

“Aftershocks: The Impact of Clinic Violence on Abortion Services”
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Web Appendix

Data Appendix

County-Level Abortion and Abortion Provider Data from Alan Guttmacher Institute (AGI)

The Alan Guttmacher Institute (AGI) is a non-profit organization interested in sexual and reproductive health. On a semi-regular basis, AGI attempts to collect data on abortions performed by all abortion providers in the United States. AGI attempts to contact each suspected abortion provider many times. Although incomplete, these data represent nearly a census of all known providers, where providers are facilities that perform some abortions. For example, AGI obtained data for nearly 85 percent of the providers surveyed in 2000 (Finer and Henshaw, 2003). AGI conducted surveys in the years 1973-1982, 1984, 1985, 1987, 1988, 1991, 1992, 1995, 1996, 1999, and 2000. Finer and Henshaw (2003) provide a detailed description of the survey methodology, including the great lengths taken by surveyors to contact all providers.

We acquired confidential county-level AGI data on the number of abortion facilities (providers) and the number of abortions performed in each survey year. We have data on the number of abortion providers or facilities broken down by setting – hospital or non-hospital – and the corresponding number of abortions performed in each setting. We also have the number of providers by volume of the facility (<30 abortions performed, 30-399 abortions, 400-999 abortions, 1000+ abortions) and the total number of abortions performed by each group.

County-Level Natality Data from the National Center for Health Statistics (NCHS)

From the National Center for Health Statistics’ Detailed Natality Files, we also have county-level monthly data on births from 1973 to 2002. For this period, we have counts of births for every county regardless of population size. Public-use natality data from 1989 onward exclude county identifiers for counties with fewer than 100,000 persons. Because our birth counts are from non-public-use data, this sample selection criterion does not apply.

Abortion Clinic Violence

The main source of abortion violence data is derived from the Bureau of Alcohol, Tobacco, and Firearms (ATF). All anti-abortion incidents involving explosives fall under the jurisdiction of the ATF. The types of incidents reported to the ATF include arson, bombing, bomb threats, and hoax devices. For the years 1976-2005, there were 287 abortion clinic incidents reported to the ATF.

Independently, the National Abortion Federation (NAF), the Feminist Majority Foundation’s “National Clinic Access Project” and refuseandresist.org also report incidents of extreme violence, with the NAF maintaining the most comprehensive list.¹ Lexis-Nexis searches of news

¹ The Feminist Majority Foundation has published regular “Anti-Abortion Violence Alerts” since June 1997. See <http://www.feminist.org/rrights/antialert.html>

articles and television broadcasts helped to validate and augment these data sources.² Combining all five sources, there were 342 acts of extreme violence for the 1976 to 2005 period.

State-Level Policy Variables

We code up several abortion-related policy variables. Specifically, we include separate indicators equal to 1 if (1) a Medicaid-eligible woman in that state has no access to public funding for an abortion, (2) a teenager seeking an abortion must either notify her parents or have explicit parental consent, (3) a woman must receive counseling prior to obtaining an abortion, (4) a woman must wait a period of time (usually 24 hours) between her initial visit and the abortion procedure, (5) the state has "targeted regulations" for abortion providers, (6) the state prohibits individuals from obstructing access to an abortion clinic, (7) the state imposes civil or criminal penalties for using force or threatening force to prevent access to an abortion clinic, and (8) the state imposes civil or criminal penalties for damaging clinic property.

Our coding of Medicaid funding bans is based on an updating of Blank et al. (1996). Coding of the other laws is based primarily on an extensive database maintained by NARAL as part of its project, "Who Decides? The Status of Women's Reproductive Rights in the United States."³ Although this database describes changes over time, we also check dates against other sources in the literature (e.g., Joyce et al. 2001) to make sure we are not missing laws that have been previously repealed.

County-Level Covariates

To scale the abortion and abortion provider measures, we use the number of females ages 15 to 44 from US Census Bureau Population Estimates Program. We also use data from the Bureau of Economic Analysis's Regional Economic Information System (REIS) to control for a host of county level covariates – the log per-capita income, log employment, the share of employment in construction, the share of income paid in unemployment income, and the share of females that are non-white.

