

# Assaults on Days of Campaign Rallies During the 2016 US Presidential Election

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**Background:** This study investigates whether assault frequency increased on days and in cities where candidates Donald Trump and Hillary Clinton held campaign rallies prior to the 2016 US Presidential election.

**Methods:** We calculated city-level counts of police-reported assaults for 31 rallies for Donald Trump and 38 rallies for Hillary Clinton. Negative binomial models estimated the assault incidence on rally days (day 0) relative to that on eight control days for the same city (days -28, -21, -14, -7, +7, +14, +21, and +28).

**Results:** Cities experienced an increase in assaults (incidence rate ratio [IRR] = 1.12, 95% CI: 1.03–1.22) on the days of Donald Trump's rallies, and no change in assaults on the days of Hillary Clinton's rallies (IRR = 1.00; 95% CI: 0.94–1.06).

**Conclusion:** Assaults increased on days when cities hosted Donald Trump's rallies during the 2016 Presidential election campaign.

**Keywords:** police, politics, wounds and injuries, violence, Donald Trump, Hillary Clinton

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Just prior to the 2016 US Presidential Election, a USA Today/Suffolk University poll found 51% of Americans were concerned that violence would occur at polling stations on election day.<sup>1</sup> This concern followed news media reports of numerous violent incidents at campaign rallies,<sup>2</sup> commentary about the social conditions that had contributed to their occurrence,<sup>3–5</sup>

and debate about whether any violence had happened at all.<sup>6</sup> Despite considerable public interest, no empirical studies have assessed whether the campaign rallies were associated with a detectable increase in violence at a population level.

We compiled publicly available data to examine whether assaults increased on days and in cities where candidates Donald Trump and Hillary Clinton held campaign rallies. Reports of violence most commonly referred to candidate Trump's rallies,<sup>2–6</sup> and a recent study<sup>7</sup> conducted around the 2016 Democratic and Republican Party caucuses in Iowa found attending a rally in support of candidate Trump was indirectly associated with acceptance of violence. Therefore, we stratified our analyses and estimated the incidence of violence specific to each candidate's rallies.

## METHODS

### Data Collection

Rallies were defined as events that (1) occurred after Donald Trump and Hillary Clinton declared their candidacies on June 16, 2015,<sup>8</sup> and April 12, 2015<sup>9</sup>; (2) occurred before the Presidential election on November 8, 2016; (3) were open invitation; (4) featured a speech by candidates Trump or Clinton; and (5) were not on the same day as a party primary election in the same state as the rally. We focused on cities that had populations greater than 200,000 based on United States Census Bureau estimates for 2015, because few smaller cities make assault data publicly available online. Moreover, relative increases in assault may be statistically undetectable in smaller cities or may be due to increased population attracted to the rally. We identified eligible rallies in eligible cities using Google searches for the terms “Donald Trump” or “Hillary Clinton” and “rally” and the names of eligible cities. This strategy identified 92 rallies in 52 cities for candidate Trump and 65 rallies in 41 cities for candidate Clinton.

The unit of analysis was city–days (hereafter “days”), and the dependent variable was counts of assaults reported by city police departments, including aggravated assaults, simple assaults and/or battery, and excluding sexual assaults. We searched the websites of the eligible cities and their police departments for publicly available incident-level assault data. We then calculated counts of assaults for the day of each rally (day 0), and for all days within  $\pm 31$  days of each rally. Data for these 63 consecutive days were available for 31 rallies in

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Data Access: All data for this analysis are available through public online sources.

Code for the statistical analysis is available from the authors by request.

Human Subjects: This study received an exemption from the University of Pennsylvania Institutional Review Board.

The authors report no conflicts of interest.

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22 cities for candidate Trump, and 38 rallies in 21 cities for candidate Clinton (Table). Local weather conditions may differ systematically for rally days compared with non-rally days, and weather conditions are also related to crime incidence.<sup>10</sup> Because weather conditions may therefore confound relationships between rallies and assaults, we accessed National Oceanic and Atmospheric Administration data for the weather station nearest to each study city. We also created a dichotomous variable for federal holidays.<sup>11</sup>

## Statistical Analysis

Negative binomial models compared counts of assaults on the days of campaign rallies (day 0) to counts of assaults

on eight control days from the same city: the corresponding day of the week for 4 weeks before the rallies (days -28, -21, -14, and -7) and 4 weeks after the rallies (days +7, +14, +21, and +28). The main independent variable was a dichotomous indicator for the day of the rallies. Models included categorical variables as fixed effects for cities and month-year, with adjustment for day-specific maximum temperature (continuous), any precipitation (dichotomous), and federal holidays (dichotomous). Robust standard errors accounted for heteroscedasticity.<sup>12</sup>

