

The Effects of Post-Dobbs Abortion Bans on Fertility

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The *Dobbs* decision

- On June 24th, 2022, the U.S. Supreme Court overturned *Roe vs. Wade*
“The Constitution does not confer a right to abortion; Roe and Casey are overruled; and the authority to regulate abortion is returned to the people and their elected representatives”



The current abortion landscape

- 14 states have banned abortion in nearly all circumstances
- 23% of women of reproductive age have experienced an increase in distance to the nearest facility
- Distance to the nearest facility has increased in ban states from 43 miles before *Dobbs* to 330 miles after.

Dobbs is the most profound transformation of the U.S. abortion landscape in 50 years

Abortion access matters

The legalization of abortion in 1969-1971 allowed women:

- To delay motherhood and marriage (Levine et al. 1999; Myers, 2017)
- ↑ educational attainment, ↑ labor force participation, and ↑ earnings (Klein, 1997; Angrist and Evans, 2000; Kalist, 2004; Oreffice, 2007; Abboud, 2019)
- ↓ deaths related to abortion (Farin et al. 2023)

But times have changed...

- Abortion remains legal in 30 states and D.C.
 - Pre-*Roe*, abortion was only legal in 5 states and D.C.
 - Abortion-seekers are flooding out of ban states to access services in states where abortion remains legal (Guttmacher Institute, 2023; Society of Family Planning, 2023)
- The availability of approved medication for abortions means abortion-seekers can and are getting medication abortions through the mail in ban states (Aiken et al. 2022)
- Improved access to contraceptives, including LARCs
- Women have experienced socio-economic advances since the 1960s

We may not see fertility and economic effects playing in reverse

What we do

RQ: To what extent are state abortion bans affecting fertility?

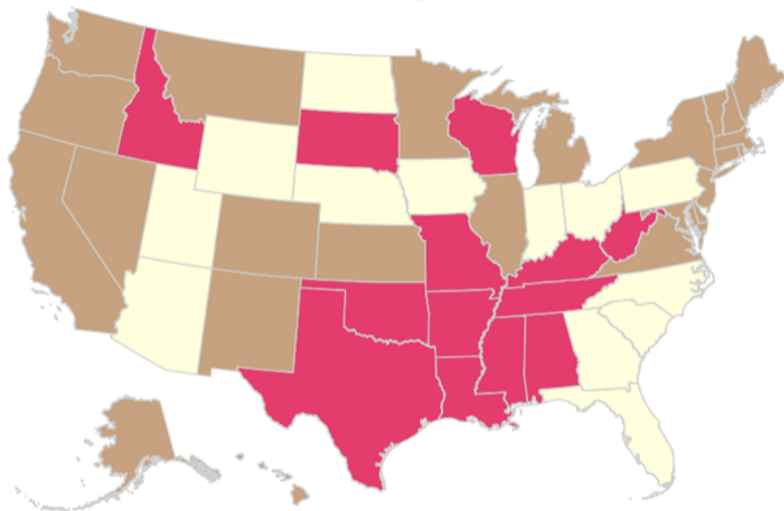
Contribution: We provide the first empirical evidence on the impacts of post-Dobbs bans on fertility

- We use newly released provisional state resident birth counts to estimate how births are changing in ban states relative to protective states
- We conduct a simulated power analysis in the pre-period to ensure that our chosen method is well-suited to detect effects
- We rely on Synthetic Difference-in-Differences (SDID) as our empirical approach

Abortion state policies post-*Dobbs*

- Total ban states: States that enforced bans on abortion under almost all circumstances by the end of 2022
- Protected: States that have not enacted or enforced any abortion restriction since *Dobbs* and are not likely to do so
- Excluded from our analyses: Hostile or at high risk of enforcing a ban
 - States that attempted to enact or enforce a ban but did not effectively do so by the end of 2022
 - States with gestational age bans by the end of 2022
 - States whose legislature is hostile towards abortion.

Classifications of state policies for analysis



■ Total Ban ■ Protected ■ Excluded

- State-level birth counts from CDC Wonder data (January 2005-June 2023)
 - Total, by 5-year age group, race, and ethnicity
 - Data for January-June 2023 are provisional counts
- Census population data for each state as of July of each year
- State-level abortion policy coding from various sources
 - Center for Reproductive Rights, Guttmacher Institute, statutes in the law

Empirical approach: Synthetic Difference-in-Differences (SDID)

- SDID (Arkhangelsky et al., 2021)
- Allows to compare changes in birth rates in total ban states to protected states
- More formally:
 - It reweights and matches on pre-exposure trends to weaken the reliance on parallel trends
 - It automatically selects the reference pre-period based on the similarity of the control group to the post-treatment period
 - It corrects issues with staggering by only making comparisons to never-treated units
- January 2023: The earliest date we would expect to see births resulting from *Dobbs*
- We compare the first six months of fertility every year to the first six months of 2023
- We run models with and without Texas (due to SB8)

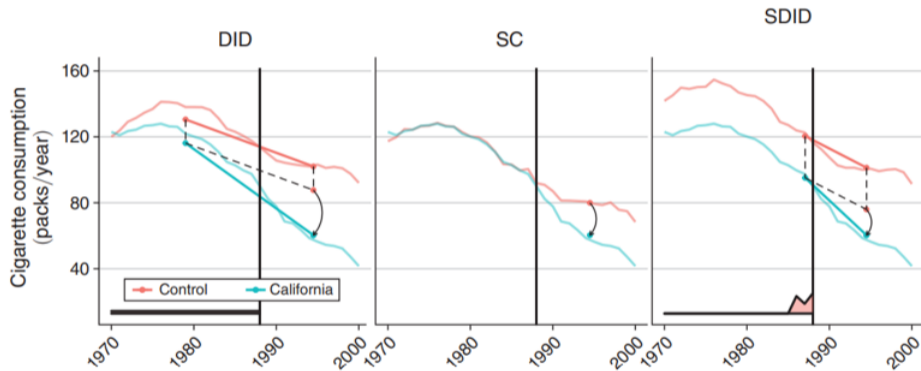
Empirical approach: Synthetic Difference-in-Differences (SDID)

