

# Estimated Travel Time and Spatial Access to Abortion Facilities in the US Before and After the *Dobbs v Jackson Women's Health* Decision

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**IMPORTANCE** Abortion facility closures resulted in a substantial decrease in access to abortion care in the US.

**OBJECTIVES** To investigate the changes in travel time to the nearest abortion facility after the *Dobbs v Jackson Women's Health Organization* (referred to hereafter as *Dobbs*) US Supreme Court decision.

**DESIGN, SETTING, AND PARTICIPANTS** Repeated cross-sectional spatial analysis of travel time from each census tract in the contiguous US (n = 82 993) to the nearest abortion facility (n = 1134) listed in the Advancing New Standards in Reproductive Health database. Census tract boundaries and demographics were defined by the 2020 American Community Survey. The spatial analysis compared access during the pre-*Dobbs* period (January-December 2021) with the post-*Dobbs* period (September 2022) for the estimated 63 718 431 females aged 15 to 44 years (reproductive age for this analysis) in the US (excluding Alaska and Hawaii).

**EXPOSURES** The *Dobbs* ruling and subsequent state laws restricting abortion procedures. The pre-*Dobbs* period measured abortion access to all facilities providing abortions in 2021. Post-*Dobbs* abortion access was measured by simulating the closure of all facilities in the 15 states with existing total or 6-week abortion bans in effect as of September 30, 2022.

**MAIN OUTCOMES AND MEASURES** Median and mean changes in surface travel time (eg, car, public transportation) to an abortion facility in the post-*Dobbs* period compared with the pre-*Dobbs* period and the total percentage of females of reproductive age living more than 60 minutes from abortion facilities during the pre- and post-*Dobbs* periods.

**RESULTS** Of 1134 abortion facilities in the US (at least 1 in every state; 8 in Alaska and Hawaii excluded), 749 were considered active during the pre-*Dobbs* period and 671 were considered active during a simulated post-*Dobbs* period. Median (IQR) and mean (SD) travel times to pre-*Dobbs* abortion facilities were estimated to be 10.9 (4.3-32.4) and 27.8 (42.0) minutes. Travel time to abortion facilities in the post-*Dobbs* period significantly increased (paired sample *t* test  $P < .001$ ) to an estimated median (IQR) of 17.0 (4.9-124.5) minutes and a mean (SD) of 100.4 (161.5) minutes. In the post-*Dobbs* period, an estimated 33.3% (sensitivity interval, 32.3%-34.8%) of females of reproductive age lived in a census tract more than 60 minutes from an abortion facility compared with 14.6% (sensitivity interval, 13.0%-16.9%) of females of reproductive age in the pre-*Dobbs* period.

**CONCLUSIONS AND RELEVANCE** In this repeated cross-sectional spatial analysis, estimated travel time to abortion facilities in the US was significantly greater in the post-*Dobbs* period after accounting for the closure of abortion facilities in states with total or 6-week abortion bans compared with the pre-*Dobbs* period, during which all facilities providing abortions in 2021 were considered active.

JAMA. 2022;328(20):2041-2047. doi:10.1001/jama.2022.20424  
Published online November 1, 2022.

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On June 24, 2022, the Supreme Court of the US delivered the *Dobbs v Jackson Women's Health Organization* (hereafter referred to as *Dobbs*) decision, holding that there was no federal right to abortion care.<sup>1</sup> Following *Dobbs*, complete or partial bans on abortion were enacted in more than 15 US states.<sup>2</sup> Individuals seeking an abortion in these states would have to travel out of state to access abortion facilities. With 75% of those seeking abortion considered to be living on low incomes, according to 2014 estimates, this may have posed an insurmountable barrier to obtaining care.<sup>3</sup> A 2022 study also found that greater travel requirements were associated with long delays and the inability to obtain abortions.<sup>4</sup>

The present study sought to measure overall and subgroup changes in spatial access to abortion facilities that have occurred in the post-*Dobbs* period.

## Methods

This project was a secondary analysis of nonhuman and non-identifiable public data and was institutional review board-exempt. Informed consent was not required. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies were followed.

