Supplementary Materials

Appendix A: Additional Descriptive Tables and Figures

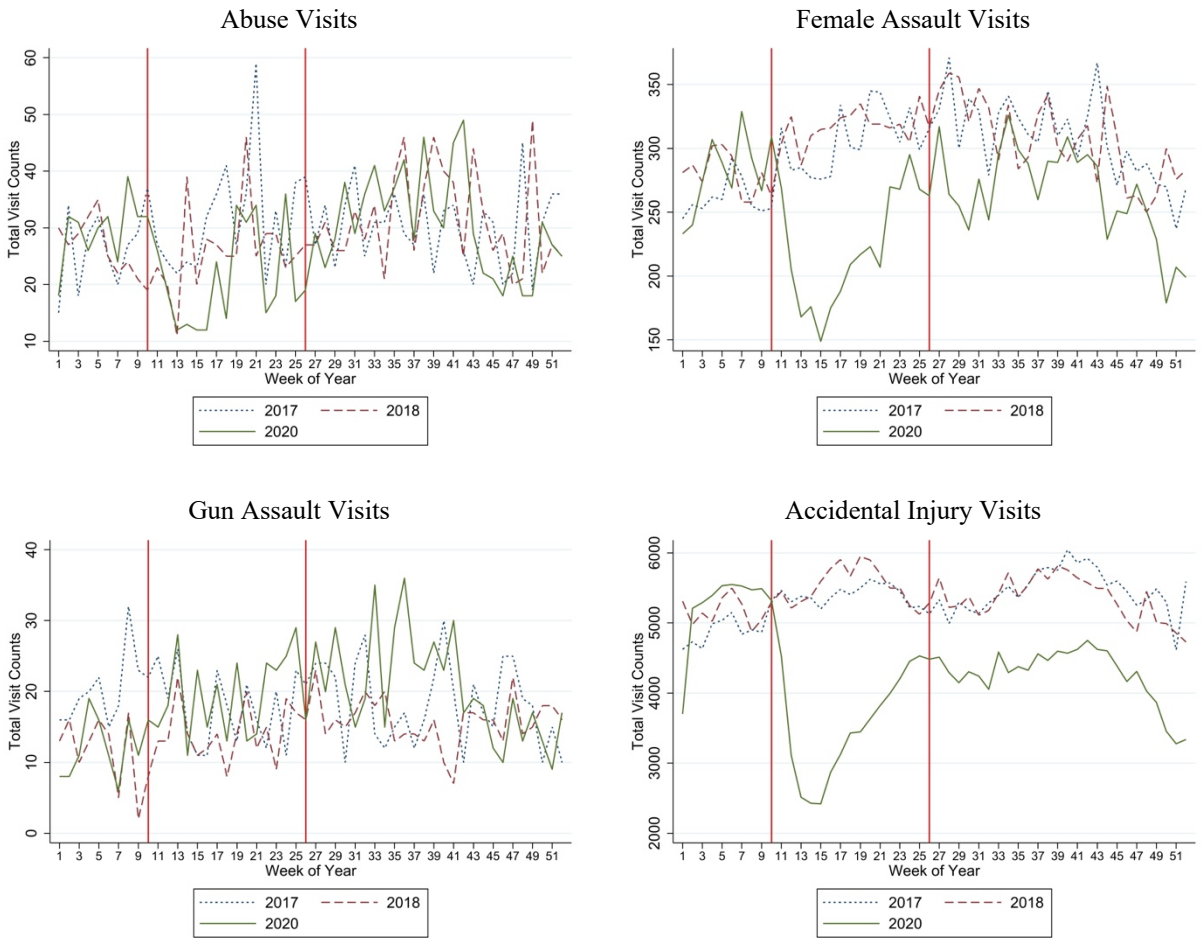


Fig. 11 Raw Trends in Visit Counts. All outcomes are visit counts at the zip-week level

Figure 11 presents trends in abuse visits, female assault visits, gun assault visits, and accidental injury visits to emergency departments in our sample at the zip-week level in 2017, 2018, and 2020. Trends in 2017 and 2018 are similar to each other throughout the year, and are similar to trends in 2020 prior to the onset of the pandemic.

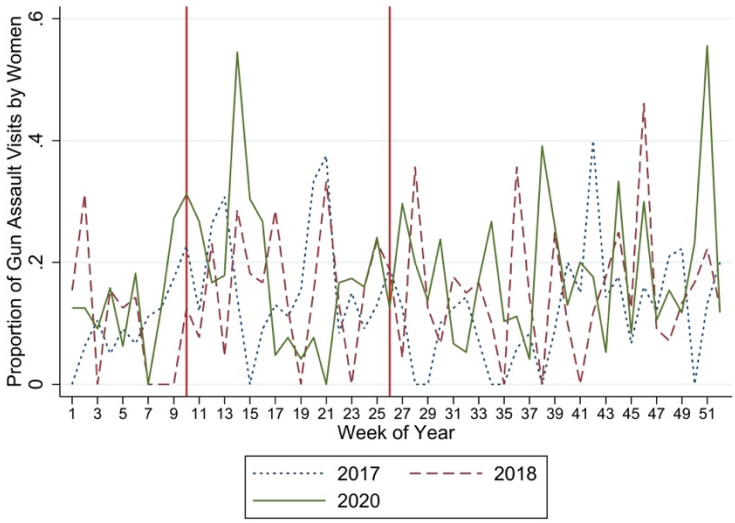


Fig. 12 Raw Trends in Proportion of Firearm Assault Visits by Women. Trends in proportion of gun assaults at zip-week level with a female patient

Figure 12 presents raw trends in the proportion of firearm assault visits by women. Because firearm assault visits are rare, statistical power is limited. In the main results in Figure 2, we detect an increase in overall firearm assault visits at the onset of the pandemic in 2020 compared to the same weeks in prior years. This figure shows that the proportion of firearm assault visits by women was similar in 2020 compared to prior years. Figure 13 in Appendix B disaggregates changes in firearm assault and firearm accident visits by gender.

Panel A: Visits by Day of Week

	Mean	Std. Dev.	Min	Max	N
Weekday Abuse Visits	0.05	0.33	0	11	70044
Weekend Abuse Visits	0.02	0.16	0	8	70044
Weekday Female Assault Visits	0.99	3.68	0	67	70044
Weekend Female Assault Visits	0.48	1.81	0	36	70044
Weekday Accident Visits	7.81	24.80	0	286	70044
Weekend Accident Visits	3.29	10.32	0	130	70044

Panel B: Visits by Payer Type

	Mean	Std. Dev.	Min	Max	N
Abuse Visits - Regular	0.04	0.31	0	10	65052

Abuse Visits - Low Loss	0.02	0.21	0	8	65052
Female Assault Visits - Regular	0.45	1.70	0	28	65052
Female Assault Visits - Low Loss	0.24	1.05	0	21	65052
Accident Visits - Regular	8.24	25.41	0	293	65052
Accident Visits - Low Loss	3.71	12.68	0	164	65052

Panel C: Visits by Injury Severity

	Mean	Std. Dev.	Min	Max	N
Female Assault Visits - ISS Cat. 1	1.18	2.63	0	35	32082
Female Assault Visits - ISS Cat. 2	0.09	0.37	0	7	32082
Female Assault Visits - ISS Cat. 3	0.01	0.13	0	3	32082
Female Assault Visits - ISS Cat. 4	0.01	0.12	0	3	32082
Accident Visits - ISS Cat. 1	22.52	40.02	0	307	32082
Accident Visits - ISS Cat. 2	1.03	2.13	0	26	32082
Accident Visits - ISS Cat. 3	0.36	0.96	0	19	32082
Accident Visits - ISS Cat. 4	0.45	1.13	0	30	32082

Table 4: Raw Trends. All outcomes are visit counts at the zip-week level.