We estimate the average causal effect of *Dobbs* on birth rates by obtaining:

$$(\hat{\tau}^{sdid}, \hat{\mu}, \hat{\alpha}, \hat{\beta}) = \underset{\tau, \mu, \alpha, \beta}{\operatorname{argmin}} \left\{ \sum_{i=1}^N \sum_{t=1}^T (Y_{it} - \mu - \alpha_i - \beta_t - W_{it}\tau)^2 \hat{\omega}_i^{sdid} \hat{\lambda}_t^{sdid} \right\}$$

- ω_i^{sdid} : minimizes the average squared difference in trend between the treatment and control groups
- λ_t^{sdid} : minimizes the sum of squared differences between the time-weighted pre-period outcomes of the control states and the simple average of the post-period outcomes in the control states
- For statistical inference, we rely on block bootstrap methods
- When present, deals with staggering by simply taking the average effect across time groupings; weighting by the number of units in a group multiplied by the number of post periods in a group.

Empirical approach: SDID Illustration



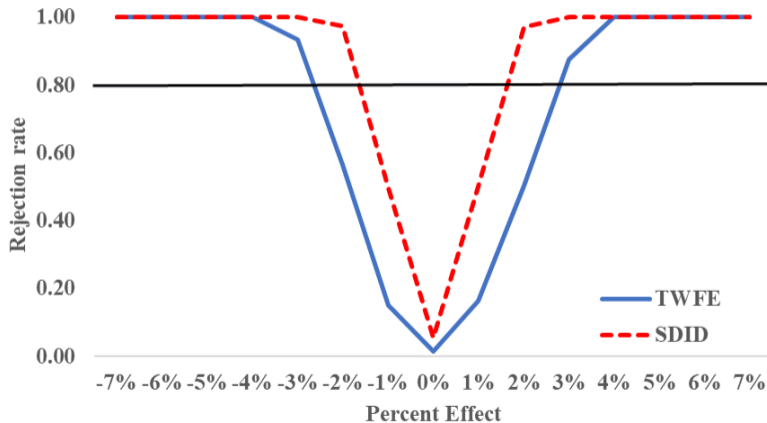
Arkhangelsky et al. (2021)

Power Analysis

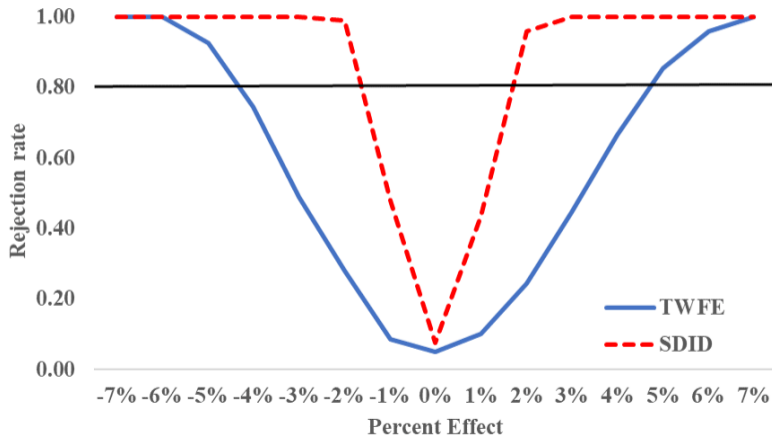
Procedure:

1. The method helps you determine the minimum detectable effect size required to reject the null hypothesis at least X% of the time.
2. Unlike in the RCT literature where an exact formula can be used, quasi-experimental power analysis depends on many factors about the data and how it will be analyzed.
3. We use the actual pre-period data to estimate MDE by comparing SDID to TWFE when we impose effects on the data in a similar structure to how we intended to estimate effects.
4. What you'll see on the next few slides is the rejection rate on the y-axis given a percent effect on the x-axis.

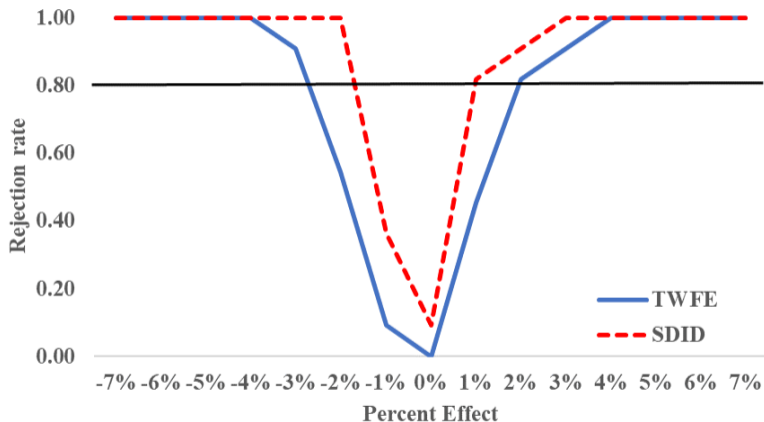
Power Analysis: treatment randomly reassigned in space 2015-2019



