US Parental Involvement Laws: The Impacts in Access to Abortion on Teen Health

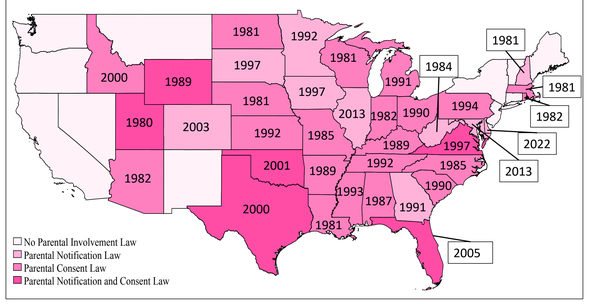
Author: Jane Platt **Advisors:** Munir Squires and Nicole Fortin

Background

- The US currently has one of the **highest teen pregnancy rates** among high-income countries (Kearney and Levine 2012)
  - Particularly affecting low-income and black women
- Women 14-19 are also at a **higher risk for maternal morbidity** compared to their 20-24 counterparts (Ganchimeg et al 2014)
- **Parental involvement laws (PILs)** have been implemented over the US since the early 1980s
  - These laws prohibit physicians from performing an abortion on a minor without parental notification and/or consent
  - It is predicted that these laws increase teen birth rates (Myers and Ladd 2020)

Policy Overview

Figure 1: Parental Involvement Laws in 2022 with Year of Enactment



Data

Health variables:

- Birth/morbidity: CDC Wonder Natality (2016-2022) expanded data (by age)
  - Morbidity defined as eclampsia, hypertension, or blood transfusion
  - Caveat: double/triple-count multiple conditions

Abortion access variables:

- PILs: Myers (2022) and Guttmacher institute
- Other: Myers and Ladd (2020), Guttmacher institute, and additional sources (e.g. State legislatures)

Controls:

- US Census Bureau (race), Myers and Ladd (2020) (urbanization), American Community Survey (education), US Bureau of Labor Statistics (unemployment), SAIPE (poverty)

Summary Statistics

Table 1
Summary statistics, births[1]

Age	Birth rate (per 100,000 women aged 15-29)			Morbidity rate (per 100,000 births)		
	Total	*Parental involvement*	*No parental involvement*	*Total*	*Parental involvement*	*No parental involvement*
14	1.76	2.09	1.00	314.27	378.93	0.00
	[4.04]	[4.55]	[2.3]	[2717.74]	[2980.26]	[.]
15	8.71	9.17	7.64	482.91	474.02	507.86
	[11.97]	[13.07]	[8.77]	[2301.03]	[2381.38]	[2058.95]
16	30.00	32.04	25.21	1688.70	1857.10	1187.51
	[27.51]	[29.72]	[20.68]	[3958.19]	[4173.3]	[3182.26]
17	67.13	73.32	52.64	2592.04	2854.84	1734.55
	[45.67]	[48.8]	[33.08]	[4829.44]	[5080.2]	[3775.59]
18	130.17	141.27	104.17	3859.22	4042.06	3278.40
	[72.03]	[75.58]	[54.74]	[5324.58]	[5545.08]	[4504.91]
19	223.64	240.25	184.74	5227.28	5360.83	4820.54
	[110.22]	[113.93]	[89.65]	[5265.15]	[5483.25]	[4512.48]

[1] Population-weighted summary statistics calculated for n=31912 United States county-year-age groups from 2016-2022. Standard deviations in parentheses. Data on births, maternal and neonatal morbidity risk collected from the CDC Wonder Natality (2016-2022) expanded file (CDC 2023).

Research Questions & Empirical Strategy

Research Questions

- What are the impacts of PILs on teen birth rates?
- What are the impacts of PILs on maternal morbidity rates for teens?
- How do these laws affect women differently?
  - By intensity of law, income and race

Empirical Strategy

- Regression discontinuity design exploiting the variation in PIL enforcement between 17- and 18-year-olds and DID comparing the differential effects between PIL and PIL-free states
- Identifying assumption: all other factors influencing birth and morbidity change smoothly as minors transition from 17 to 18

Birth Rates & Morbidity Rates

Figure 2: RDD Predicted Birth Rates per 100,000 women (15-29) by age

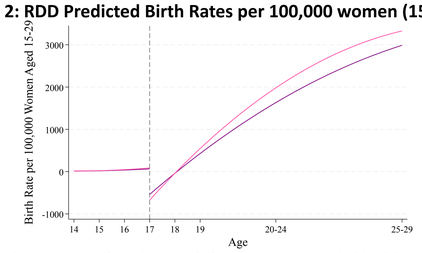
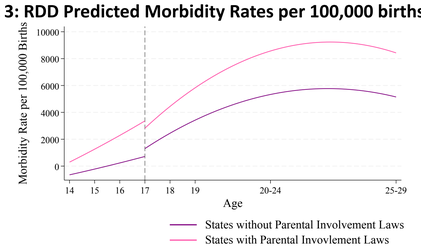