Table 4 shows additional summary statistics by day of week, insurance type, and injury severity.

Appendix B: Heterogeneity and Robustness, Care-Seeking Behavior

Female Firearm Assault Visits

Male Firearm Assault Visits

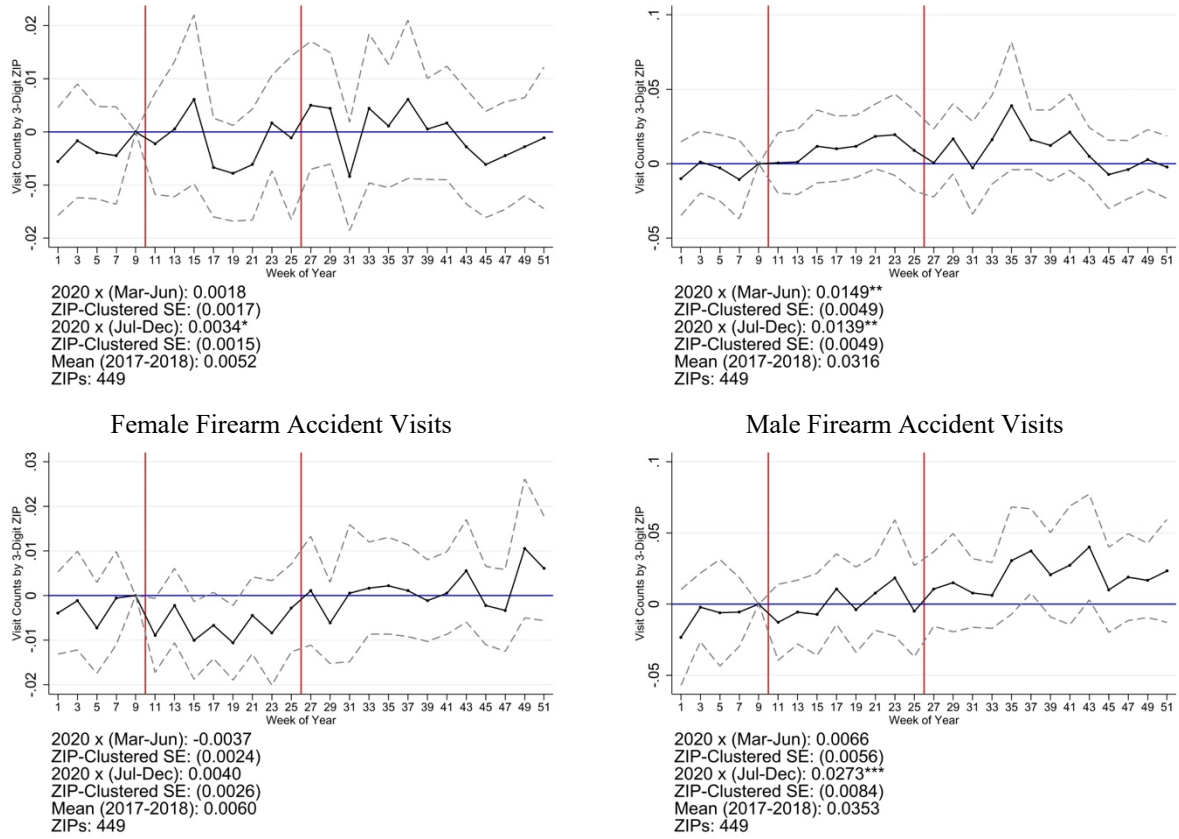


Fig. 13 Firearm Injury Visits by Gender. All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote $p < .001$, $p < .01$, $p < .05$, and $p < 0.1$, respectively

Figure 13 disaggregates firearm injury visits by gender; the top panel shows firearm assault visits by gender, finding suggestive evidence of increases at the onset of the pandemic for both men and women. The bottom panel shows an increase in firearm accidents for men but not for women. We cannot say with any certainty that the estimated increase in firearm assaults is driven mostly or entirely by domestic violence given that the increase is not robust to the placebo test or control for secular trends in Figures 6 and 7 in the main text, but Figure 9 in the main text shows a corresponding increase in reported domestic violence incidents involving guns, suggesting that any increase is likely driven at least in part by domestic violence. However, the increase in gun accident injury visits by men, especially in the context of previously documented increases in firearm purchases at the beginning of the pandemic (Crifasi et al. 2021), suggests that increasing firearm prevalence may also play a role. The presence of additional firearms in the home may have escalated conflicts that otherwise would have occurred without the use of a firearm.

Female Accident Visits Male Accident Visits

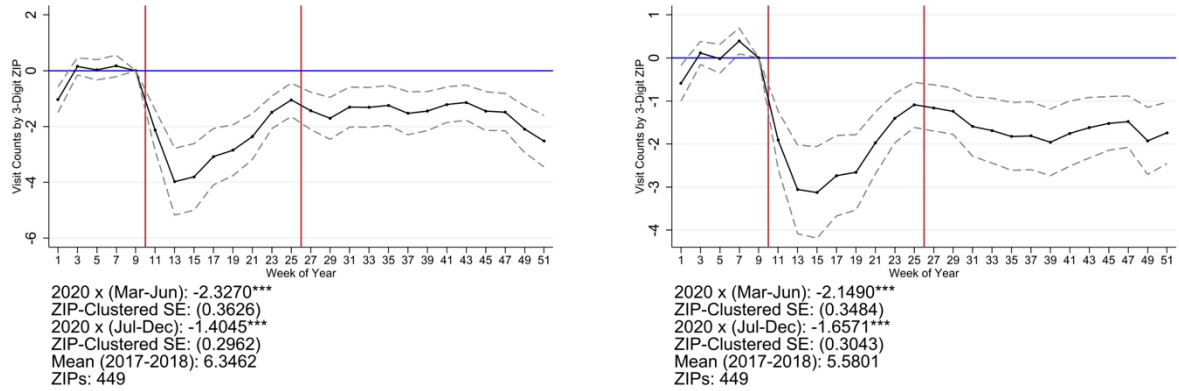


Fig. 14 Accidental Injury Visits by Gender. All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote p < .001, p < .01, p < .05, and p < 0.1, respectively