Power Analysis: treatment randomly reassigned in space 2005-2019

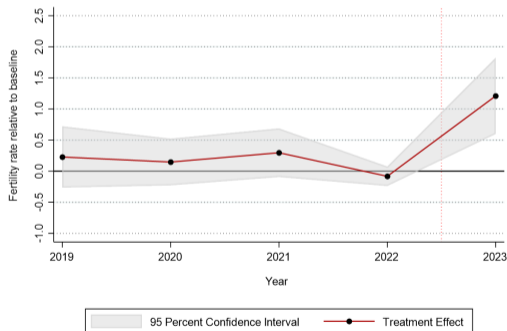


Power Analysis: treatment reassigned in time

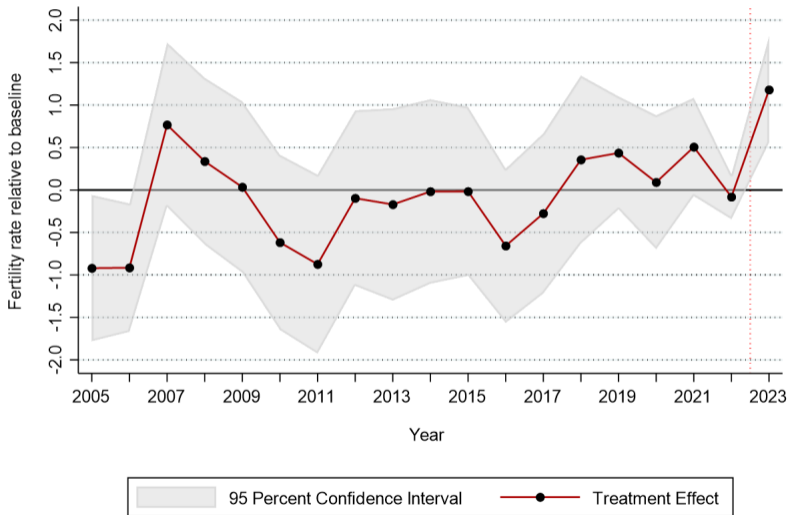


Estimates of the effects of the average abortion ban on births

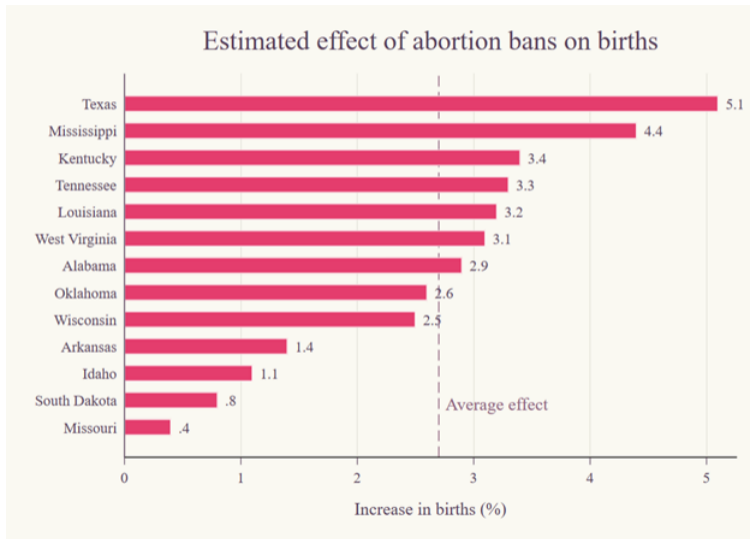
- Bans enforced in the first six months following *Dobbs* increased births by 1.2 births per 1,000 women
 - Measured in logs the increase in births to all reproductive-age women is 2.3%
 - If we include TX, the effect is 1.4 births per 1,000 women or 2.7%



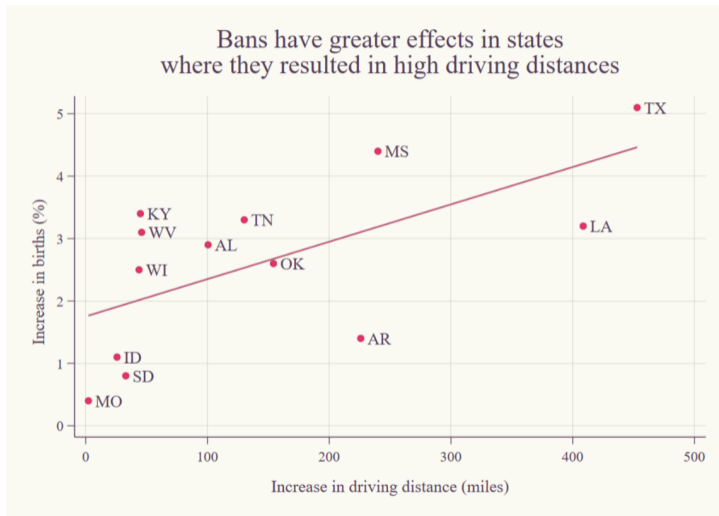
Estimates of the effects of the average abortion ban on births



Heterogeneous effects across ban states

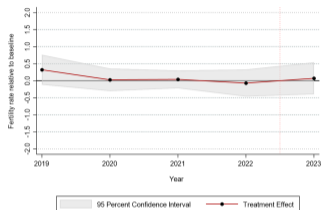


Distance as a factor behind differential impacts

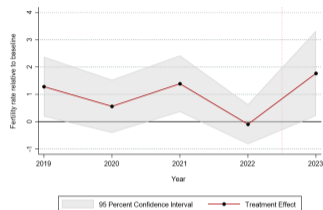


Estimates by age group

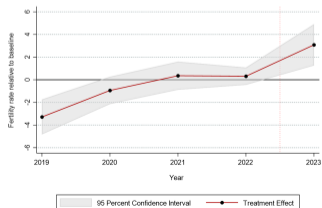
Ages 15-19 (0.0 per 1k, 0.9%)



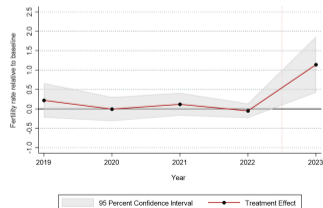
Ages 20-24 (1.8 per 1k, 3.3%)



Ages 25-29 (3.0 per 1k, 2.8%)

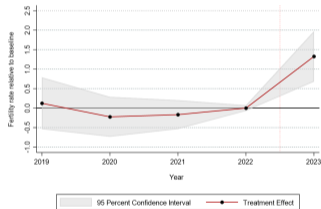


Ages 30-44 (1.1 per 1k, 2.1%)

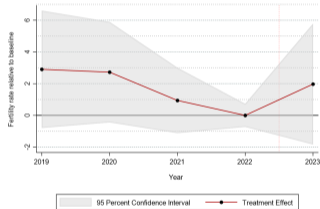


Estimates by race and ethnicity

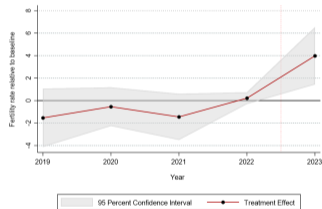
NH White (1.3 per 1k, 3.0%)



NH Black (1.8 per 1k, 3.7%)



Hispanic (4.0 per 1k, 4.7%)



