

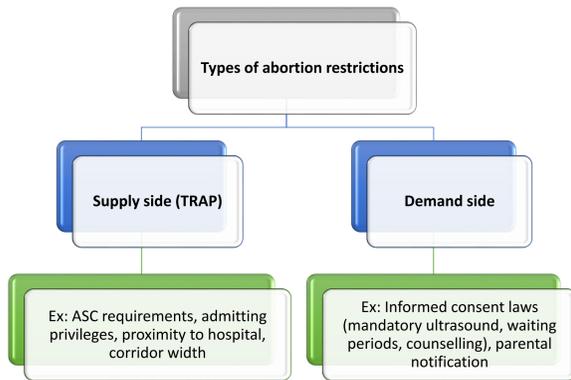
TRAP laws and abortion rates: Do restrictions matter?

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Background

- US abortion rates have reached historic lows, but state-level abortion restrictions are on the rise (1)



- Evidence suggests that **demand-side** restrictions do not have a meaningful effect on abortion rates (2, 3)
- In contrast, **supply-side** restrictions (or Targeted Regulation of Abortion Providers (TRAP) laws) may impact abortion rates by directly limiting access to services (3)
- TRAP laws simultaneously dissuade the establishment of new providers and impede the functioning of existing providers, thus promoting clinic closures
- Certain laws, or combinations of laws, may have particularly strong effects on abortion rates (4,5)
- Evidence on the causal effect of TRAP laws on abortion is limited due to:
 - Lack of detailed trends on TRAP enforcement.
 - Descriptive nature of most existing work.
 - Inconsistent TRAP classification schemes.

Objectives

- To estimate the causal impact of TRAP enforcement on in-state abortion rates.
- We used a difference-in-differences (DD) approach to assess the impact of TRAP laws on state-level abortion rates from 1991-2011.
- This approach accounts for secular trends and time-invariant state-level characteristics, which are important determinants of abortion rates.

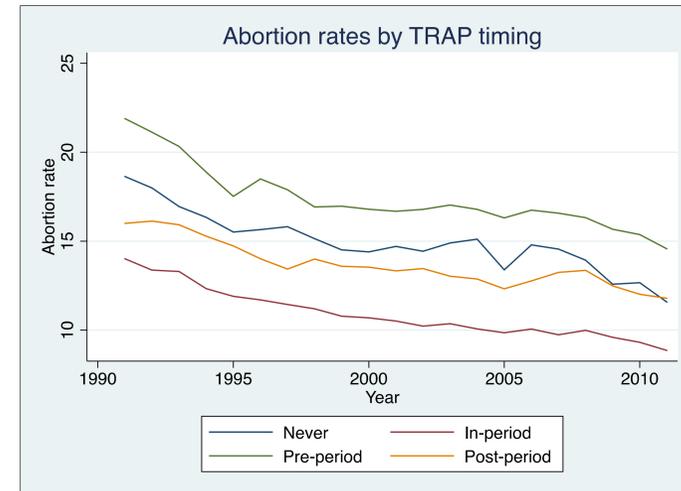
Data

- Exposure:** State-level TRAP enforcement from 1991-2011 using legal/policy documents
 - Categories:* Provider admitting privileges, OB/GYN requirements, facility proximity to hospital, transfer agreements, general structural requirements, ambulatory surgical center (ASC) requirements
 - We excluded enjoined laws and laws pertaining only to late-term abortions
 - States were considered exposed if they enforced a TRAP law within a given year
- Outcome:** Abortion rate by state of occurrence (*source:* CDC)
- Covariates:** Trends in population size, birth rate, teen birth rate, education, median household income, poverty rate, unemployment rate, governor's political party (*source:* US Census, Bureau of Labor Statistics, National Vital Statistics System (NVSS), National Center for Health Statistics (NCHS), and Council of State Governments)

Analyses

- Analyses were conducted using Stata 13 (College Station, TX: StataCorp LP)
- We used DD to estimate the association between TRAP enforcement and abortion rates
- We assessed TRAP exposure as: 1) a composite of the all the collected categories; and 2) a combination of ASC requirements and admitting privileges (4, 5)
- The validity of the DD approach rests on two main assumptions: 1) parallel pre-policy trends and 2) common shocks. As such, we assessed pre-policy trends in exposed and unexposed states, compared trends in abortion rates across policy timing categories, and conducted DD robustness checks using leads and lags