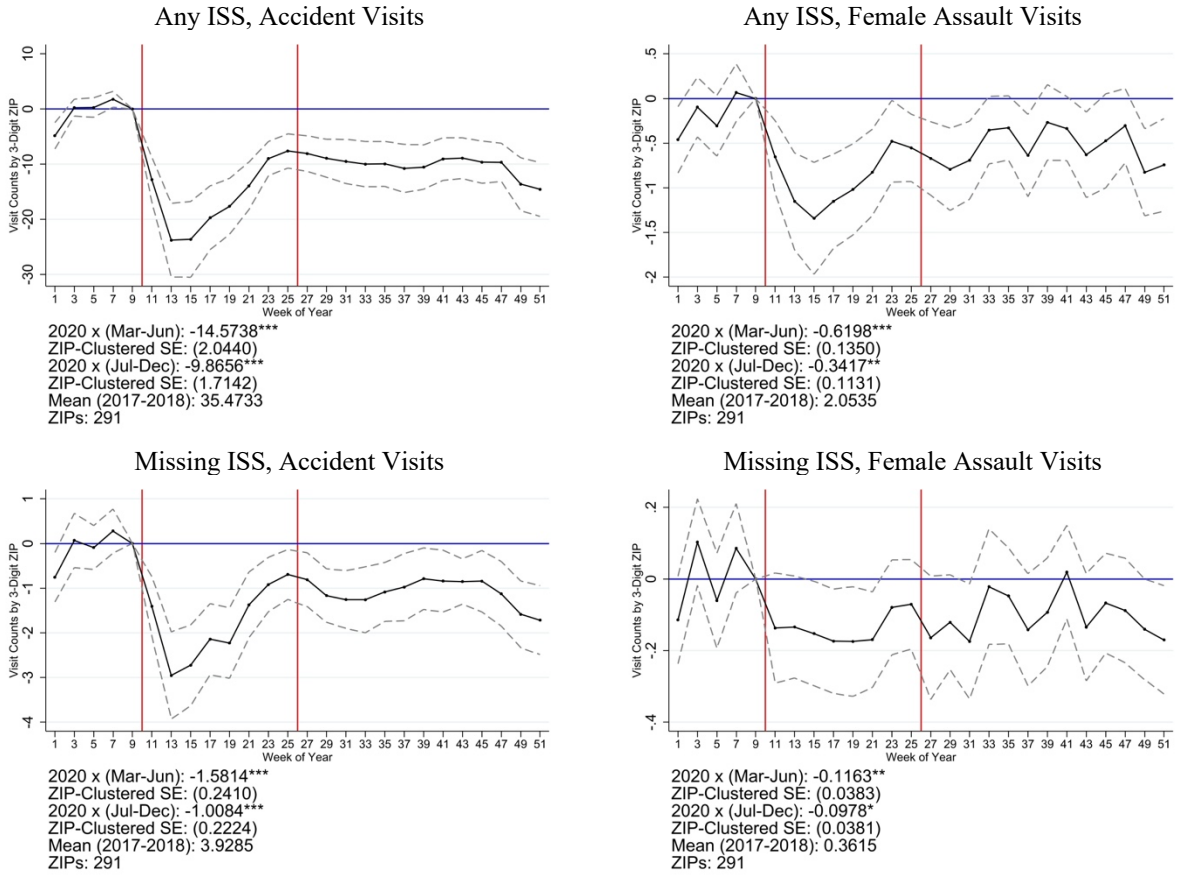
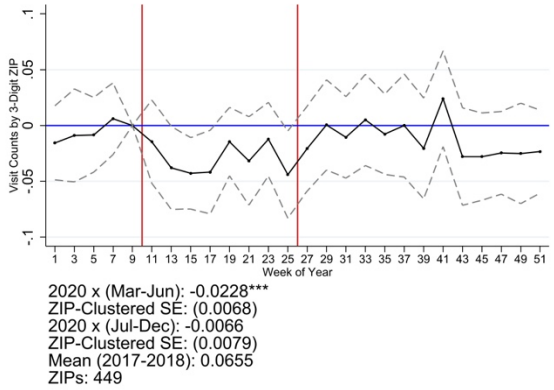


Fig. 15 Accidental Injury, Female Assault Visits by ISS Missingness All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation

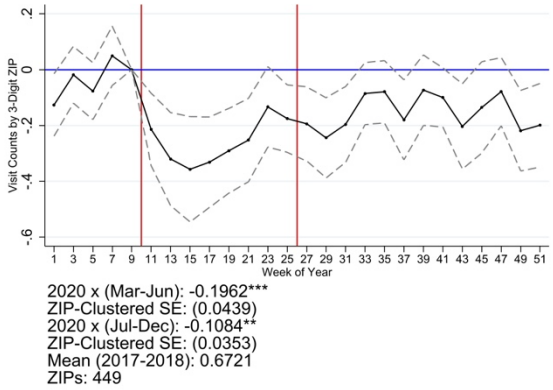
3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote p < .001, p < .01, p < .05, and p < 0.1, respectively

This alternative specification removes three-digit zip fixed effects to allow for the possibility of pandemic-induced migration. The top left panel shows results for abuse visits, finding a decline of 34% with a return to prior-year averages in the later part of the pandemic. Female assaults dropped 29% in the early part of the pandemic and 16% in the later part of the pandemic, nearly identical to the main sample decline, suggesting that results are not affected by migration across three-digit zip areas.

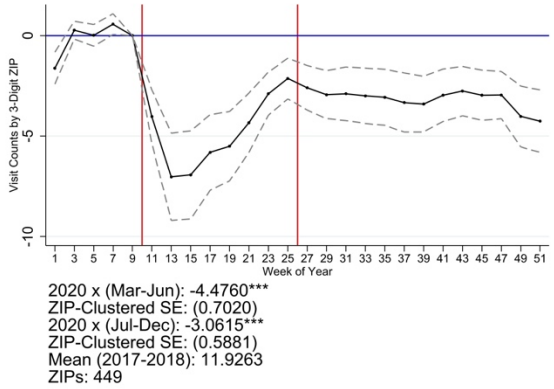
Abuse Visits, Removing Zip Fixed Effects



Female Assault Visits, Removing Zip Fixed Effects



Accidental Injury Visits, Removing Zip Fixed Effects



Firearm Assault Visits, Removing Zip Fixed Effects

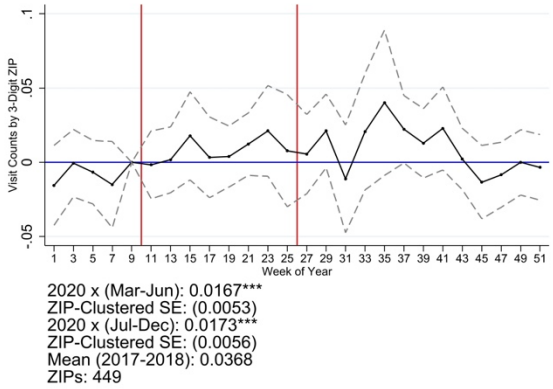


Fig. 16 Main Outcome Visits (abuse, female assault, accident, gun assaults) Without Zip Fixed Effects. All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 excluding the zip fixed effects, with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote p < .001, p < .01, p < .05, and p < 0.1, respectively