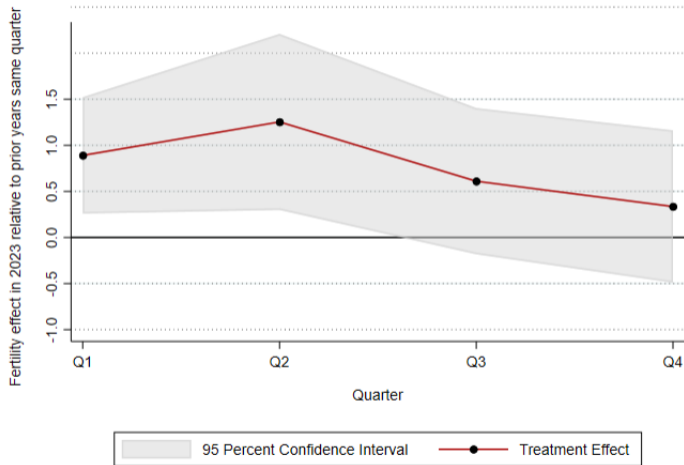
Contextualizing results

- As has been widely reported by WeCount and Guttmacher there was an increase in abortions in the first half of 2023 relative to previous years.
- There was also a general upward trend in abortions overall so we shouldn't measure abortions relative to baseline but abortions relative to trend.
- Telehealth abortion prescription became more widely available everywhere.
- Our results pertain to abortions in the second half of 2022.

Will it stop the secular decline in births?

- Birth rates fell by 12.2% just from 2010 to 2021.
- We're talking about a 2.3-2.7% effect in some states in the United States for the first six months following Dobbs.
- But the effects are unevenly spread with some groups more affected than others.

A shifting landscape



Conclusions

- Using newly released provisional birth data and SDID, we provide the first evidence of abortion bans on birth rates
 - In the first six months of 2023, births rose by an average of 2.3% in states enforcing total abortion bans compared to protective states
 - **~ 16,000 additional births resulting from abortion bans (32,000 annualized)**
- ~ 23% of people seeking abortions may have been prevented from obtaining care
- These analyses are based on births in the first six months of 2023.
 - Future changes to the landscape of bans, medication abortion access, and unintended pregnancy rates could further mediate the effects of bans.
 - If future research continues revealing effects on births, the spillover effects on the lives of affected pregnancies may be long-lasting.

Sources: Driving Distances and Appointment Availability

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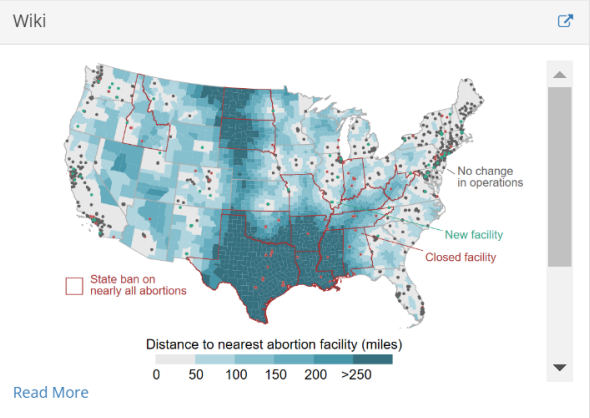
Myers Abortion Facility Database Metadata Files Wiki Analytics Registrations

586.2KB Public 2

Myers Abortion Facility Database

Contributors: Caitlin Myers
Date created: 2021-07-16 06:32 AM | Last Updated: 2024-02-11 11:23 AM
Identifier: DOI 10.17605/OSF.IO/8DG7R
Category: Project
Description: Public data include a county-by-month panel of travel distances to the nearest U.S. abortion provider from January 2022 to July 2023. Data are available for all states except for restricted data identifying abortion facilities.
License: CC-BY Attribution 4.0 International

Wiki



Distance to nearest abortion facility (miles)
0 50 100 150 200 >250

Read More

Citation

Components

- County-by-month panel of abortion provider Myers
- Myers Abortion Facility Database Documentation and application Database restricted use data on the identities...

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Abortion facility appointment availability survey Metadata Files Wiki Analytics Registrations

286.5KB Public 0

Abortion facility appointment availability survey

Contributors: Caitlin Myers
Date created: 2022-10-04 04:16 PM | Last Updated: 2022-10-13 05:58 PM
Identifier: DOI 10.17605/OSF.IO/Z4TCR
Category: Project
Description: Periodic survey of appointment availability at U.S. abortion facilities.
License: CC-BY Attribution 4.0 International

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Abortion Appointment Availability Survey

Introduction

After the U.S. Supreme Court overturned *Roe v. Wade* in the summer of 2022, states began acting to ban abortions by enforcing "trigger bans" designed to take effect after the end of *Roe*, and/or enforcing pre-*Roe* bans that had lain dormant and unenforced in their statutes for five decades, and/or enacting new bans. [As these bans take effect](#), abor...