### Study Design

A repeated cross-sectional geographic analysis was conducted to estimate travel time from each census tract in the contiguous US to the nearest abortion facility. The analysis compared 2 cross-sections: pre-*Dobbs* (January-December 2021) and post-*Dobbs* (September 2022) periods. Demographics and the number of females of reproductive age (15-44 years) living more than 60 minutes from abortion care were compared in each period. A 60-minute threshold to care is consistent with government standards for access to specialty care<sup>5</sup> and a 2022 study<sup>4</sup> that showed that individuals living more than 50 miles from an abortion facility were more likely to still be seeking an abortion on a 4-week follow-up than those who lived closer to an abortion facility. Alaska and Hawaii were excluded from all calculations due to the unique challenges of spatial access in these states (eg, greater reliance on air travel).<sup>6</sup>

### Data Sources

Abortion facility locations (n = 1134) were extracted from the Advancing New Standards in Reproductive Health database, accessed on August 18, 2022.<sup>7</sup> All facilities in the contiguous US providing abortions in 2021 according to Advancing New Standards in Reproductive Health were included in the pre-*Dobbs* period. This included facilities in Texas that may have stopped performing some or all abortions in September 2021 due to Texas' Senate Bill 8, which introduced a mechanism to prevent abortions after cardiac activity was detected.<sup>8</sup> The post-*Dobbs* period was simulated by considering the facilities in the 15 states with total or 6-week abortion bans in effect as of September 30, 2022 (n = 78), as inactive for analysis (Figure 1).<sup>2</sup> A sensitivity analysis was performed that additionally simulated all facilities in the 3 states with gestational

## Key Points

**Question** How did travel time and spatial access to abortion facilities in the US change after the *Dobbs v Jackson Women's Health* (referred to hereafter as *Dobbs*) Supreme Court decision?

**Findings** In this repeated cross-sectional spatial analysis of 749 abortion facilities and 63 718 431 females aged 15 to 44 years in the US, estimated median and mean travel time to a facility providing an abortion in 2021 (pre-*Dobbs* period) were 10.9 minutes and 27.8 minutes compared with 17.0 minutes and 100.4 minutes in the post-*Dobbs* period, when facilities in states with total abortion bans or 6-week abortion bans were considered inactive, which was a statistically significant difference.

**Meaning** In this spatial analysis, travel time to abortion facilities in the US was estimated to be significantly greater in a post-*Dobbs* period compared with a pre-*Dobbs* period.

bans between 15 and 20 weeks (n = 73) as inactive. Facilities in Alaska and Hawaii (n = 8) were excluded.

Census tract demographics for each populated census tract in the contiguous US (n = 82 993) were taken from the 2016-2020 American Community Survey (ACS), the most recently available US census data.<sup>9</sup> Our calculations used ACS-defined female sex and ages 15 to 44 years to represent all individuals who may seek abortions. Demographic variables for stratified analyses were determined by the researchers based on previous observations of geographic, socioeconomic, and racial disparities in access to abortion services.<sup>4,10</sup> Race and ethnicity were collected via self-identification from a closed list ("other race" option and ability to select multiple races were available) defined by the ACS and collected to meet federal and state government needs (eg, to design legislation, assess disparities).<sup>11</sup>

### Spatial Analysis

Travel times from each 1-km<sup>2</sup> grid point in the US to the nearest abortion facility were calculated using a friction surface and the Dijkstra algorithm.<sup>12,13</sup> This method split the US into a grid of 1-km<sup>2</sup> cells, each with a modeled burden of transversal time based on the presence of road networks, public transportation, and other factors.<sup>14</sup> The travel time metric used here was calculated as the accumulated burden of grid-to-grid travel times if one were to follow the most efficient path from each grid point to an abortion facility. Time estimates assumed the quickest means of ground (eg, car, train) or water transportation to abortion facilities regardless of state. The travel time estimates assumed favorable conditions (eg, no traffic) and that each method of travel operated at its designed speed (eg, travelers move along a road at its speed limit).<sup>12</sup> Travel time for each census tract was represented by the 50th percentile of all grid point travel times within the census tract. Travel time was used over distance for its flexibility measuring spatial access across urban and rural geographies, where times to travel similar distances may vary dramatically.<sup>14,15</sup>

ACS data over large regions have narrow margins of error,<sup>9,12</sup> and the travel time computations used here were deterministic (ie, the computations estimated fixed values for travel time without error). Additionally, traditional bootstrap

and simulation methods to generate travel time CIs post hoc across more than 80 000 census tracts resulted in high levels of precision (ie, margins of error <1%). To avoid overstating certainty, sensitivity intervals (SIs) were constructed reflecting sensitivity analyses employing the 2.5th (simulating faster travel) and 97.5th (simulating slower travel) travel time percentiles in place of the 50th percentile of each census tract's grid points.<sup>16</sup> The SI incorporated the uncertainty of where females of reproductive age may live within each census tract as well as the possibility that true travel time varies from the estimates (eg, due to traffic, driving over the speed limit).