In addition to the main analysis described above, we also estimated whether assault incidence on the 3 days before and the 3 days after each candidate's rallies differed compared

**TABLE.** Rallies in US Cities Included for Statistical Analysis

City	Data Type	Trump Rallies	Clinton Rallies
Baton Rouge, LA	Incident reports	2/11/2016	9/21/2015
Chicago, IL	Incident reports		2/17/2016
Cincinnati, OH	Incident reports	7/6/2016, 10/13/2016	6/27/2016, 10/31/2016
Colorado Springs, CO	Incident reports	7/29/2016, 9/17/2016, 10/18/2016	
Columbus, OH	Incident reports	11/23/2015, 3/1/2016, 8/1/2016	6/21/2016, 7/31/2016, 10/10/2016
Dallas, TX	Incident reports	9/14/2015, 6/16/2016	11/17/2015
Denver, CO	Incident reports	7/29/2016, 11/5/2016	
Detroit, MI	Incident reports		10/10/2016, 11/4/2016
Durham, NC	Incident reports		3/10/2016
Fayetteville, NC	Incident reports <sup>a</sup>	8/9/2016	
Fort Worth, TX	Incident reports	2/26/2016	
Kansas City, MO	Incident reports	3/12/2016	
Las Vegas, NV	Calls for service <sup>b</sup>	10/30/2016	10/12/2016, 11/2/2016
Louisville, KY	Incident reports	3/1/2016	5/10/2016, 5/15/2016
Mesa, AZ	Incident reports	12/16/2015	
Milwaukee, WI	Incident reports	4/4/2016	9/10/2015, 3/28/2016
Minneapolis, MN	Incident reports	11/6/2016	
New Orleans, LA	Calls for service	3/4/2016	
New York, NY	Incident reports <sup>c</sup>		6/3/2015
Philadelphia, PA	Incident reports		7/29/2016, 9/19/2016, 10/22/2016, 11/5/2016, 11/7/2016
Pittsburgh, PA	Incident reports	4/13/2016	4/6/2016, 6/30/2016, 10/22/2016, 11/4/2016, 11/7/2016
Raleigh, NC	Incident reports	12/4/2015, 7/5/2016, 11/7/2016	10/23/2016, 11/7/2016
Richmond, VA	Incident reports	6/10/2016	
Riverside, CA	Incident reports		5/24/2016
Sacramento, CA	Police dispatches	6/1/2016	6/5/2016
San Antonio, TX	Incident reports		10/15/2015
San Francisco, CA	Incident reports		5/26/2016
Seattle, WA	Incident reports		5/22/2016
Spokane, WA	Incident reports	5/7/2016	
St. Louis, MO	Incident reports	3/11/2016	12/11/2015, 3/12/2016
St. Petersburg, FL	Incident reports		8/8/2016
Virginia Beach, VA	Incident reports	10/22/2016	

<sup>a</sup>At the time of this analysis, Fayetteville, NC, incident report data were not available for dates before 5/17/2016. Therefore, a rally for candidate Trump on 3/9/2016 in Fayetteville was not included.

<sup>b</sup>At the time of this analysis, Las Vegas, NV, calls for service data were not available for dates before 8/17/2016. Therefore, rallies for candidate Trump on 12/14/2015 and 2/22/2016 and candidate Clinton on 10/14/2015 and 8/4/2016 in Las Vegas were not included.

<sup>c</sup>At the time of this analysis, New York, NY, incident report data were not available for dates after 12/31/2015. Therefore, a rally for candidate Clinton on 4/18/2016 in New York was not included.

with the expected incidence (based on eight control days from corresponding days of the week). For example, we compared day -1 to days -29, -22, -15, -8, +6, +13, +20, and +27. We then repeated this procedure across weeks by combining days -3 to +3 (week 0), days -10 to -4 (week -1), days +4 to +10 (week +1) and so on.

In addition to the main analyses, we conducted multiple sensitivity analyses to limit the possibility that results were affected by city population size, data sources, and the selection of control days. Specifically, sensitivity analyses used city population size as an offset variable; excluded cities with populations over 1 million (i.e., Chicago, New York, Dallas, San Antonio, Philadelphia); excluded cities where available data were for police dispatches or calls for service rather than police incident reports; used alternate numbers of control days (e.g.,  $\pm 2$  weeks;  $\pm 8$  weeks); and included categorical variables indicating days were before the primary election, between the primary and general election, or after the general election (Table).