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Citation

Tags

abortion abortion clinic appointments survey

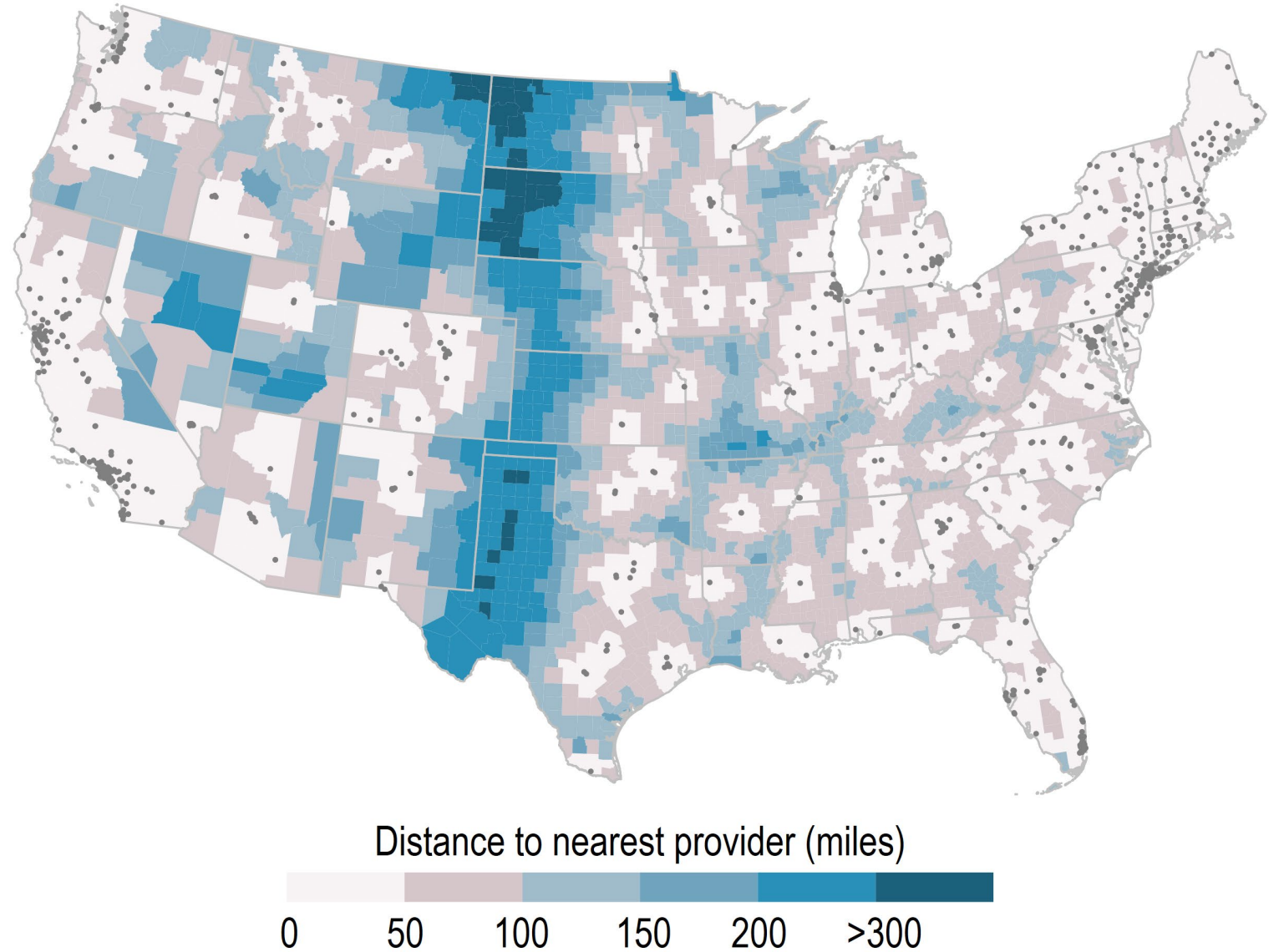
Recent Activity

Caitlin Myers created external identifier(s) doi:10.17605/OSF.IO/Z4TCR on Abortion facility appointment availability survey
2022-10-13 05:58 PM