Abuse Visits, Compared Only to 2018

Female Assault Visits, Compared Only to 2018

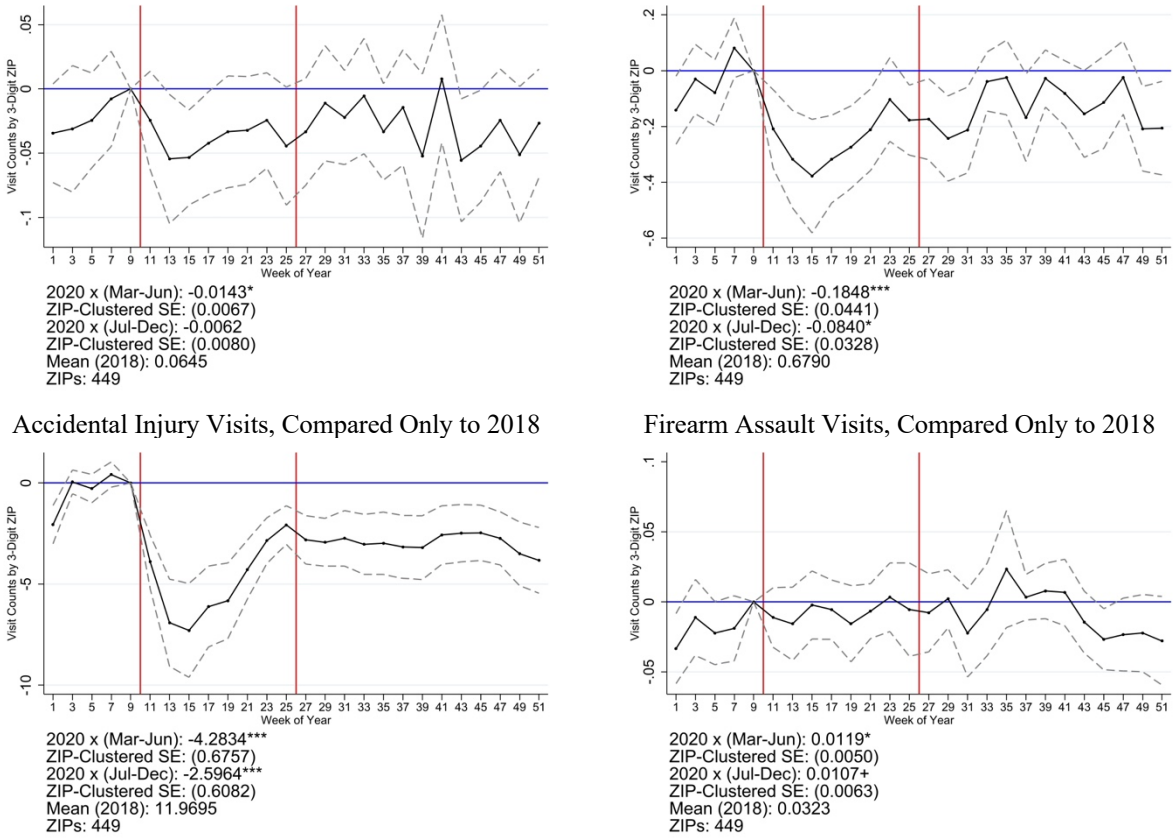


Fig. 17 2017-2018 Placebo Tests All event studies include three-digit zip and week-of-year fixed effects. Event studies compare zip-week visit counts in 2018 to 2017 as a placebo test. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote $p < .001$, $p < .01$, $p < .05$, and $p < 0.1$, respectively

We examine the timing of domestic violence visits to examine if changes in time spent at home during lockdowns altered medical care timing. Ordinarily, weekdays when abusive domestic partners or victims are less likely to be at home may be times when medical care is more easily sought without the knowledge of the abuser. However, the pre-pandemic means reported in Panels A and B of Table 4 in Appendix A indicate that 76% of abuse visits and 69% of female assault visits occur on weekdays at baseline, as well as 70% of accident visits; in other words, these visits descriptively do not appear more likely to occur on a weekday prior to the pandemic. However, the pandemic may have increased time spent at home on weekdays due to work furloughs and increased working from home, and so may alter the timing of seeking medical care. Figure 18 shows that weekend abuse visits declined by .006 visits per zip-week (50%) and weekday abuse visits declined by .01 visits per zip-week (35%). Female assault visits in general declined by .06 visits per zip-week on weekends (28%) and by .14 visits per zip-week on weekdays (30%). Lastly, weekend accident visits declined by about 1.4 visits per zip-week (39%) and that weekday accident visits declined by about 3.1 visits per zip-week (37%). Overall,

we do not find strong evidence that the pandemic shifted the timing of visits within the week in response to changes in victims' or abusive partners' work schedules, but cannot fully rule out a partner control mechanism given the nature of our data.

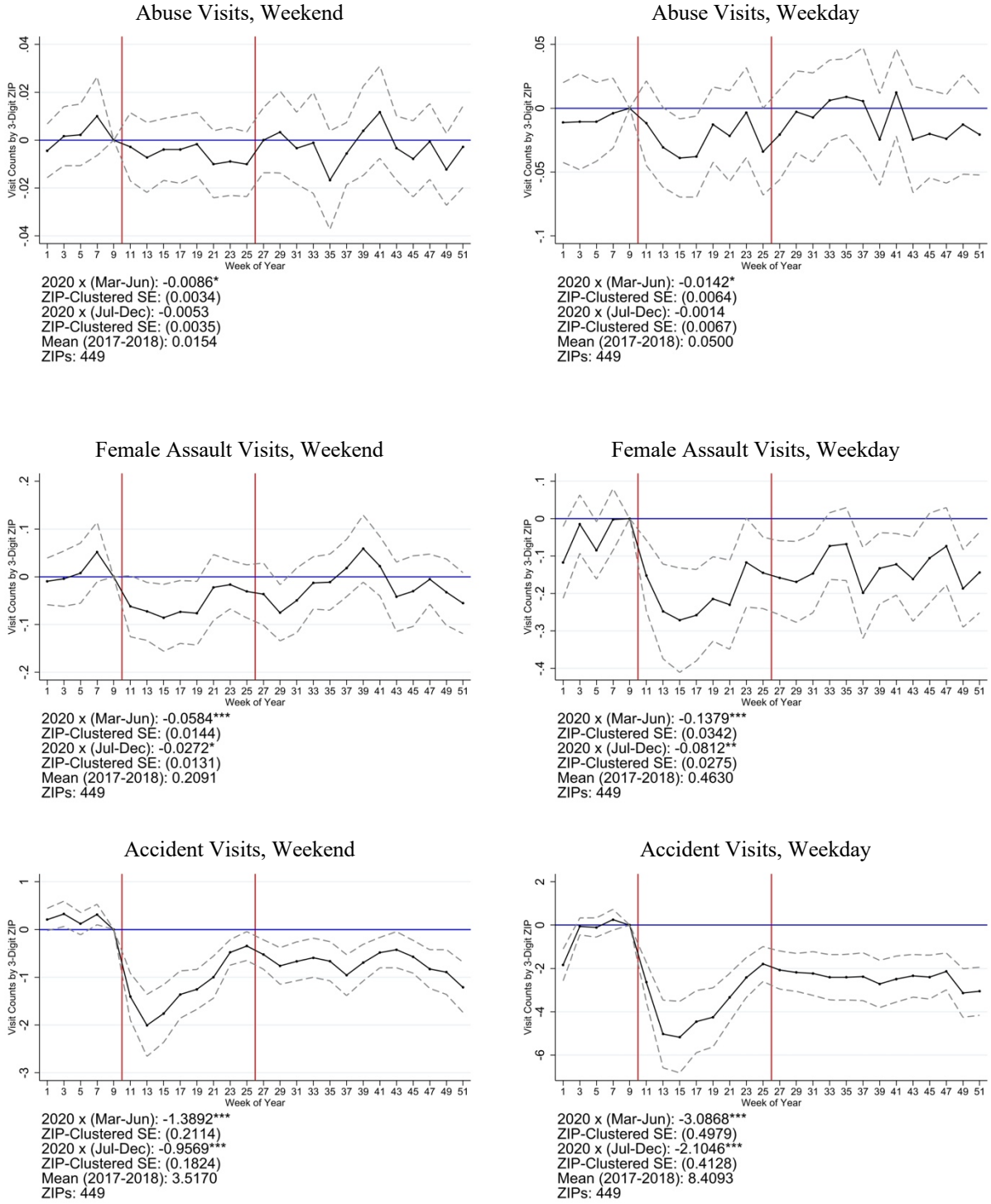


Fig. 18 Visits by Day of Week. All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week

level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote p < .001, p < .01, p < .05, and p < 0.1, respectively