### Outcome

The primary outcomes were change in surface travel time (eg, car, public transportation) to an abortion facility and the proportion of individuals who live in a census tract that is more than 60 minutes to an abortion facility.

### Statistical Analysis

Median and mean overall travel times weighted by population of females aged 15 to 44 years were computed across all census tracts. Census tract changes in travel time in the pre- and post-*Dobbs* periods were computed with a paired sample *t* test. Statistical significance was assessed at the .05 level (2-sided). Statewide changes in travel time were assessed by aggregating the median and mean of all census tracts in each state weighted by population of females aged 15 to 44 years. A secondary statewide analysis similarly assessed weighted median and mean travel time across census tracts by the presence or absence of a statewide total or 6-week abortion ban.

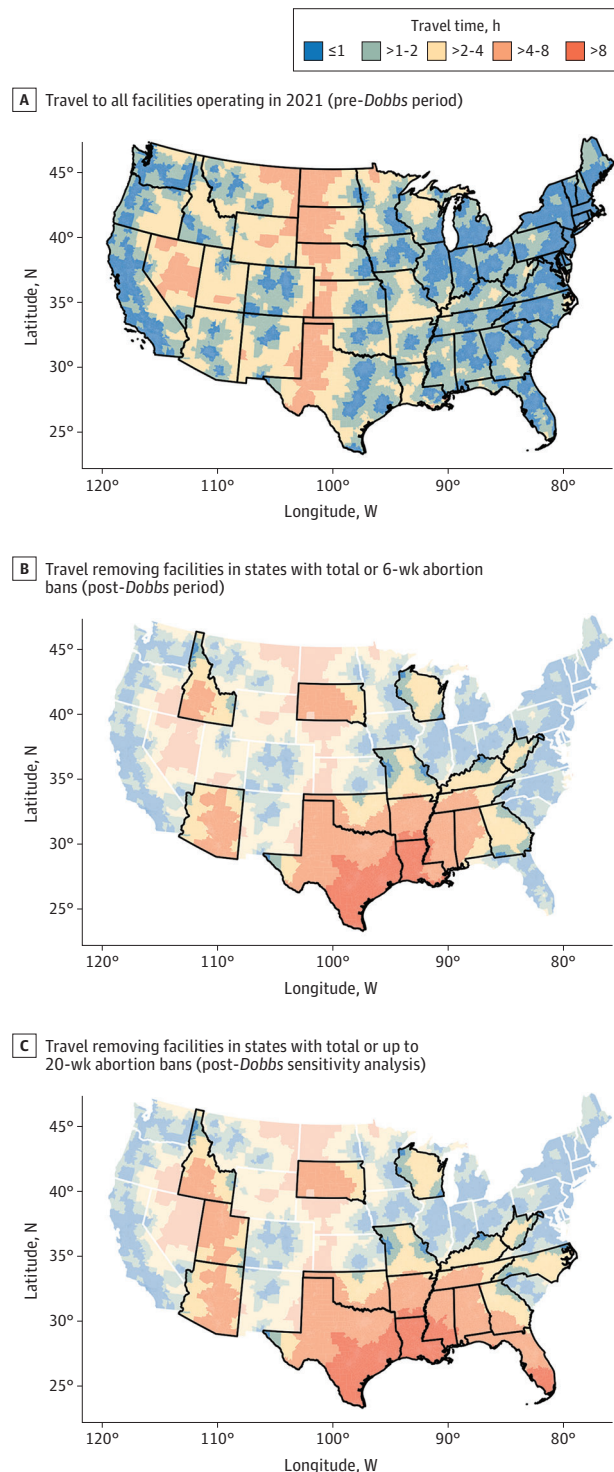
Stratified analyses were conducted by aggregating ACS subgroup estimates and calculating the percentage of females of reproductive age more than 60 minutes from an abortion facility in the post-*Dobbs* period minus the percentage of females of reproductive age more than 60 minutes from an abortion facility in the pre-*Dobbs* period.

The SI was treated as a 95% CI to visualize combined uncertainty in difference calculations. Because of the potential for type I error due to multiple comparisons and the non-Gaussian derivation of the SI, findings for secondary analyses should be interpreted as exploratory. Travel time calculations did not produce missingness; however, calculations were undefined or infinite in a few census tracts (eg, some islands) that were omitted (*n* = 101). Missingness in census data was minimal and not accessed. All analyses were conducted in R, version 3.6.2 (R Foundation).