March 2022

Average woman is
24 miles
from the nearest
abortion facility

0.8%
are more than 200
miles

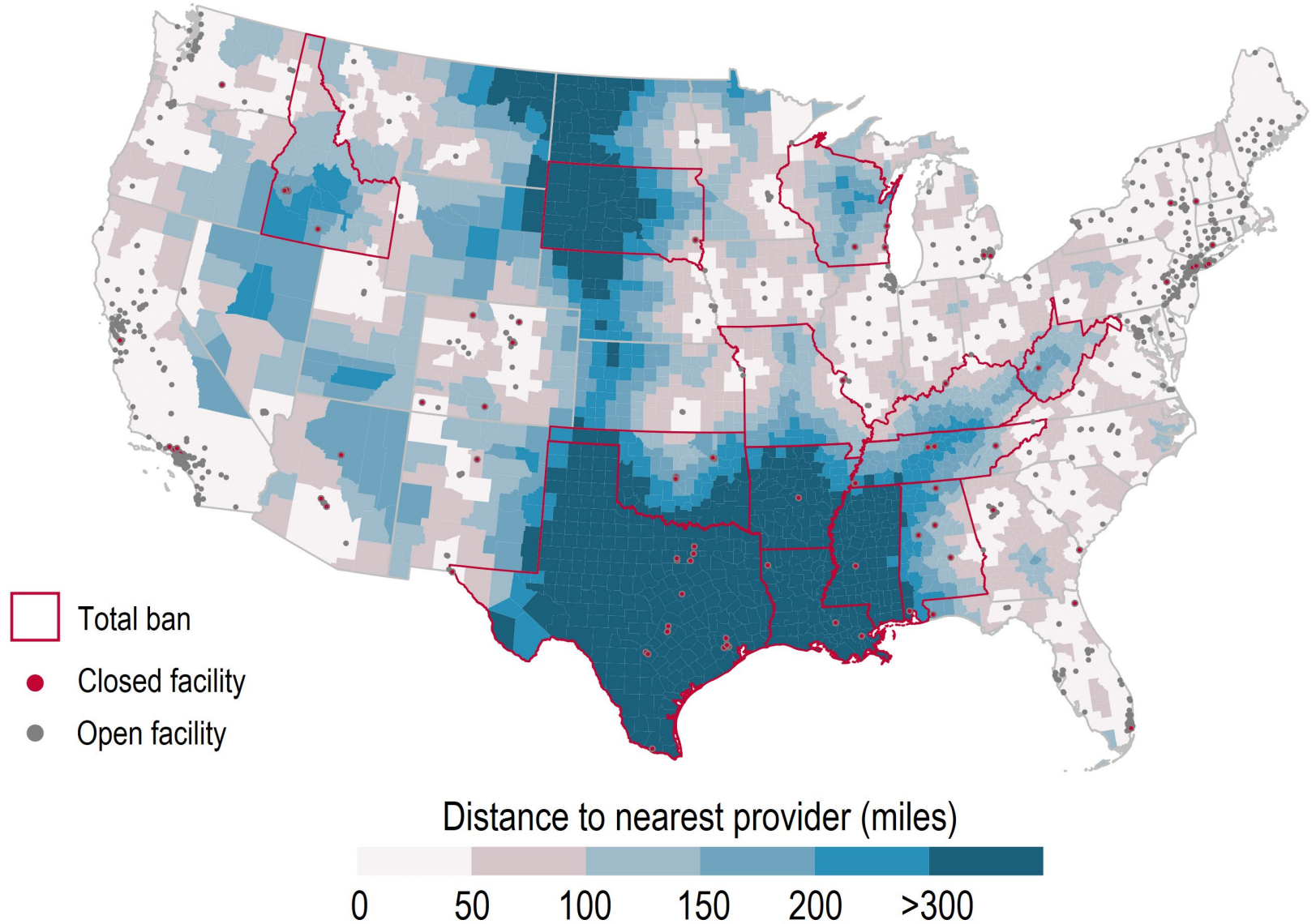


Source: Caitlin Myers visualization of data from the Myers Abortion Facility Database. Distances are calculated between the population centroid of each county and the coordinates of the nearest open abortion facility on March 7, 2022.

Dec 2022

Average woman is
88 miles
from the nearest
abortion facility

15%
are more than 200
miles



Source: Caitlin Myers visualization of data from the Myers Abortion Facility Database. Distances are calculated between the population centroid of each county and the coordinates of the nearest open abortion facility on December 5, 2022.

Dec 2022

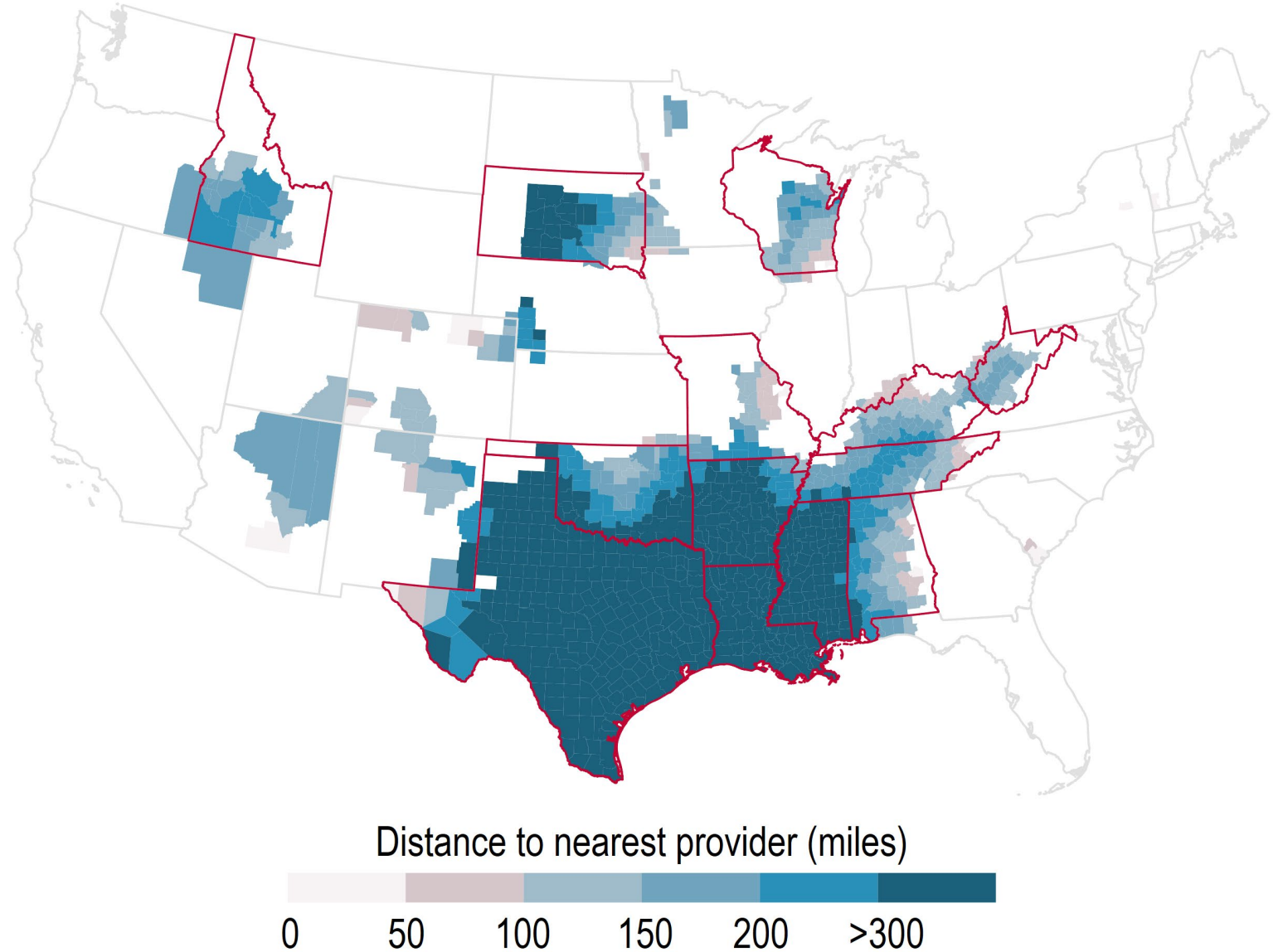
Conditional on experiencing an increase in distance, average woman now