Lexis-Nexis Newspaper Article Counts

To develop a measure of underlying local abortion discussion, we conducted a systematic search of newspaper articles using the Lexis-Nexis database. Specifically, for each area experiencing an act of violence, we identified a newspaper in the area. For each newspaper outlet, we searched for all articles containing the word "abortion" in the headline.

The coverage rates of newspapers in Lexis-Nexis are quite variable. For some newspapers, many years of articles are available whereas for other newspapers, they are not. Of the 150 counties experiencing at least one event between 1976 and 2005, we were able to extract articles for 59 of them. Recall that in our main sample we have 140 counties because we consider the years 1976-

² Thirteen arson and bombing attempts or attacks were reported to the NAF by member organizations between 1977 and 1982 but were not investigated by the ATF or publicized in any independent source. Including those cases in our analysis does not change the basic pattern of results or the general magnitude of the implied effects.

³ See http://www.naral.org/choice-action-center/in_your_state/who-decides/state-profiles/california.html

2000 for that sample. For 10 of the 59 counties appearing in the Lexis-Nexis database, Lexis-Nexis had newspaper coverage 12 months prior to the event up until 12 months following the event. The covered areas are as follows: Birmingham, Alabama on 1/29/1998 (Birmingham News); San Francisco, California on 2/28/1995 (San Francisco Chronicle); Modesto, California on 3/19/2003 (Modesto Bee); Denver, Colorado on 8/26/2003 (Denver Post); Washington DC on 7/4/1984 (Washington Post); Miami, Florida on 5/16/1998 (Miami Herald); Buffalo, New York on 4/18/1992 (Buffalo News); New York City, New York on 12/10/1985 (New York Times); Syracuse, New York on 5/23/1990 (Post Standard); and Greensboro, North Carolina on 3/17/1991 (News & Record). While this list is certainly not comprehensive, estimates based on this sample should be informative about the political and social discussion concerning abortion near the time of the abortion violence.

Appendix Table 1 - The Effect of Violence on Provider and Abortion Rates: Estimates Using Narrower Windows Around the Violence*Panel A: Provider Results*

Window (years)	Dependent Variable: Provider Rate			Dependent Variable: Hospital Provider Rate			Dependent Variable: Non-Hospital Provider Rate		
	12	10	7	12	10	7	12	10	7
Post-Event Dummy	-0.58 (0.27)	-0.48 (0.25)	-0.49 (0.23)	-0.14 (0.15)	-0.06 (0.14)	0.00 (0.14)	-0.44 (0.19)	-0.42 (0.18)	-0.48 (0.16)
Controls									
County Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
County-Level Covariates	YES	YES	YES	YES	YES	YES	YES	YES	YES
Policy Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES
State x Year Fixed Effects	NO	NO	NO	NO	NO	NO	NO	NO	NO
Number of Observations	17858	17612	17194	17858	17612	17194	17858	17612	17194
Mean Provider Rate	6.48	6.39	6.16	2.37	2.3	2.1	4.11	4.08	4.07

Panel B: Abortion Results

Window (years)	Dependent Variable: Abortion Rate			Dependent Variable: Hospital Abortion Rate			Dependent Variable: Non-Hospital Abortion Rate		
	12	10	7	12	10	7	12	10	7
Post-Event Dummy	-2.83 (1.45)	-2.98 (1.42)	-2.26 (1.51)	0.10 (0.34)	0.29 (0.39)	0.31 (0.32)	-2.93 (1.42)	-3.27 (1.40)	-2.56 (1.46)
Controls									
County Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
County-Level Covariates	YES	YES	YES	YES	YES	YES	YES	YES	YES
Policy Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES
State x Year Fixed Effects	NO	NO	NO	NO	NO	NO	NO	NO	NO
Number of Observations	17858	17612	17194	17858	17612	17194	17858	17612	17194
Mean Abortion Rate	39.24	39.85	41.02	5.42	5.34	5.02	33.82	34.5	35.99