## Results

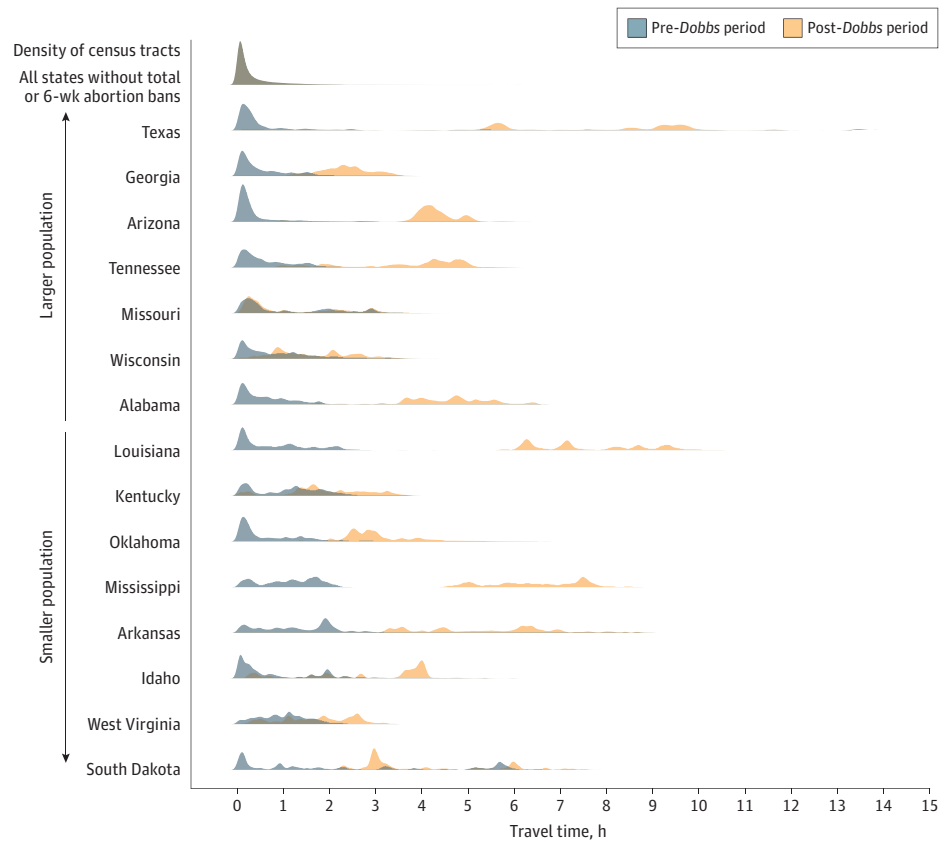
This study identified access from census tracts in the contiguous US (*n* = 82 892) to abortion facilities that were performing abortions in the pre-*Dobbs* period (*n* = 749) and during a simulated post-*Dobbs* period (*n* = 671) across the contiguous US. A total of 63 718 431 females of reproductive age lived in the contiguous US according to 2020 ACS estimates. In the pre-*Dobbs* period, there were facilities providing abortions in every state, with the most in California (*n* = 164) and New York (*n* = 87),

**Figure 1. Travel Time to Nearest US Abortion Facility Before and After *Dobbs v Jackson Women's Health* US Supreme Court Decision**



Facilities as listed in the Advancing New Standards in Reproductive Health database; 82 892 census tracts included. B and C, States with bans are outlined: Alabama, Arizona, Arkansas, Florida (15-wk gestational limit), Georgia (6-wk limit), Idaho, Kentucky, Louisiana, Mississippi, Missouri, North Carolina (20-wk limit), Oklahoma, South Dakota, Tennessee, Texas, Utah (18-wk limit), West Virginia, and Wisconsin. Maps are shown with US National Atlas equal-area projection to depict the 3D size and shape of each tract proportionally, thus larger areas may have smaller populations.