Figure 19 presents descriptive analysis assessing whether decreased emergency department use in the early weeks of the pandemic is associated with continued decreases in care utilization in the later part of the year. To do this, we exploit our benchmark measure of accidental injury visits to construct a proxy for the average relative drop in emergency department use in each three-digit zip area *a* in the early phase the pandemic in 2020:

$$\Delta AccidentVisits_a = \frac{\overline{AccidentVisits_{aw,w\in[11,26]}} - \overline{AccidentVisits_{aw,w\in[1,10]}}}{\overline{AccidentVisits_{aw,w\in[1,10]}}}$$

For this analysis, we restrict the sample to the non-sparse zips used in the robustness check in Figure 5 in an attempt to ensure that we are using a sample of zips that would have likely continued to see regular assault visits in the absence of the pandemic. We assume that each zip's percentage change in accidental injury visits in the early phase relative to the start of the year ($\Delta AccidentVisits_a$) should not be directly affected by changes in domestic violence victimization, but we cannot be certain that it is not spuriously correlated, as both are outcomes of the pandemic. We estimate separate event studies for zips with above-median and below-median percentage changes in general care utilization and find, unsurprisingly, that the "high-utilization zips" with smaller decreases (or, in rare cases, increases) in accidental injury visits also have smaller decreases in female assault visits during the acute phase from March to June. The low-utilization zips with large decreases in accidental injury visits, likewise, have larger decreases in female assault visits.

Looking to the second phase of the pandemic from July to December 2020, we find that this difference is persistent; low-utilization zips where victims were more likely to forgo care in the early phase of the pandemic continue to see fewer female assault visits than prior years in the later part of the year. In high-utilization zips, where more victims sought care in the early phase of the pandemic, female assault visits returned to normal levels in the second phase of the pandemic.

It is possible that victims in low-utilization zips in the early phase simply remained more COVID-cautious throughout the rest of the year, but this analysis at least provides suggestive evidence that early declines in care utilization are associated with continued decreases in emergency department use.

Female Assault Visits, Low-Utilization Zips

Female Assault Visits, High-Utilization Zips

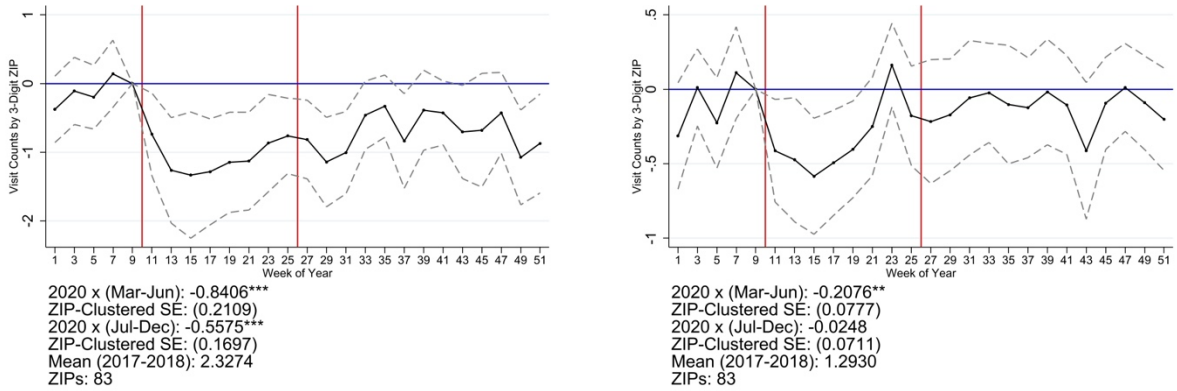


Fig. 19 Heterogeneity in Female Assault Visits by Changes in General Emergency Department Utilization All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. "Low-Utilization Zips" are three-digit zips with below-median percentage changes in accidental injury visits (larger percent decreases) from the pre-pandemic period to the early phase of the pandemic (Mar-Jun) in 2020. Likewise, "High-Utilization Zips" are three-digit zip areas with above-median percentage changes in accidental injury visits (smaller percent decreases, or increases). All outcomes are visit counts at the zip-week level. Sample is limited to ZIPs that have assault visits in every year of the panel. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote $p < .001$, $p < .01$, $p < .05$, and $p < 0.1$, respectively

Figure 20 presents results comparing Medicaid payers to non-Medicaid payers (analogous to the "Low Loss Insurers" analysis in Figure 5). It is important to note that the event study in the right panel suggests that pre-trends for female assault visits to Medicaid payers in the pre-pandemic weeks of 2020 are not parallel to those in 2017-2018. Although the pooled difference-in-differences results reported at the bottom of each panel do suggest that visits declined among both Medicaid and non-Medicaid payers at the onset of the pandemic, we advise the reader to limit interpretation of these results due to the potential violation of the equal counterfactual trends assumption.

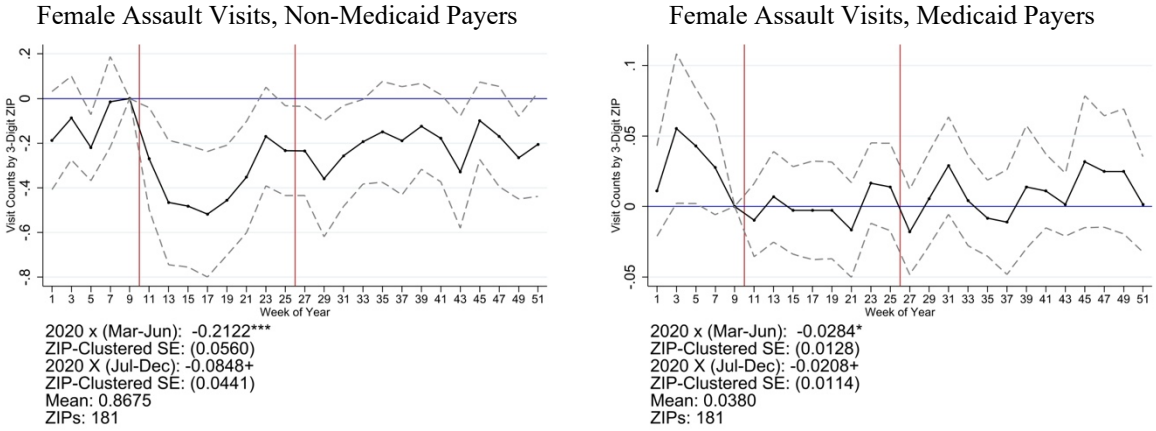


Fig. 20 Female Assault Visits Among Medicaid vs. Non-Medicaid Payers. All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and

2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*,+ denote p < .001, p < .01, p < .05, and p < 0.1, respectively