Figure 3: RDD Predicted Morbidity Rates per 100,000 births by age



Heterogeneity Analyses

- Consent PILs increase birth rates by **185.2** births per 100,000 women
- PILs increase birth rates for all income levels, increase morbidity rates by **2124.68** per 100,000 births for lower-income women
- PILs increase birth rates by **424.42** for black women

Table 3
Effects of PIL on birth and morbidity rates by law, income, and race level[1]

Interaction of PIL with minor	Birth rate (1)	Morbidity rate (2)
Panel A: By intensity of law		
Notification	15.81	2173.84***
	(48.22)	(753.37)
Consent	185.2***	1406.66**
	(47.99)	(588.24)
Panel B: By poverty levels		
Below median	96.54***	2124.68**
	(36.55)	(853.31)
Above median	165.60**	711.86
	(65.74)	(564.89)
Panel C: By race		
Black non-Hispanic	424.42***	174.34
	(46.40)	(798.11)
White non-Hispanic	143.89***	548.57
	(54.65)	(658.31)

[1] Interaction specification. Only β_9 is presented. Panel A compares with PIL-free states, panels B and C are subsample analyses. Poverty measured by SAIPE poverty rate below 18. County and year level fixed effects included. Demographic, economic, and reproductive controls included. *** p<0.01, ** p<0.05.

Main Variables

$c = county, s = state, t = year$

BR_{ct} (MR_{ct}): Birth (morbidity) rate per 100,000 women aged 15-29

M_{ct} : Dummy variable for minor $\boldsymbol{\chi_{ct}}$: county and time varying controls

PIL_{st} : Dummy variable for PIL $\boldsymbol{\nu_c, \nu_t}$: county and time fixed effects

Empirical Specifications

RDD specification

$$BR_{ct} = \beta_0 + \beta_1 age_{ct} + \beta_2 age_{ct}^2 + \boldsymbol{\beta_3} M_{ct} + \boldsymbol{\beta_4}[age_{ct} \times M_{ct}] + \boldsymbol{\beta_5}[age_{ct}^2 \times M_{ct}] + \boldsymbol{\chi_{ct}} + \boldsymbol{\nu_c} + \boldsymbol{\nu_t} + \epsilon_{ct}$$

Coefficients of interest

β_3 : the jump in birth (morbidity) rates between minors and non-minors

β_4, β_5 : the shift in slope for minors

Difference-in-differences specification

$$BR_{cst} = \beta_0 + \beta_1 age_{ct} + \beta_2 age_{ct}^2 + \boldsymbol{\beta_3} M_{ct} + \boldsymbol{\beta_4}[age_{ct} \times M_{ct}] + \boldsymbol{\beta_5}[age_{ct}^2 \times M_{ct}] + \beta_6 PIL_{ct} + \beta_7[age_{ct} \times PIL_{ct}] + \beta_8[age_{ct}^2 \times PIL_{ct}] + \boldsymbol{\beta_9}[M_{ct} \times PIL_{ct}] + \boldsymbol{\beta_{10}}[age_{ct} \times M_{ct} \times PIL_{ct}] + \boldsymbol{\beta_{11}}[age_{ct}^2 \times M_{ct} \times PIL_{ct}] + \boldsymbol{\chi_{ct}} + \boldsymbol{\nu_c} + \boldsymbol{\nu_t} + \epsilon_{ct}$$

Coefficients of interest

β_3, β_9 : the jump in birth (morbidity) rates between minors and non-minors in states with/without PILs

$\beta_4, \beta_5; \beta_{10}, \beta_{11}$: the shift in slope for minors in states with/without PILS

Main Results

- Birth rates are **157.97** births higher for 17-year-olds compared to 18-year-olds in PIL states than in non-PIL states ⟹ **174% above mean**
- Morbidity rates are **1134.11** morbid births higher for 17-year-olds compared to 18-year-olds in PIL states than they are in non-PIL states ⟹ **78% above mean**
- Effects are larger when excluding 18-years-olds
  - Birth rates to minors increase by **311.72** in PIL states
  - Morbidity rates to minors increase by **1742.36** in PIL states
- Slope increases for adults when including and excluding 18
  - Age*Minor and Age²*Minor vs Age and Age²

Table 2
Effects of parental involvement laws (PIL) on health outcomes[1]

