 36% of patients residing in non-MSA regions traveled more than 100 miles for abortion services, the largest proportion of any group, reflecting a considerable travel burden where services are not geographically accessible.<sup>21</sup>

We also found that abortion patients who lived in states with two-visit requirements and adolescents who lived in parental notification states traveled farther. While these

policies in and of themselves do not affect distance to a clinic, states with these restrictions may also be more likely to enforce restrictions that lead to clinic closures or prevent providers from offering abortion care. For example, in 2010 every state with a two-visit law also enforced at least two other major abortion restrictions.<sup>23</sup> If so, this finding is concerning given that emerging research has shown that multiple restrictions compound the burden of obtaining abortion care, particularly for those who already have limited resources to overcome them.<sup>7,9</sup>

This is the first U.S. study to assess the proportion of abortion patients who traveled beyond their nearest provider, how much farther they traveled, and the reasons they chose the clinic they did. Most abortion patients (81%) went to their nearest provider or within 15 miles of their nearest provider, and nearly one-third said they chose their clinic because it was the closest. While distance was the most common reason abortion patients chose their facility, this was just one factor they weighed. There was no one majority reason for abortion patients' choice of facility and more than a third of respondents reported two or more reasons. Our results suggest that some individuals travel farther to get the care that is best for them. Both abortion patients who reported they chose their facility because it provided the soonest appointment and those who reported they were too far along in pregnancy for other providers traveled substantially farther for care compared to those who did not give these reasons, despite no difference in distance to the nearest provider between the groups.

It is important to note that we describe crude associations between distance and reasons for clinic choice, and some associations likely are not due to distance, *per se*. For example, it is possible that patients who lived in urban areas, and therefore closer to providers, were able to prioritize reasons for clinic choice that did not relate to distance.

A limitation of this study is that data came from individuals who obtained abortions; therefore, those who were unable to present at an abortion facility—because of distance or other barriers, such as gestational limits—are not included. The Turnaway Study, which documented the experiences of people unable to obtain an abortion because of clinic gestational

limits, found that a primary reason for delays is time spent gathering funds for procedure and travel costs, and that some 4,000 such people per year may be denied wanted abortion care.<sup>8</sup> Another limitation is that this nationally representative study cannot detect changes in distance traveled at the state or region level where clinic closures may have left some areas with fewer or no providers. For example, more than half of Texas abortion facilities closed after a restrictive abortion law, House Bill 2, was introduced in 2013 and this led to the distance to the nearest abortion facility to increase from 15 to 35 miles among 2014 Texas abortion patients.<sup>7</sup> Finally, our survey excluded patients obtaining abortions in hospitals, where an estimated 4% of abortions were provided in 2014.<sup>3</sup> If hospital abortion patients traveled closer or farther than nonhospital abortion patients, our distance estimates could be biased.

Emergent models of health care delivery could reduce the travel burden among rural individuals in particular. Pharmacy provision of medication abortion could reduce travel distance for abortion patients; however, the Food and Drug Administration's Risk Evaluation and Mitigation Strategy (REMS) for one of the drugs used in early medication abortion, mifepristone, prohibits dispensing it by pharmacy prescription. Current evidence regarding the safety of mifepristone indicates that the REMS is not necessary.<sup>24</sup> Similarly, telemedicine is used to deliver a range of reproductive health services<sup>25</sup> and is safe and effective for the provision of medication abortion.<sup>26–28</sup> Currently, 17 U.S. states ban telemedicine for abortion care specifically, despite evidence that it is safe, effective, and highly accepted by abortion patients.<sup>29</sup>

Distance is a relative measure of one cost of obtaining an abortion. The burden travel places upon obtaining medical care depends on an individual's context and resources, including access to private and public transportation, childcare, and paid sick time. Most individuals seeking abortion services in the United States are low-income,<sup>20</sup> and a nearly a third of patients said they chose their clinic because it was closest, suggesting that farther distances may be a salient barrier to timely and appropriate abortion care for many abortion patients. One study found that the national average distance traveled for medical/dental care was 10 miles,<sup>30</sup> while in 2014, U.S. abortion patients traveled on average 34 miles—three times farther. This farther travel is an added burden that abortion patients face, as they also consider factors such as restrictive abortion laws, cost, scheduling, and service type, to obtain the care they need.

#### Author Disclosure Statement

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