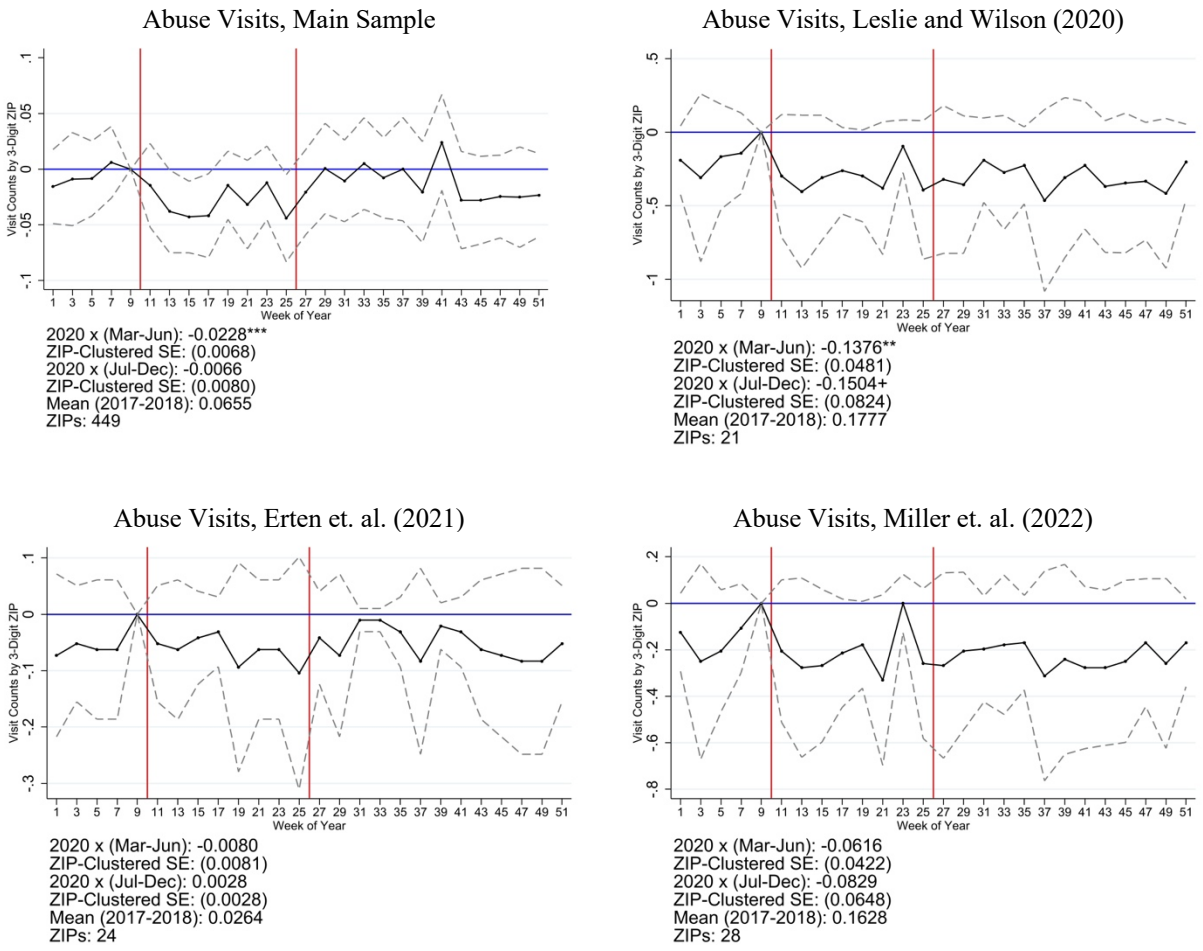


Fig. 21 Abuse Visits, Alternate Samples from Literature All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each

event study are results from the specification in Equation 4. ***,**,*, and + denote p < .001, p < .01, p < .05, and p < 0.1, respectively. Three-digit zips included in each sample associated with each city whose data was used in the original papers are reported in the "Included ZIPs" column of the accompanying table. Three-digit zips associated with each city from the original papers that were excluded due to a lack of consistently reporting billing providers in our data are reported in the "Excluded ZIPs" column of the accompanying table

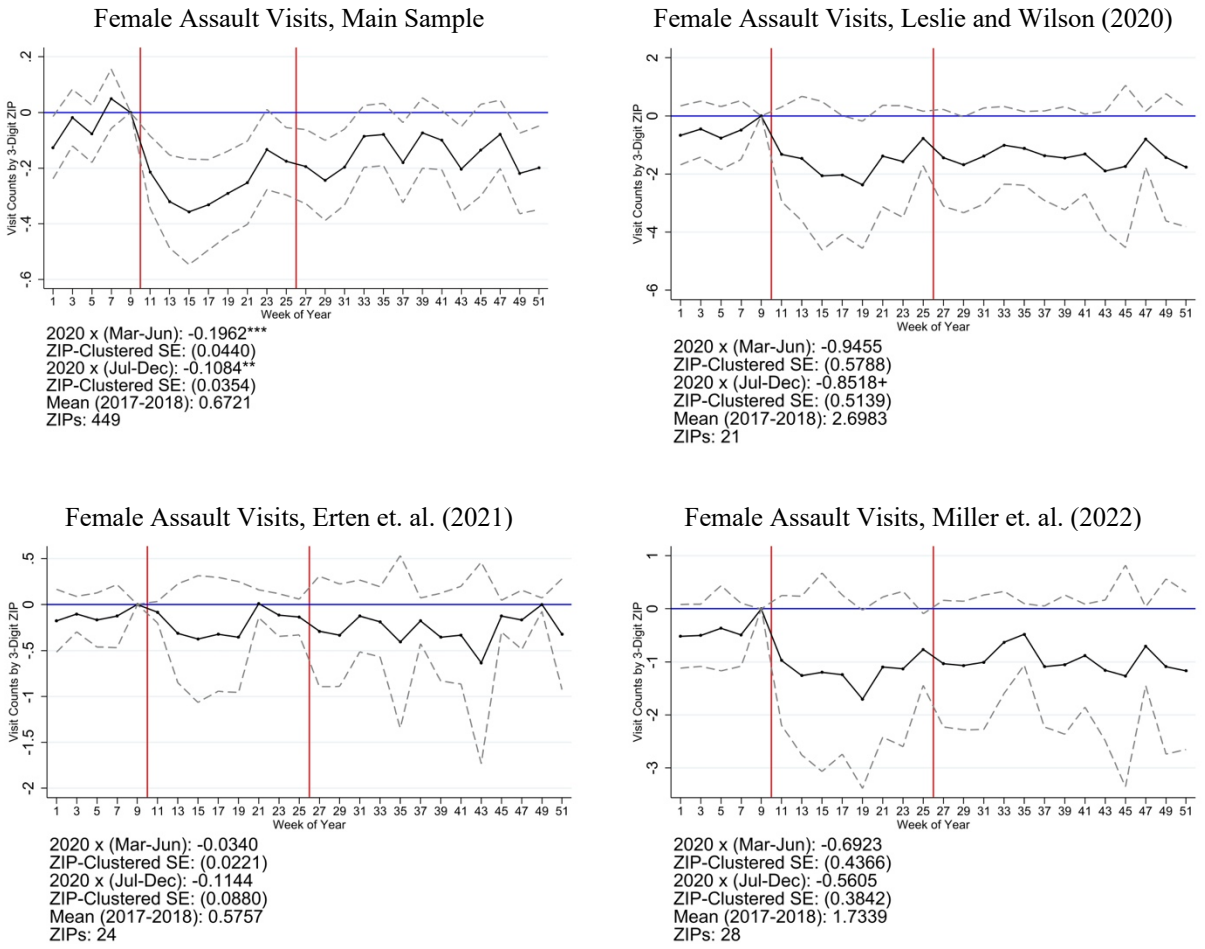


Fig. 22 Female Assault Visits, Alternate Samples from Literature All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*, and + denote p < .001, p < .01, p < .05, and p < 0.1, respectively. Three-digit zips included in each sample associated with each city whose data was used in the original papers are reported in the "Included ZIPs" column of the accompanying table. Three-digit zips associated with each city from the original papers that were excluded due to a lack of consistently reporting billing providers in our data are reported in the "Excluded ZIPs" column of the accompanying table