Figure 2. Change in Distribution of Travel Time From US Census Tracts to Nearest Abortion Facility Before and After *Dobbs v Jackson Women's Health* US Supreme Court Decision



Travel time to nearest abortion site from 82 892 census tracts in the contiguous US by state. Distributions represent the density of census tracts at each respective travel cutoff. The pre-*Dobbs* period includes travel to all facilities providing abortions in 2021. The post-*Dobbs* period removed facilities in the 15 states with total or 6-week abortion bans as of September 30, 2022. States with bans (total ban in effect unless otherwise noted) include Alabama, Arizona, Arkansas, Georgia (6-week gestational limit), Idaho, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, South Dakota, Tennessee, Texas, West Virginia, and Wisconsin. Florida (15-week gestational limit), Utah (18-week gestational

limit), and North Carolina (20-week gestational limit) were included in the group of states without total or 6-week abortion bans. Distributions are stratified to show census tracts in each state with a total or 6-week abortion ban separately and all census tracts in states without total or 6-week bans in a single distribution. Distributions are ordered along the y-axis by total estimated population of females aged 15 to 44 years. All distributions were weighted by the population of females aged 15 to 44 years. Travel time distributions are smoothed to 3-minute bins. Alaska and Hawaii were excluded due to the unique challenges of spatial access in these states.

and 6 states (Missouri, Mississippi, North Dakota, South Dakota, West Virginia, and Wyoming) with a single facility. In the post-*Dobbs* period, the geographic distribution only differed via simulated closures and was not otherwise assessed.

In the pre-*Dobbs* period, the median (IQR) estimated travel time to an abortion facility was 10.9 (4.3-32.4) minutes and the mean (SD) time was 27.8 (42.0) minutes. Also in the pre-*Dobbs* period, an estimated 14.6% (SI, 13.0%-16.9%) of females of reproductive age lived in a census tract more than 60 minutes from an abortion facility. In the post-*Dobbs* period, the estimated median (IQR) and mean (SD) travel time to an abortion facility significantly increased to 17.0 (4.9-124.5) minutes and 100.4 (161.5) minutes (paired sample *t* test  $P < .001$ ), and an estimated 33.3% (SI, 32.3%-34.8%) of females of reproductive age lived in a census tract more than 60 minutes from an abortion facility. In a sensitivity analysis of the post-*Dobbs* period that considered abortion facilities in the 3 states with gestational bans between 15 and 20 weeks as inactive, an estimated 42.7%

(SI, 41.9%-43.9%) of females of reproductive age lived in a census tract more than 60 minutes from an abortion facility.

There was geographic heterogeneity in increased travel time to abortion facilities (Figure 1), with the largest increases in estimated travel time in the southern region of the US, including Texas (median [IQR] increase of 493.8 [328.3-550.4] minutes and mean [SD] increase of 432.2 [172.4] minutes) and Louisiana (median [IQR] increase of 420.6 [370.9-424.4] minutes and mean [SD] increase of 420.3 [51.9] minutes). When assuming abortion facilities in the 3 states with gestational bans between 15 and 20 weeks were inactive, Louisiana became the state with the highest increase in travel time (median [IQR] increase of 591.2 [520.8-627.3] minutes and mean [SD] increase of 577.0 [54.5] minutes), followed by Texas (median [IQR] increase of 494.9 [328.3-550.4] minutes and mean [SD] increase of 432.7 [172.7] minutes).

In states with total or 6-week abortion bans, the distribution of travel times changed between the pre- and post-*Dobbs*

**Table. US Census Tract Demographics From the 2020 American Community Survey by Travel Time to Nearest Abortion Facility After *Dobbs v Jackson Women's Health* US Supreme Court Decision on June 24, 2022<sup>a,b</sup>**