Notes: Each column in this table represents a separate regression using a window of the specified number of years before and after an attack in counties experiencing violence and all years in counties that did not experience violence in our sample. The main results use a window of 15 years. The post-event dummy estimates are estimates of β_2 from equation (2). For all regressions, robust standard errors clustered at the county-level are presented in parentheses. The sample includes all counties reporting some abortion activity during the 1973-2000 period. The county-level covariates include log per-capita income, log employment, share of employment in construction, share of income paid in unemployment income, and the share of females that are non-white. The density of women of childbearing age is the population of women ages 15 to 44 (in 1000s) per square mile of land in the county; it is measured in the year of a county was attacked. See Table 3 for a description of the policy variables. The presented mean represents the mean for all counties experiencing violence in the years prior to violence. Provider rates are per 100,000 women aged 15 to 44; abortion rates are per 1,000 women aged 15 to 44.

Appendix Table 2 - The Effect of Violence on Provider and Abortion Rate - Propensity-Score Matched Counties

Panel A: Provider Results

	Dependent Variable: Provider Rate					Dependent Variable: Hospital Provider Rate					Dependent Variable: Non-Hospital Provider Rate				
Post-Event Dummy	0.75 (0.54)	-0.48 (0.21)	-0.51 (0.21)	-0.52 (0.22)	-0.40 (0.22)	-0.31 (0.23)	-0.03 (0.09)	-0.06 (0.09)	-0.08 (0.10)	-0.07 (0.11)	1.06 (0.44)	-0.45 (0.17)	-0.45 (0.17)	-0.44 (0.17)	-0.33 (0.17)
<i>Controls</i>															
County Fixed Effects	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES
County-Level Covariates	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Policy Variables	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO
State x Year Fixed Effects	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
Number of Observations	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703
Mean of Dependent Variable	6.29	6.29	6.29	6.29	6.29	2.42	2.42	2.42	2.42	2.42	3.87	3.87	3.87	3.87	3.87

Panel B: Abortion Results

	Dependent Variable: Abortion Rate					Dependent Variable: Hospital Abortion Rate					Dependent Variable: Non-Hospital Abortion Rate				
Post-Event Dummy	21.64 (3.71)	-2.76 (1.33)	-2.71 (1.32)	-2.77 (1.33)	-2.75 (1.44)	2.77 (1.45)	0.33 (0.35)	0.30 (0.34)	0.22 (0.33)	0.11 (0.31)	18.87 (3.18)	-3.09 (1.36)	-3.01 (1.34)	-2.99 (1.35)	-2.86 (1.50)
<i>Controls</i>															
County Fixed Effects	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES
County-Level Covariates	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Policy Variables	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO
State x Year Fixed Effects	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
Number of Observations	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703	5703
Mean of Dependent Variable	39.85	39.85	39.85	39.85	39.85	5.69	5.69	5.69	5.69	5.69	34.17	34.17	34.17	34.17	34.17

Notes: Each column in this table represents a separate regression. The post-event dummy estimates are estimates of β_2 from equation (2). For all regressions, robust standard errors clustered at the county-level are presented in parentheses. For all counties reporting some abortion activity during the 1973-2000 period, we predicted their propensity for violence using 1973 values for their log per-capita income, log employment, share of employment in construction, share of income paid in unemployment income, and share of females that are non-white. The estimation sample includes all counties with propensity for violence between 0.1 and 0.9. The county-level covariates include log per-capita income, log employment, share of employment in construction, the share of income paid in unemployment income, and the share of females that are non-white. See Table 3 for a description of the policy variables. The presented mean represents the mean for the counties experiencing violence in the estimation sample in the years prior to violence. Provider rates are per 100,000 women aged 15 to 44; abortion rates are per 1,000 women aged 15 to 44.