Methods



Conclusions

- Certain TRAP laws may be associated with a decrease in in-state abortion rates, but our estimates were relatively imprecise
- Our sensitivity analyses suggested that abortion rates may have started to shift prior to policy enforcement
- This could reflect exposure misclassification, policy legislation in response to population trends (i.e., policy endogeneity), or an effect of policy enactment (in addition to enforcement) on abortion rates
- We relied on CDC data by state of occurrence in this analysis; these rates are known to be underestimated (6)
- Rates by state of residence may better represent the impact of TRAP exposure (though these rates are largely incomplete)
- Our future work will:**
 - Capture more precise data on TRAP timing (by policy category) to assess the possibility of reverse causality
 - Assess the impact of TRAP polices on abortion rates by state of residence, using a combination of data from the CDC and the Alan Guttmacher Institute (AGI)

Results

- Four states (CA, NH, NJ, WY) and the District of Columbia were excluded from our analysis, as they do not capture sufficient/reliable data on abortion rates
- Enforcement timing:** 15 states enforced TRAP laws from 1991-2011 (**in-period**), 9 states enforced laws prior to 1991 (**pre-period**), 7 states enforced laws after 2011 (**post-period**), and 15 states had never enacted TRAP laws as of 2016 (**never**). We excluded pre-period enforcers from this analysis.
- Our primary analyses compared **in-period** enforcers to **post-period** enforcers, as these states are likely the most exchangeable; we also estimated DD models using two groups (post-period and never-enforcers) as the comparison group
- Pre-policy trends were similar in states that enforced TRAP laws over the observation period and states that did not; combined with the graphic above, this suggests that the parallel trends assumption was likely satisfied
- Treating TRAP laws as a composite variable, our findings suggest a null association between TRAP exposure and in-state abortion rates, controlling for state and year fixed-effects and time-varying covariates (-0.64, 95% CI: -.60, .031)
- Three states (Indiana, Missouri, South Carolina) enforced a combination of TRAP laws (ambulatory surgical center requirements + admitting privileges) similar to Texas's HB2 over our observation period
- This specific combination of TRAP laws may reduce in-state abortion rates by approximately 1/1,000 women (-1.32, 95% CI: -2.46, -0.18)

TRAP laws and abortion rates: difference in differences estimates

	All TRAP laws (composite)		ASC + admitting privileges ^a	
	Estimate ^b	95% CI	Estimate ^b	95% CI
Traditional comparison (with year fixed effects)^c				
Crude	-3.61	(-6.48, -0.75)	-5.58	(-7.49, -3.66)
Adjusted ^d	-3.41	(-6.87, 0.06)	-4.27	(-6.66, -1.89)

DD: In-period vs. post-period enforcers

Crude	-0.55	(-1.56, 0.46)	-1.34	(-2.50, -0.19)
Adjusted ^d	-0.64	(-1.60, 0.31)	-1.32	(-2.46, -0.18)

Leads / lags

Lead: n-1	-0.74	(-1.74, 0.26)	-1.25	(-2.54, 0.04)
Lead: n-2	-0.75	(-1.87, 0.38)	-0.89	(-2.19, 0.40)
Lag: n+1	-0.52	(-1.44, 0.41)	-1.46	(-2.57, -0.36)

DD: In period vs. never-enforcers & post-period enforcers

Crude	-0.32	(-1.32, 0.68)	-1.15	(-2.32, 0.01)
Adjusted ^d	-0.40	(-1.38, 0.57)	-1.09	(-2.41, 0.23)

Leads / lags

Lead: n-1	-0.55	(-1.58, 0.48)	-1.06	(-2.32, 0.21)
Lead: n-2	-0.58	(-1.69, 0.52)	-0.80	(-2.01, 0.42)
Lag: n+1	-0.33	(-1.25, 0.58)	-1.24	(-2.56, 0.07)

^aEstimated effect of TRAP on abortion rates (abortions per 1,000 women)

^bSimilar to Texas's HB2

^cSimple comparison of states that ever (vs. never) enacted TRAP laws

^dAdjusted for state poverty rates, teen pregnancy rates, governor's political party, and availability of public funds for abortion

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