Demographic	Mean (SD), %			
	September 2022 (post- <i>Dobbs</i> )		January-December 2021 (pre- <i>Dobbs</i> )	
	>60 min from abortion facility	≤60 min from abortion facility	>60 min from abortion facility	≤60 min from abortion facility
US census tracts, No.	29 416	53 476	15 081	67 811
Estimated total population, No.	109 458 647	214 674 538	51 530 546	272 602 639
Females aged 15-44 y <sup>c</sup>	19.0 (6.1)	19.7 (6.2)	17.6 (5.7)	19.8 (6.2)
No health insurance	11.4 (8.5) [n = 29 369 <sup>d</sup> ]	7.4 (6.2) [n = 53 384 <sup>d</sup> ]	10.3 (7.2) [n = 15 052 <sup>d</sup> ]	8.5 (7.4) [n = 67 701 <sup>d</sup> ]
Income in the past 12 mo, 2020 US dollars in thousands, \$	30.9 (12.1) [n = 29 330 <sup>d</sup> ]	37.0 (15.6) [n = 53 355 <sup>d</sup> ]	27.5 (7.9) [n = 15 081 <sup>d</sup> ]	36.5 (15.4) [n = 67 639 <sup>d</sup> ]
No high school diploma	13.1 (10.2) [n = 29 407 <sup>d</sup> ]	11.4 (10.3) [n = 53 467 <sup>d</sup> ]	13.3 (8.9) [n = 15 075 <sup>d</sup> ]	11.7 (10.6) [n = 67 795 <sup>d</sup> ]
No internet subscription	15.7 (11.0) [n = 29 343 <sup>d</sup> ]	11.0 (8.7) [n = 53 403 <sup>d</sup> ]	18.6 (10.4) [n = 15 042 <sup>d</sup> ]	11.4 (9.2) [n = 67 611 <sup>d</sup> ]
Race <sup>e</sup>				
American Indian or Alaska Native <sup>f</sup>	1.4 (6.7)	0.6 (2.6)	2.0 (8.9)	0.6 (2.7)
Asian	2.5 (5.4)	6.4 (10.6)	1.1 (2.3)	5.9 (10.1)
Black	14.3 (21.9)	13.1 (20.9)	9.8 (17.8)	14.3 (21.8)
Native Hawaiian or Pacific Islander <sup>f</sup>	0.1 (0.6)	0.1 (0.7)	0.1 (0.7)	0.1 (0.7)
White	74.3 (23.8)	68.8 (25.4)	81.4 (20.2)	68.4 (25.4)
Two or more races	4.3 (4.6)	5.2 (4.6)	3.6 (4.0)	5.1 (4.7)
Other race	3.1 (5.9)	5.8 (9.9)	2.1 (4.5)	5.4 (9.4)
Hispanic ethnicity	15.1 (21.5)	18.1 (21.9)	10.3 (17.4)	18.5 (22.4)

<sup>a</sup> The *Dobbs v Jackson Women's Health Organization (Dobbs)* decision held that there was no federal right to abortion care, allowing states to enact their own abortion restrictions.

<sup>b</sup> All data estimated from a repeated cross-sectional spatial analysis. The pre-*Dobbs* period (January-December 2021) was modeled to assume all facilities providing abortions in 2021 were active. The post-*Dobbs* period (September 2022) was modeled after removing facilities in the 15 states with total or 6-week abortion bans as of September 30, 2022. States with abortion bans between 15-20 weeks' gestation were considered active for the post-*Dobbs* period (September 2022).

<sup>c</sup> American Community Survey-defined categories to represent all people who may seek abortion.

<sup>d</sup> Number of census tracts with available data if data were not available from all tracts.

<sup>e</sup> Race and ethnicity were collected via self-identification from a closed list ("other race" option and ability to select multiple races were available) defined by the census and collected to meet federal and state government needs (eg, to design legislation, assess disparities).

<sup>f</sup> Subgroup percentages may appear smaller than expected due to exclusion of Alaska and Hawaii.

period, with some census tracts experiencing greater travel time changes than others (Figure 2). States with total or 6-week abortion bans had a median (IQR) increase of 233.8 (94.6-366.1) minutes and a mean (SD) increase of 247.2 (190.6) minutes in travel time to an abortion facility compared with a median (IQR) increase of 0.0 minutes and mean (SD) increase of 0.7 (7.7) minutes in states in which they were not present.

In the pre- and post-*Dobbs* periods, compared with those within 60 minutes from an abortion facility, census tracts estimated to be more than 60 minutes from a facility (Table) had a higher percentage of residents without health insurance (1.8 percentage points pre-*Dobbs* and 4.0 percentage points post-*Dobbs*), a high school diploma (1.6 percentage points pre-*Dobbs* and 1.7 percentage points post-*Dobbs*), or an internet subscription (7.2 percentage points pre-*Dobbs* and 4.7 percentage points post-*Dobbs*). Census tracts more than 60 minutes from abortion facilities also had lower mean income (\$8800 pre-*Dobbs* and \$6100 post-*Dobbs*) than census tracts within 60 minutes to abortion facilities.