Appendix Table 3 - The Effect of Violence on Provider and Abortion Rate, Sample: Counties that Ever Experienced Violence

Panel A: Provider Results

	Dependent Variable: Provider Rate					Dependent Variable: Hospital Provider Rate					Dependent Variable: Non-Hospital Provider Rate				
Post-Event Dummy	-0.11 (0.29)	-0.37 (0.28)	-0.44 (0.29)	-0.41 (0.29)	-0.29 (0.26)	0.01 (0.12)	0.08 (0.10)	0.03 (0.11)	0.03 (0.11)	0.02 (0.16)	-0.12 (0.25)	-0.46 (0.24)	-0.47 (0.24)	-0.44 (0.24)	-0.30 (0.19)
<i>Controls</i>															
County Fixed Effects	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES
County-Level Covariates	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Policy Variables	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO
State x Year Fixed Effects	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
Number of Observations	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Mean of Dependent Variable	6.68	6.68	6.68	6.68	6.68	2.49	2.49	2.49	2.49	2.49	4.19	4.19	4.19	4.19	4.19

Panel B: Abortion Results

	Dependent Variable: Abortion Rate					Dependent Variable: Hospital Abortion Rate					Dependent Variable: Non-Hospital Abortion Rate				
Post-Event Dummy	-2.79 (1.97)	-2.09 (1.40)	-2.00 (1.36)	-2.20 (1.36)	-3.17 (1.68)	0.01 (0.81)	0.16 (0.30)	0.11 (0.30)	-0.02 (0.31)	-0.40 (0.28)	-2.80 (1.79)	-2.25 (1.40)	-2.10 (1.37)	-2.18 (1.35)	-2.77 (1.70)
<i>Controls</i>															
County Fixed Effects	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES
County-Level Covariates	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Policy Variables	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO
State x Year Fixed Effects	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
Number of Observations	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194	2194
Mean of Dependent Variable	38.18	38.18	38.18	38.18	38.18	5.47	5.47	5.47	5.47	5.47	32.70	32.70	32.70	32.70	32.70

Notes: Each column in this table represents a separate regression. The post-event dummy estimates are estimates of β_2 from equation (2). For all regressions, robust standard errors clustered at the county-level are presented in parentheses. The estimation sample includes only counties experiencing violence during the 1973-2000 period. The county-level covariates include log per-capita income, log employment, share of employment in construction, share of income paid in unemployment income, and the share of females that are non-white. See Table 3 for a description of the policy variables. The presented mean represents the mean for all counties experiencing violence in the years prior to violence. Provider rates are per 100,000 women aged 15 to 44; abortion rates are per 1,000 women aged 15 to 44.

Appendix Table 4 - The Effect of Violence on Provider and Abortion Rates Including Linear County-Specific Trends

Panel A: Provider Results

Dependent Variable:	Provider Rate			Hospital Provider Rate			Non-Hospital Provider Rate		
Post-Event Dummy	-0.36 (0.63)	-0.40 (0.18)	-0.32 (0.21)	0.06 (0.54)	-0.03 (0.11)	0.05 (0.09)	-0.41 (0.31)	-0.37 (0.13)	-0.37 (0.18)
<i>Sample</i>	Full	P-score	Violence only	Full	P-score	Violence only	Full	P-score	Violence only
<i>Controls</i>									
County Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
County-Level Covariates	YES	YES	YES	YES	YES	YES	YES	YES	YES
Policy Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES
Linear County Trends	YES	YES	YES	NO	YES	YES	YES	YES	YES
Number of Observations	18187	5703	2194	18187	5703	2194	18187	5703	2194
Mean of Dependent Variable	6.68	6.29	6.68	2.49	2.42	2.49	4.19	3.87	4.19

Panel B: Abortion Results

Dependent Variable:	Abortion Rate			Hospital Abortion Rate			Non-Hospital Abortion Rate		
Post-Event Dummy	-2.01 (1.62)	-2.16 (1.00)	-1.98 (1.07)	0.17 (0.26)	0.31 (0.25)	0.34 (0.31)	-2.19 (1.58)	-2.55 (0.98)	-2.32 (1.07)
<i>Sample</i>	Full	P-score	Violence only	Full	P-score	Violence only	Full	P-score	Violence only
<i>Controls</i>									
County Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
County-Level Covariates	YES	YES	YES	YES	YES	YES	YES	YES	YES
Policy Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES
Linear County Trends	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of Observations	18187	5703	2194	18187	5703	2194	18187	5703	2194
Mean of Dependent Variable	38.18	39.85	38.18	5.47	5.69	5.47	32.70	34.17	32.70