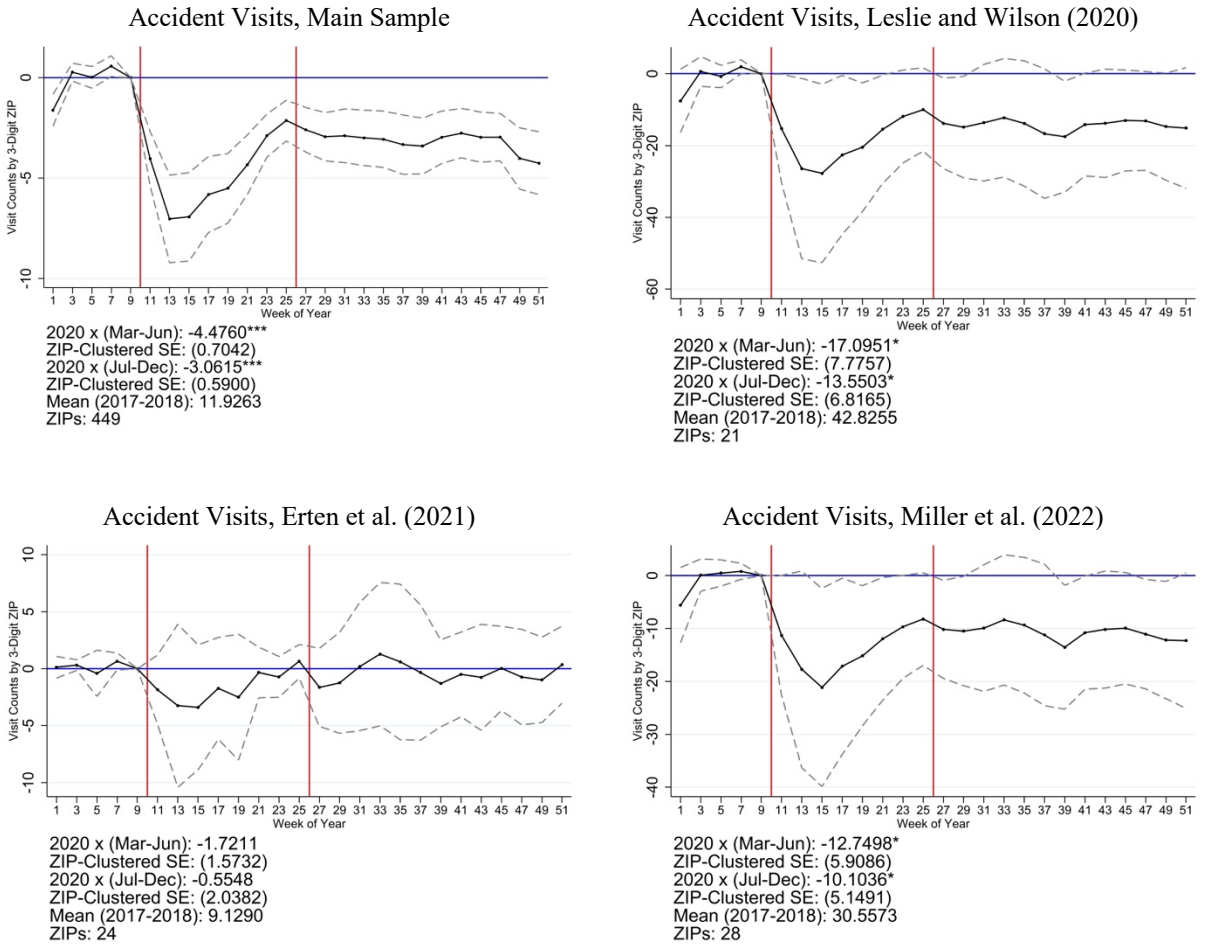


Fig. 23 Accident Visits, Alternate Samples from Literature All event studies include three-digit zip and week-of-year fixed effects and compare zip-week visit counts in 2020 to the same zip-weeks in 2017 and 2018. All outcomes are visit counts at the zip-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*, and + denote $p < .001$, $p < .01$, $p < .05$, and $p < 0.1$, respectively. Three-digit zips included in each sample associated with each city whose data was used in the original papers are reported in the "Included ZIPs" column of the accompanying table. Three-digit zips associated with each city from the original papers that were excluded due to a lack of consistently reporting billing providers in our data are reported in the "Excluded ZIPs" column of the accompanying table

Leslie & Wilson (2020) Sample

City	Included ZIPs	Excluded ZIPs
Baltimore, MD	212	

Chandler, AZ	852	
Cincinnati, OH	452	459
Detroit, MI	482	
Los Angeles, CA	900, 901, 910, 913, 914, 915, 916	902
Mesa, AZ	852	
Montgomery County, MD	208, 209	
New Orleans, LA	700, 701	704
Phoenix, AZ	-	850
Sacramento, CA	942, 958	
Salt Lake City, UT	841	
Seattle, WA	981	
Tucson, AZ	857	
Virginia Beach, VA	234	

Erten et al. (2021) Sample

City	Included ZIPs	Excluded ZIPs
Albany, GA	-	317
Billings, MT	-	591
Cedar Rapids, IA	523	522, 524
Chandler, AZ	852	
Charleston, SC	294	
Cincinnati, OH	452	459
Columbus, OH	430	432
Davenport, IA	528	
Dayton, OH	-	454
Detroit, MI	482	
El Paso, TX	799	885
Gaithersburg, MD	206, 208	
Greensboro, NC	274	
Greenville, SC	296	
Indianapolis, IN	462	
Jonesboro, AR	-	724
Lafayette, LA	705	
Lima, OH	458	
Mesa, AZ	852	
Miami, FL	331	332
New Orleans, LA	700, 701	704

Peoria, IL	616	
Sacramento, CA	942, 958	
Salt Lake City, UT	841	
St. Louis, MO	-	631
Terre Haute, IN	-	478
Topeka, KS	666	
Tucson, AZ	857	
Waco, TX	-	767
West Palm Beach, FL	-	334
Zanesville, OH	-	437

Miller et al. (2022) Sample

City	Included ZIPs	Excluded ZIPs
Chandler, AZ	852	
Chesterfield County, VA	231, 232, 238	
Chicago, IL	606, 607, 608	
Cincinnati, OH	452	459
Durham, NC	277	
Fort Worth, TX	760, 761	762
Kansas City, MO	641	649
Los Angeles, CA	900, 901, 910, 913, 914, 915, 916	902
Memphis, TN	380, 381	375
Mesa, AZ	852	
Minneapolis, MN	554	
New Orleans, LA	700, 701	704
Orlando, FL	-	328
San Francisco, CA	941	
St. Louis, MO	-	631