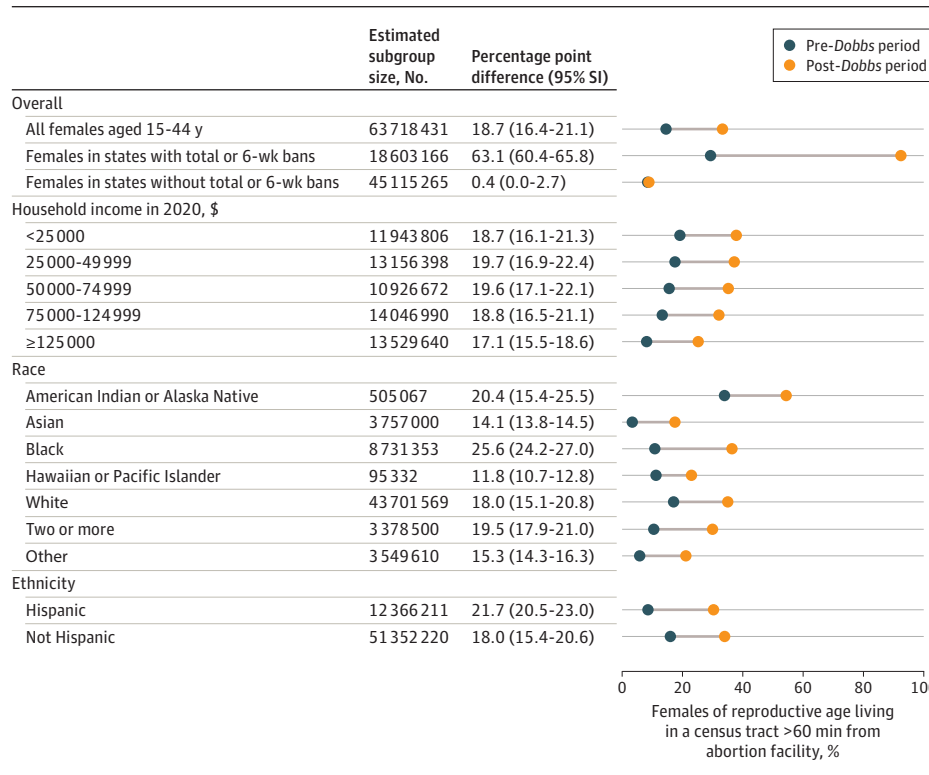
The estimated percentage of females aged 15 to 44 years living in a census tract more than 60 minutes from an abortion facility in the pre- and post-*Dobbs* periods varied by race and ethnicity (Figure 3). Females of Hispanic ethnicity expe-

rienced a 21.7 (SI, 20.5-23.0) percentage point increase (from 8.6% [SI, 7.8%-9.9%] to 30.3% [SI, 29.9%-31.1%]) compared with non-Hispanic females, who experienced an increase of 18.0 (SI, 15.4-20.6) percentage points (from 16.0% [SI, 14.3%-18.6%] to 33.9% [SI, 32.9%-35.7%]). American Indian or Alaska Native females had a 20.4 (SI, 15.4-25.5) percentage point increase (from 33.9% [SI, 30.3%-38.9%] to 54.4% [SI, 52.3%-57.6%]), Asian females had a 14.1 (SI, 13.8-14.5) percentage point increase (from 3.4% [SI, 3.1%-3.7%] to 17.5% [SI, 17.3%-17.8%]), Black females had a 25.6 (SI, 24.2-27.0) percentage point increase (from 10.9% [SI, 9.8%-12.4%] to 36.4% [SI, 35.9%-37.1%]), Native Hawaiian or Pacific Islander females had an 11.8 (SI, 10.7-12.8) percentage point increase (from 11.2% [SI, 10.3%-12.1%] to 23% [SI, 22.5%-23.6%]), and White females had an 18.0 (SI, 15.1-20.8) percentage point increase (from 17.1% [SI, 15.2%-19.9%] to 35% [SI, 33.8%-36.9%]).

## Discussion

This study characterized changes in travel time to US abortion facilities before and after the *Dobbs* decision and found

**Figure 3. Change in US Females of Reproductive Age Living in a Census Tract More Than 60 Minutes From an Abortion Facility Before and After *Dobbs v Jackson Women's Health* US Supreme Court Decision**



Percentage and percentage point change (sensitivity interval [SI]) of US females of reproductive age (15-44 years) living in census tracts more than 60 minutes from an abortion facility, estimated from a repeated cross-sectional spatial analysis. The pre-*Dobbs* period was modeled to assume all facilities providing abortions in 2021 were active. The post-*Dobbs* period was modeled after removing facilities in the 15 states with total or 6-week abortion bans as of September 30, 2022. Demographic estimates drawn from the 2016-2020 American Community Survey. Median household income from this census was estimated to be \$67 521.

significantly longer travel times to abortion facilities post-*Dobbs*—a period modeled by assuming the closure of all abortion facilities in states with total or 6-week abortion bans—compared with pre-*Dobbs*—a period that included all facilities providing abortions in 2021.