Notes: Each column in this table represents a separate regression. The post-event dummy estimates are estimates of β_2 from equation (2). For all regressions, robust standard errors clustered at the county-level are presented in parentheses. The county-level covariates include log per-capita income, log employment, share of employment in construction, the share of income paid in unemployment income, and the share of females that are non-white. See Table 3 for a description of the policy variables. The presented mean represents the mean for the counties experiencing violence in the estimation sample in the years prior to violence. Provider rates are per 100,000 women aged 15 to 44; abortion rates are per 1,000 women aged 15 to 44.

Appendix Table 5 - The Effect of Violence on Log Birth Rate: Estimates Using Narrower Windows Around the Violence

Window (months)	Sample: All Counties in Abortion Data				Sample: All Counties			
	30	24	18	12	30	24	18	12
Post-Event Dummy	0.009 (0.004)	0.009 (0.004)	0.009 (0.004)	0.011 (0.004)	0.009 (0.004)	0.009 (0.004)	0.009 (0.004)	0.011 (0.004)
<i>Controls</i>								
County Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Number of Observations	291567	289951	288310	286652	957127	955463	953774	952068
Mean Number of Births/Month	852.26	854.90	855.82	860.27	829.71	832.28	833.16	837.51

Notes: Each column in this table represents a separate regression. The post-event dummy estimates are estimates of β_2 from equation (3) using different window widths; the dummy is defined to be equal to 1 for births occurring 7 to 11 months after the violence and 0 otherwise. Robust standard errors clustered at the county-level are presented in parentheses. The presented means represent the means for all counties experiencing violence in the months prior to violence.

Appendix Table 6 - The Effect of Violence on Log Births - Propensity-Score Matched Counties

Treatment Group = County of Violence

	Sample: Counties in Abortion Data		Sample: All Counties	
Post-Event Dummy	0.415 (0.080)	0.009 (0.003)	0.467 (0.081)	0.009 (0.003)
<i>Controls</i>				
County Fixed Effects	NO	YES	NO	YES
Observations	60895	60895	65755	65755
Mean Number of Births/Month	912	912	912	912

Notes: Each column in this table represents a separate regression. The post-event dummy estimates are estimates of β_2 from equation (3). The post-event dummy is defined to be equal to 1 for births occurring 7 to 11 months after the violence and 0 otherwise. Robust standard errors clustered at the county-level are presented in parentheses. The presented means represent the means for all counties experiencing violence in the years prior to violence.

Appendix Table 7 - The Effect of Violence on Log Births, Sample: Counties that Ever Experienced Violence

Treatment Group = County of Violence

	Sample: Counties in Abortion Data		Sample: All Counties	
Post-Event Dummy	0.002 (0.013)	0.008 (0.004)	0.008 (0.014)	0.008 (0.004)
<i>Controls</i>				
County Fixed Effects	NO	YES	NO	YES
Observations	9999	9999	10291	10291
Mean Number of Births/Month	852	852	829	829

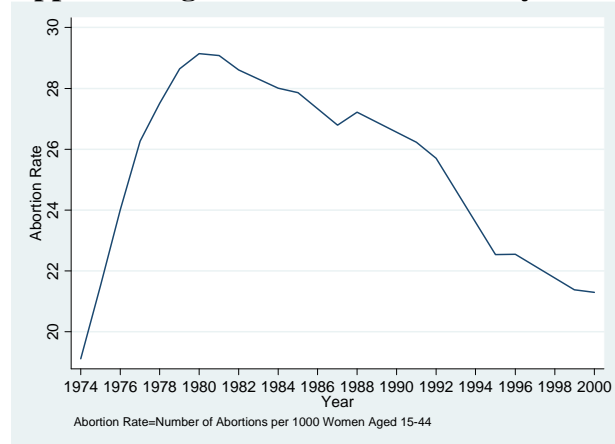
Notes: Each column in this table represents a separate regression. Estimates are based on a window of 32 months before and after the first violent attack. The post-event dummy estimates are estimates of β_2 from equation (3). The post-event dummy is defined to be equal to 1 for births occurring 7 to 11 months after the violence and 0 otherwise. Jackknife standard errors clustered at the county-level are presented in parentheses. The presented means represent the means for all counties experiencing violence in the years prior to violence.