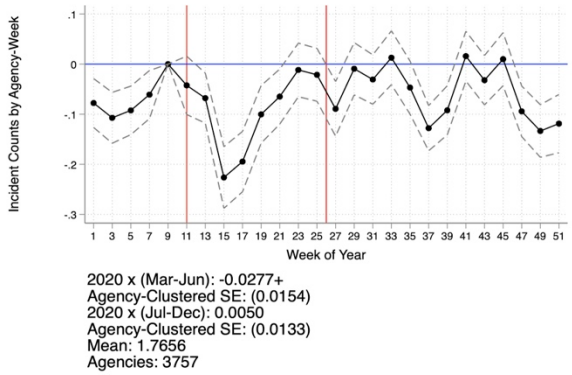
St. Paul, MN	551
Tucson, AZ	857
Virginia Beach, VA	234

Table 5: Included and Excluded Zips, Alternate Samples from Literature

Appendix C: Additional Results and Robustness, NIBRS

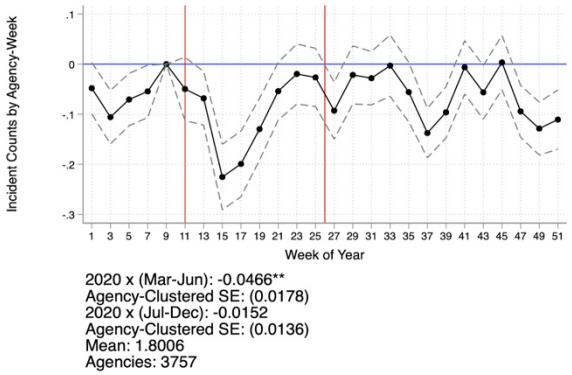
Figure 24 shows changes in reported nonfatal intimate partner violence incidents in NIBRS, finding a small decrease at the onset of the pandemic. Though the estimated changes for all domestic violence incidents (Figure 9, main text) and intimate partner violence incidents are statistically indistinguishable, it would be unsurprising if violence perpetrated by other family members declined slightly compared to violence perpetrated by partners due to decreased exposure to extended family members outside one's own household.

All Nonfatal IPV, 2020 vs. 2017-2019



2020 x (Mar-Jun): -0.0277+
Agency-Clustered SE: (0.0154)
2020 x (Jul-Dec): 0.0050
Agency-Clustered SE: (0.0133)
Mean: 1.7656
Agencies: 3757

All Nonfatal IPV, 2020 vs. 2017-2018



2020 x (Mar-Jun): -0.0466**
Agency-Clustered SE: (0.0178)
2020 x (Jul-Dec): -0.0152
Agency-Clustered SE: (0.0136)
Mean: 1.8006
Agencies: 3757

Fig. 24 Nonfatal Intimate Partner Violence Incidents in NIBRS. All event studies include agency and week-of-year fixed effects and compare agency-week visit counts in 2020 to the same agency-weeks in 2017-2019. All outcomes are incident counts at the agency-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*, and + denote $p < .001$, $p < .01$, $p < .05$, and $p < 0.1$, respectively

Reported Nonfatal DV Incidents with Major Injuries, 2020 vs. 2017-2019

Reported Nonfatal DV Incidents with Minor Injuries, 2020 vs. 2017-2019

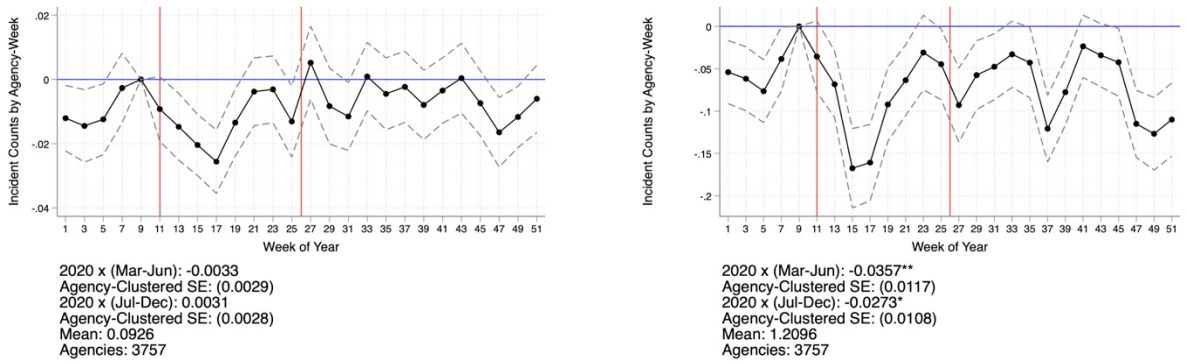


Fig. 25 Nonfatal Domestic Violence Incidents by Injury Severity in NIBRS, 2020 vs. 2017-2019. All event studies include agency and week-of-year fixed effects and compare agency-week visit counts in 2020 to the same agency-weeks in 2017-2019. All outcomes are incident counts at the agency-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*, and + denote $p < .001$, $p < .01$, $p < .05$, and $p < 0.1$, respectively

Figure 25 presents changes in nonfatal domestic violence incidents by injury severity in NIBRS, including 2019 in the comparison period. These results are nearly identical to those reported in Figure 11 of the main text using only 2017-2018 as the comparison period.

Figure 26 presents changes in domestic violence homicides in NIBRS. We find no evidence of a statistically significant change in domestic violence homicides compared to prior years.

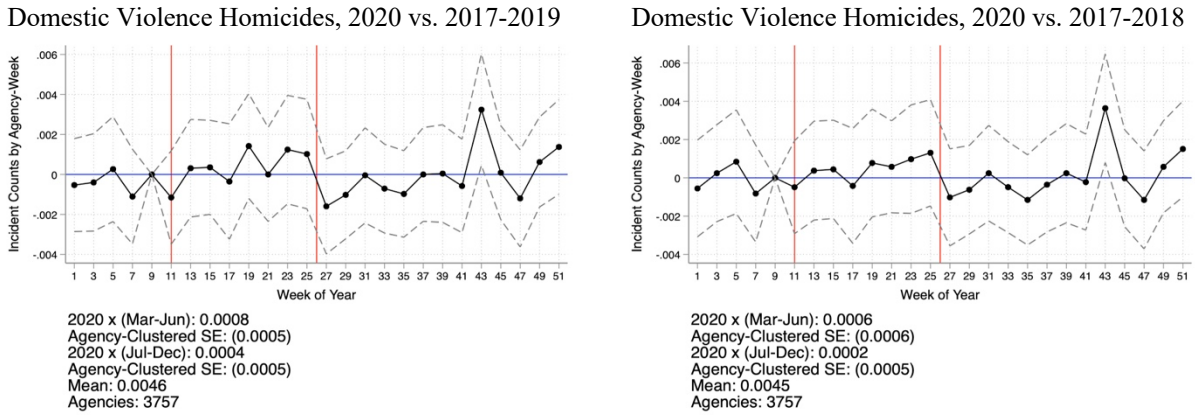


Fig. 26 Domestic Violence Homicides in NIBRS. All event studies include agency and week-of-year fixed effects and compare agency-week visit counts in 2020 to the same agency-weeks in 2017-2019. All outcomes are incident counts at the agency-week level. Event study estimates are results from the specification in Equation 3 with dotted lines denoting 95% confidence intervals. Pooled difference-in-differences estimates reported below each event study are results from the specification in Equation 4. ***,**,*, and + denote $p < .001$, $p < .01$, $p < .05$, and $p < 0.1$, respectively