Large disparities and changes in abortion facility access varied by geography. In the pre-*Dobbs* period, females in states that would later implement a total or 6-week abortion ban already had lower abortion facility access compared with states that did not subsequently ban abortion. In the post-*Dobbs* period, females in states with these bans experienced the greatest loss of facility access. This study estimated that travel time to the nearest abortion facility in the state of Texas increased by almost a full workday (common US definition of 8 hours<sup>17</sup>), highlighting the magnitude of the travel required to an abortion facility in the post-*Dobbs* period. Texas is a state that saw nearly 60 000 abortions per year in the pre-*Dobbs* period and had the highest rate of individuals without health insurance in the US.<sup>18,19</sup>

Females who were more likely to have lower incomes and be uninsured continued to have low access to abortion facilities based on this model's estimates. Accessing an abortion facility may be prohibitive for those without the resources to travel.<sup>4</sup> American Indian or Alaska Native, Black, and Hispanic populations experienced large absolute increases in travel time to abortion facilities. These groups have historically worse pregnancy-related mortality outcomes than non-minority populations.<sup>20</sup>

**Limitations**

This study has several limitations. First, it assumes that all individuals had equal access to efficient travel methods (eg, cars) and were able to navigate the legal uncertainty of seeking care across state borders. Second, air travel, which may be more appropriate over long distances, was not modeled. Third, the model only characterized spatial accessibility, one of many potential barriers to accessing care.<sup>15</sup> Fourth, the results relied on the Advancing New Standards in Reproductive Health database, for which updates are annual and may not reflect real-time status due to the rapidly changing abortion landscape and the manual verification of facilities' operational status. This limitation was mitigated by simulating closures based on updated legal status of abortion by state. There may also be nonadvertising facilities providing abortions (eg, hospitals or primary care clinicians) that were not included in the database; however, these locations are unlikely to be operating in states with abortion bans. Fifth, individual states with abortion bans may bypass spatial barriers by mail-ordering medication, minimizing the effect of the present findings. However, this requires legal risk and internet access, the latter of which is lacking in many households that are more than 60 minutes from abortion facilities. Sixth, across 2021 and 2022 there was substantial and dynamic complexity in gestational bans and abortion laws throughout court systems that a static model cannot fully capture. For example, Senate Bill 8 in Texas limited abortions by a biological cutoff; however, its enforcement capability

was still unresolved when the *Dobbs* decision was issued.<sup>21</sup> Therefore, Texas facilities performing abortions in 2021 were included in the pre-*Dobbs* model. Additionally, the presented post-*Dobbs* model conservatively included 3 states with abortion bans between 15 and 20 weeks' gestation, because most abortions occur prior,<sup>18</sup> and assumed that abortion facilities in the 9 states with court-blocked bans<sup>2</sup> (eg, Indiana) were currently operating. If these cases are resolved to further limit abortions, the post-*Dobbs* travel time calculations presented here will be underestimates.

## Conclusions

In this repeated cross-sectional spatial analysis, estimated travel time to abortion facilities in the US was significantly greater in the post-*Dobbs* period after accounting for the closure of abortion facilities in states with total or 6-week abortion bans in effect compared with the pre-*Dobbs* period, during which all facilities providing abortions in 2021 were considered active.

### ARTICLE INFORMATION

**Accepted for Publication:** October 17, 2022.

**Published Online:** November 1, 2022.

doi:10.1001/jama.2022.20424

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**Administrative, technical, or material support:** Rader, Upadhyay, Sehgal.

**Supervision:** Reis, Brownstein, Hswen.

**Conflict of Interest Disclosures:** None reported.

**Funding/Support:** Dr Upadhyay acknowledges funding from the BaSe Family Fund, the Lisa and Douglas Goldman Fund, the Preston-Werner Foundation, and the Isabel Allende Foundation. The other authors did not receive funding for this work.

**Role of the Funder/Sponsor:** The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

**Additional Contributions:** The authors thank Rohan Khazanchi, MD (Harvard Internal

Medicine-Pediatrics Residency Program); Katelynn O'Brien, BS (Boston Children's Hospital); and Kathryn Cordiano, MPH (Boston Children's Hospital), for their assistance. These individuals did not receive compensation for their contributions.

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