Appendix Table 8 - The Effect of Violence on Log Birth Rate

Provider Rate Pre-Attack Distribution, Attacked Counties	Sample: All Counties in Abortion Data			Sample: All Counties		
	[0, 25]	(25, 75)	[75,100]	[0, 25]	(25, 75)	[75,100]
Post-Event Dummy	0.014 (0.007)	0.013 (0.006)	-0.003 (0.007)	0.013 (0.006)	0.014 (0.006)	-0.002 (0.008)
<i>Controls</i>						
County Fixed Effects	YES	YES	YES	YES	YES	YES
Number of Observations	285657	288143	285697	950973	953459	951013
Mean Number of Births/Month	869.09	966.58	603.74	869.09	966.58	603.74

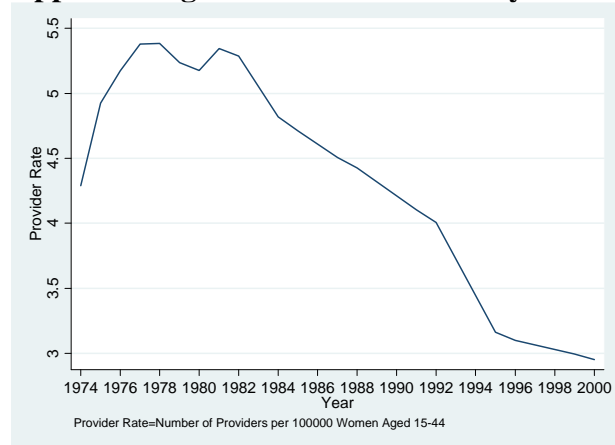
Notes: Each column in this table represents a separate regression. The post-event dummy estimates are estimates of β_2 from equation (3). For all regressions, robust standard errors clustered at the county-level are presented in parentheses. The counties experiencing violence are divided into three groups based on the provider rate in the county at the time of the violence - bottom quartile denoted [0, 25] in the table, the interquartile range denoted (25,75) in the table, and the top quartile denoted [75,100] in the table. Each regression includes the full set of control counties. The presented means represent the means for counties experiencing violence in the years prior to violence.