	DID Specification			
	Birth rate		Morbidity rate	
	(1)	(2)	(3)	(4)
Coefficients interacted with PIL	***All***	***Excluding 18***	***All***	***Excluding 18***
Mean of 17-year-olds	67.13	67.13	2592.04	2592.04
Exposure to PIL	-297.01***	-465.56***	-282.76	-870.62
	(58.34)	(96.48)	(778.28)	(819.47)
Interaction of treatment with				
Age*Minor	-129.03***	-184.84***	149.47	-46.21
	(32.39)	(45.56)	(600.16)	(627.44)
Age²*Minor	13.41***	17.51***	73.04	87.26
	(2.62)	(3.55)	(249.35)	(248.87)
Minor	157.97***	311.72***	1134.11**	1742.36***
	(38.20)	(74.40)	(495.37)	(631.99)
Age	146.19***	202.04***	510.24**	695.47***
	(33.78)	(46.92)	(252.90)	(260.71)
Age²	-9.88***	-13.96***	-33.25**	-45.77***
	(2.41)	(3.35)	(16.57)	(17.09)
Number of observations	31,912	27,922	21,260	17,560

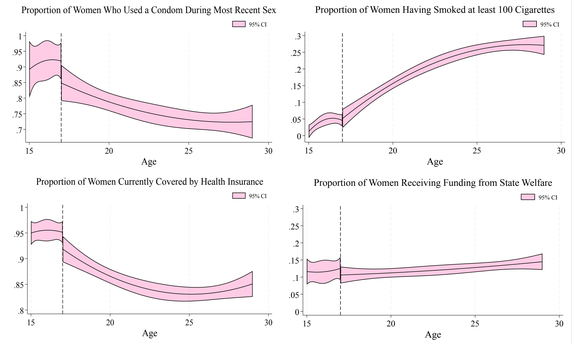
[1] Regressions are OLS, weighted by population size for columns (1) and (2), and weighted by births for columns (3) and (4). Results shown are coefficients interacted with PILs for DID specification. Standard errors in parentheses, clustered at the county level. County and year-level fixed effects included. Controls for demographic and economic characteristics, reproductive policy. *** p<0.01, ** p<0.05. Birth rate per 100,000 women aged 15-29. Morbidity rate per 100,000 births. Mean is for 17-year-olds aggregated over the US.

Key Findings

- PILs are associated with discretely **higher** birth and morbidity rates **for 17-year-olds compared to 18-year-olds**
  - Larger than the jumps in states without PILs
  - Larger effects when accounting for imprecise measure of age
- No significant jumps in other variables at the cut-off
- Effects are driven by counties with parental **consent laws**; **low-income** and **black** women
  - Parental consent laws make abortion harder to access
  - Lower income and black women are at higher health risks

Potential Confounds

Figure 4: Age Trends for Potential Confounds



Take-aways

- Policy-makers must consider the health implications of increasing abortion restrictions for minors
  - More teen pregnancies, higher teen maternal morbidity rates
- Teen pregnancy is known to have negative intergenerational consequences on high school completion/incarceration (CDC 2021)
  - Stricter laws exacerbate negative consequences
- PILs do not deter teens from engaging in intercourse
- Disproportionate impacts for the poorest and black women
  - Unable to pay medical and travel costs of accessing private abortion, disparate effects for black women
- Limited by imprecise measure of age and lack of data on health consequences of abortions for minors

Literature & Contributions

- These results are in line with findings from previous studies (Myers and Ladd 2020; Kramer et al 2023)
  - PILs increase birth rates among minors
- This study contributes to the literature on maternal health and abortion policy
  - Evaluates the impact of abortion restrictions on teen health
  - Finds that PILs increase maternal morbidity among minors
  - No previous research has been done on the impacts of PILs on maternal morbidity

References

CDC. "About Teen Pregnancy." CDC, November 15, 2021. https://www.cdc.gov/teenpregnancy/about/index.htm.

Ganchimeg, T, E Ota, N Morisaki, M Laopaiboon, P Lumbiganon, J Zhang, B Yamdamsuren, et al. "Pregnancy and Childbirth Outcomes among Adolescent Mothers: A World Health Organization Multicountry Study." *BJOG: An International Journal of Obstetrics & Gynaecology* 121, no. s1 (March 2014): 40–48. https://doi.org/10.1111/1471-0528.12630.

Kearney, Melissa S, and Phillip B Levine. "Why Is the Teen Birth Rate in the United States So High and Why Does It Matter?" *Journal of Economic Perspectives* 26, no. 2 (May 1, 2012): 141–66. https://doi.org/10.1257/jep.26.2.141.

Kramer, Alisha, Angeline Ti, Lisa Travis, Adrienne Laboe, Walter O Ochieng, and Marisa R Young. "The Impact of Parental Involvement Laws on Minors Seeking Abortion Services: A Systematic Review." *Health Affairs Scholar* 1, no. 4 (October 5, 2023): qxad045. https://doi.org/10.1093/haschl/qxad045.

Myers, Caitlin K. "Reproductive Policy Coding." OSF, January 30, 2022. https://doi.org/doi:10.17605/OSF.IO/WU56N.

Myers, Caitlin, and Daniel Ladd. "Did Parental Involvement Laws Grow Teeth? The Effects of State Restrictions on Minors' Access to Abortion." *Journal of Health Economics* 71 (May 2020). https://doi.org/10.1016/j.jhealeco.2020.102302.