303 miles

from the nearest abortion facility

59%

are more than 200 miles

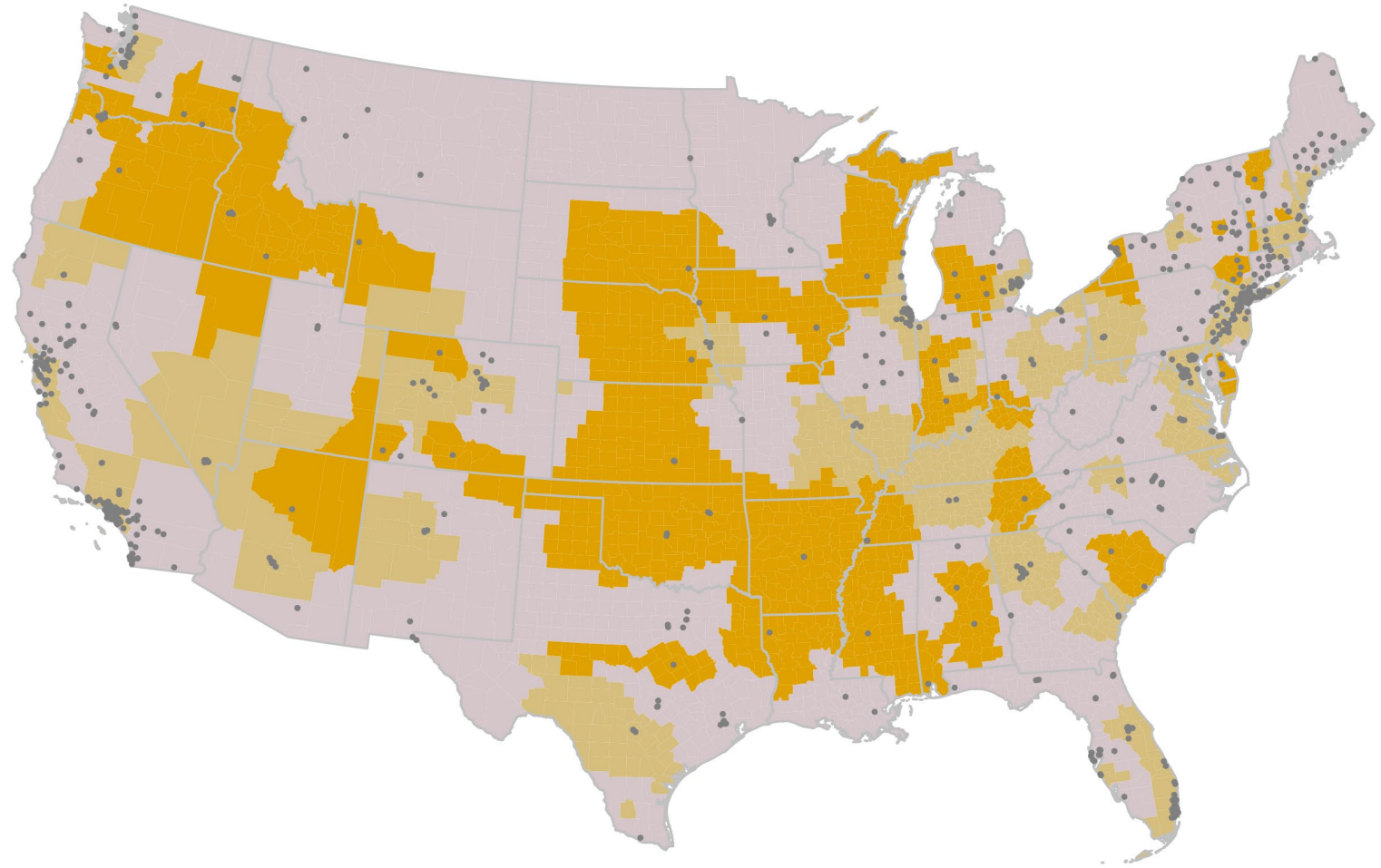


Source: Caitlin Myers visualization of data from the Myers Abortion Facility Database. Distances are calculated between the population centroid of each county and the coordinates of the nearest open abortion facility on December 5, 2022.

March 2022

14%

of women's nearest abortion destination is a city where more than half of facilities have no appointments available in the next 2 weeks



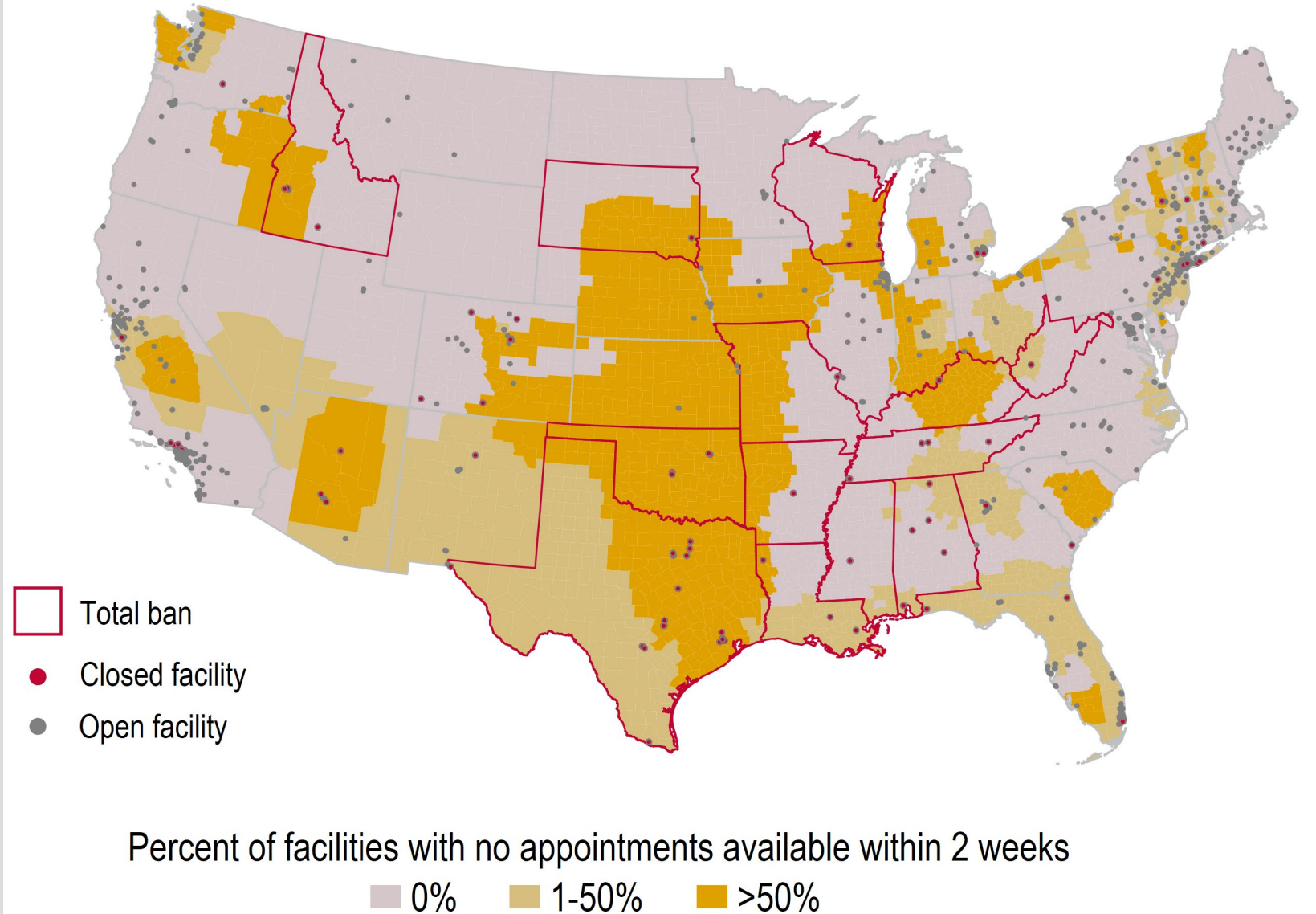
Percent of facilities with no appointments available within 2 weeks