Appendix Figure 1 – Abortion Rate by Year



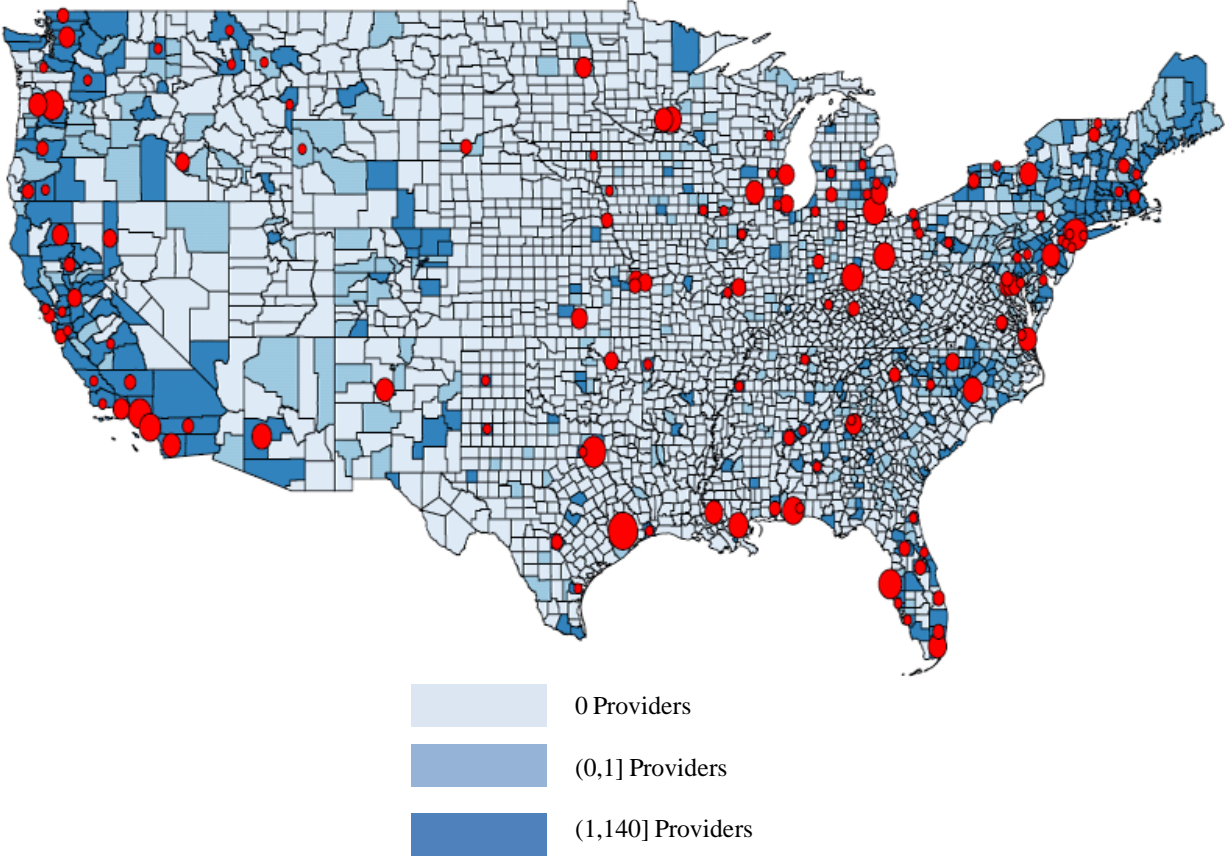
Notes: Based on county-level data from the Alan Guttmacher Institute. Data are unavailable for the years 1983, 1986, 1989, 1990, 1993, 1994, 1997, and 1998.

Appendix Figure 2 – Provider Rate by Year



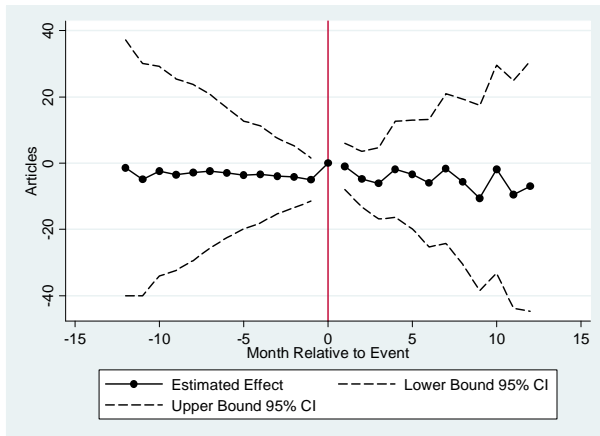
Notes: Based on county-level data from the Alan Guttmacher Institute. Data are unavailable for the years 1983, 1986, 1989, 1990, 1993, 1994, 1997, and 1998.

Appendix Figure 3 – 1981 Providers by County and the Location of Violent Attacks



Notes: The map shows the number of providers by county in 1981, a year without any recorded attacks and prior to the surge in anti-abortion violence in the United States. The dots in red show the location of anti-abortion attacks from 1973 to 2000 and are proportional to the total number of attacks over this period.

Appendix Figure 4 – Abortion Newspaper Articles Over Time



Notes: The figure above depicts coefficient estimates of month-relative-to-event fixed effects from a regression of the number of newspaper articles on month-relative-to-event fixed effects, month x year fixed effects, and county fixed effects. The excluded dummy is the month-relative-to-event-equal-to-0 dummy. The dashed lines represent the upper and lower bounds of the 95 percent confidence intervals of the month-relative-to-event fixed effects. The standard errors of these fixed effects are adjusted for within-county correlation. The counts of the number of newspaper articles come from a Lexis-Nexis search of articles with “abortion” in the headline.