

# MATERNAL AND NEONATAL EFFECTS OF TARGETED REGULATIONS OF ABORTION PROVIDERS LAWS ON PREGNANCIES CONCEIVED THROUGH FERTILITY TREATMENT: A DIFFERENCE IN DIFFERENCES ANALYSIS

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## Background

The abortion regulation landscape changed in 1992 with the Supreme Court ruling *Planned Parenthood v. Casey*<sup>1</sup>, which established the constitutionality of abortion restrictions that did not represent an “undue burden”. This decision provided the legal basis for Targeted Regulations of Abortion Providers (TRAP). TRAP laws established waiting periods, mandatory ultrasounds, and regulations to clinics that provide surgical and medication abortion care. Despite being highly planned, pregnancies conceived with fertility treatment carry higher maternal and neonatal risk<sup>2</sup> that may require abortion care to manage complications. The effects of abortion restriction on pregnancies conceived through fertility treatment remain undetermined.

## Objective

The purpose of this study was to evaluate the effects of TRAP laws on maternal and neonatal outcomes among patients who conceived through fertility treatment.

## Materials and Methods

This analysis utilized birth data from the National Vital statistics system (NVSS) from 2012-2021. The Guttmacher Institute database<sup>3</sup> was utilized to separate states into two groups: those that implemented TRAP laws and those that did not. Three states (Maryland, Rhode Island and Connecticut) included in the Guttmacher Institute list of TRAP law states were excluded due to the transient and minor nature of their respective restrictions (n=31,037). Maternal composite of adverse outcomes comprised maternal blood transfusion, ICU admission, unplanned hysterectomy, and uterine rupture. Neonatal composite comprised NICU admissions, APGAR scores <7 at 5 minutes, assisted ventilation, seizures and very low birth weight. A difference in differences model compared maternal and neonatal composites between states with and without TRAP laws, comparing specifically the relative change in the composites before and after TRAP law implementation. The model controlled for year of birth indicators, maternal race and ethnicity, maternal age, educational level, insurance status, gestational age and pre-pregnancy BMI.

## Results

The final sample comprised 416,019 singleton births conceived with fertility treatment occurring between 23-42 weeks gestation, with 174,671 from states with TRAP laws and 241,348 from states without. When adjusted for confounders, among patients using fertility treatments, states with TRAP laws saw an increase in the maternal composite of adverse outcomes after TRAP laws passed (adjusted percentage difference 0.22%; 95% CI: -0.04%, 0.49%). States without TRAP laws saw minimal change in the maternal composite after the time period of TRAP law implementation (adjusted percentage difference -0.02%; 95% CI -0.30%, 0.27%). Difference in differences analysis showed a more significant increase in adverse maternal outcomes within the composite in states with TRAP laws relative to states without (adjusted odds ratio 1.27; 95% CI: 1.04-1.56). There were no significant differences in the adjusted odds of the change in neonatal composite among states with TRAP laws relative to states without (adjusted odds ratio 0.98; 95% CI: 0.93-1.04).

## Conclusions

In this study we describe the effects of abortion regulation on maternal and neonatal outcomes among patients utilizing fertility treatment. We found a statistically significant increase in poor maternal outcomes associated with states that passed TRAP laws relative to states that did not. We conclude that maternal outcomes of patients utilizing fertility treatment are negatively affected by restrictions on abortion access.

## Financial Support

None.

1. *Planned Parenthood of Southeastern Pa. v. Casey*. U.S. 505, 833 (1992).
2. Society for Maternal-Fetal Medicine (SMFM). Electronic address: pubs@smfm.org, Ghidini A, Gandhi M, McCoy J, Kuller JA, Publications Committee. Society for Maternal-Fetal Medicine Consult Series #60: Management of

pregnancies resulting from in vitro fertilization. *Am J Obstet Gynecol.* 2022;226(3):B2-B12.  
doi:10.1016/j.ajog.2021.11.001

3. Targeted Regulation of Abortion Providers | Guttmacher Institute. March 14, 2016. Accessed October 10, 2024.  
<https://www.guttmacher.org/state-policy/explore/targeted-regulation-abortion-providers>