■ 0% ■ 1-50% ■ >50%

Dec 2022

26%

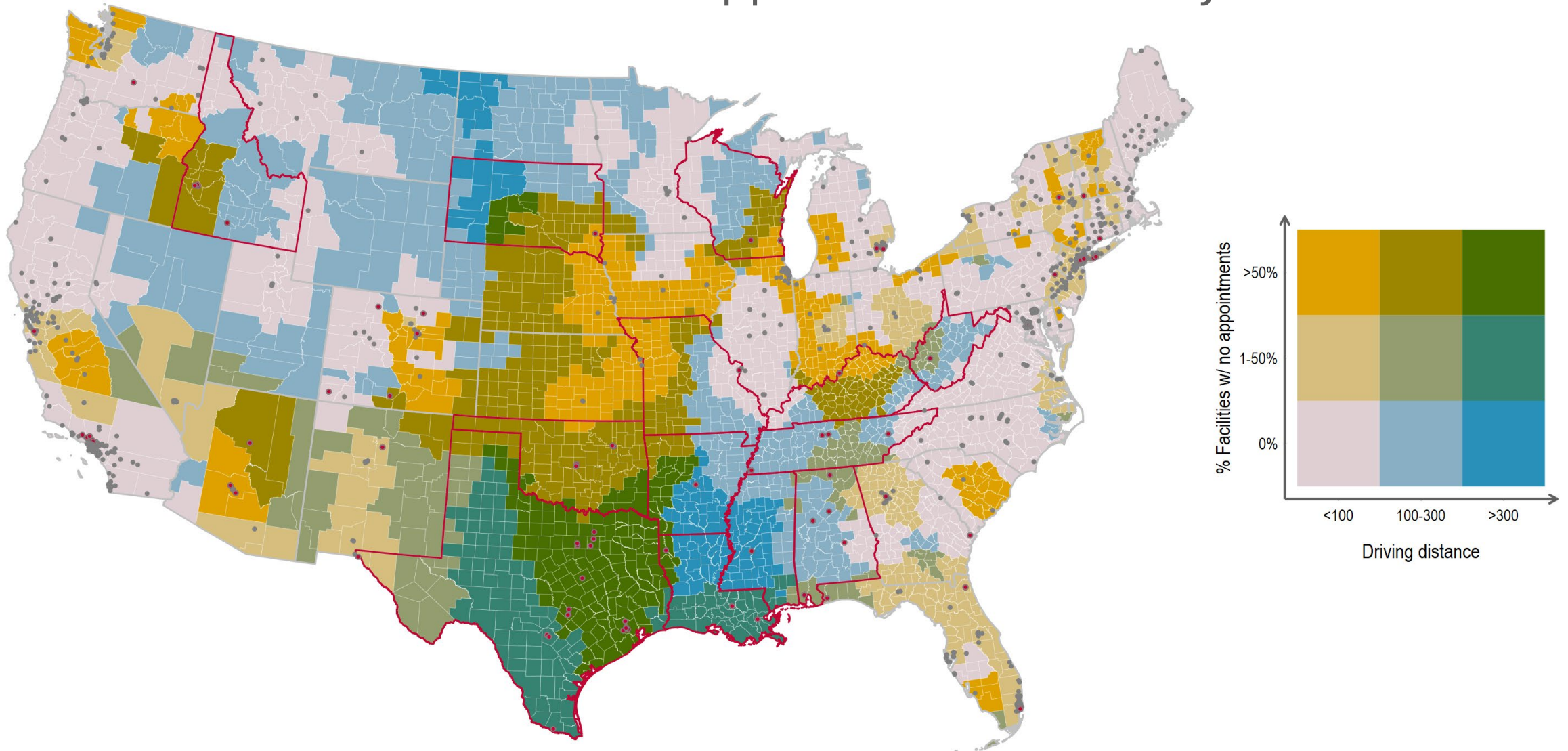
of women's nearest abortion destination is a city where more than half of facilities have no appointments available in the next 2 weeks



Source: Caitlin Myers visualization of data from the Myers Abortion Appointment Survey conducted in December 2022.

Access to brick-and-mortar abortion facilities on December 7, 2022

Distance and Appointment Availability



Source: Caitlin Myers visualization of data from the Myers Abortion Facility Database and Appointment Availability Survey. Distances are calculated between the population centroid of each county and the coordinates of the nearest open abortion facility on December 7, 2022. Survey was conducted on December 7-9, 2022.

Coming this fall!

$$\left(Births_{c,s,t+1} | distance_{c,s,t}, appts_{c,s,t}, X_{c,s,t}, \nu_c, \nu_t \right) = \exp \left(f(distance_{c,s,t}) + f(appts_{c,s,t}) + \beta X_{s,t} + \nu_c + \nu_s + \ln(population_{c,s,t}) \right)$$

Estimates of effects of changing access to brick-and-mortar facilities—where access is measured by driving distance and appointment availability—on county-level births. Awaiting the release of 2023 All County Natality Files.

Estimates of the effects of the average abortion ban on US born mother births