## RESULTS

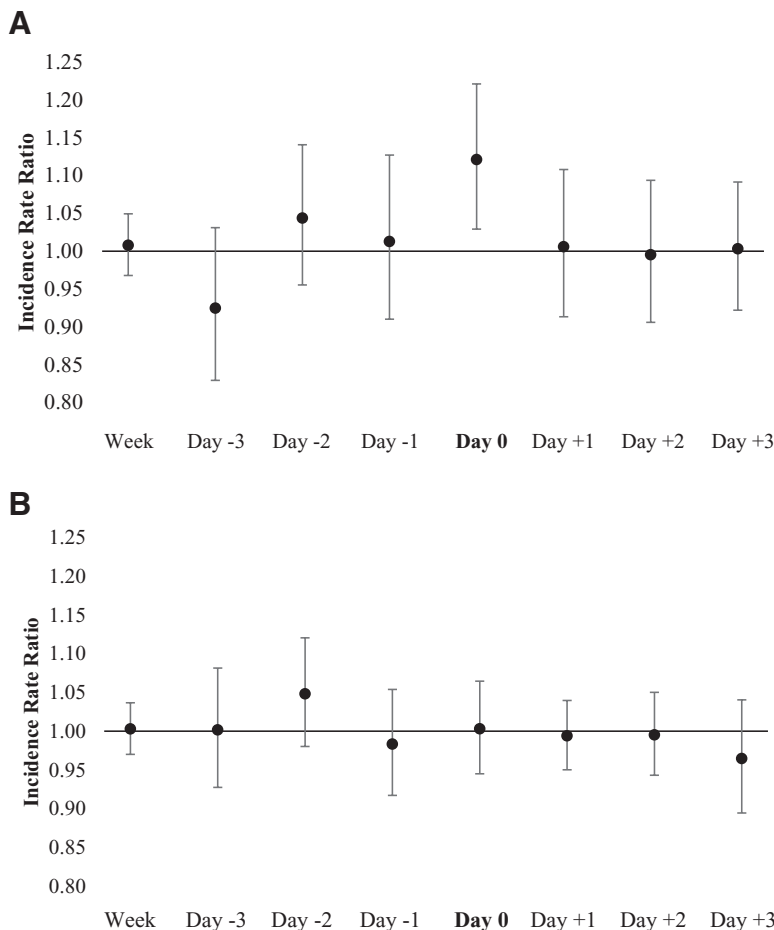
On the days of candidate Trump's rallies, there were 1.1 times more assaults (IRR = 1.12, 95% CI: 1.03–1.22)

compared with control days (eTable 1; <http://links.lww.com/EDE/B332>). This equates to cities experiencing 2.3 more assaults (95% CI: 0.6–4.3) on rally days compared with the mean of 19.4 assaults per day on control days. There was no detectable difference on the days of candidate Clinton's rallies (IRR = 1.00, 95% CI: 0.94–1.06) relative to control days. The Figure shows these results graphically for day 0 for both candidates, as well as for 3 days before the rallies, 3 days after the rallies, and aggregated across the week. Assault incidence only differed from controls on the days of candidate Trump's rallies.

Results of the sensitivity analyses were similar to the main results. In all sensitivity analyses, the days of candidate Trump's rallies were associated with increased assault incidence. The days of candidate Clinton's rallies were not associated with any change to assault incidence. The sole substantive difference between the 16 main analyses and the 96 sensitivity analyses was that, when limited to cities with populations less than 1 million, day -2 for candidate Clinton had an elevated effect estimate for assaults.

## DISCUSSION

This study, using publicly available data from US cities with populations greater than 200,000, estimates that cities



**FIGURE.** Negative binomial models for counts of assaults on days during the week of campaign rallies compared to the corresponding day of the week from four previous and four subsequent weeks, for (A) Donald Trump and (B) Hillary Clinton. Rallies were held on day 0.

experienced 2.3 additional assaults on days when hosting campaign rallies for Presidential candidate Donald Trump in the lead-up to the 2016 election. There was no overall change in assaults on the days when cities hosted rallies for candidate Hillary Clinton.

Two causal mechanisms may explain our results. First, all additional assaults occurred in and around the venues of candidate Trump's rallies. This explanation is consistent with news media reports that violence occurred at these specific locations.<sup>2-6</sup> Second, additional assaults occurred across the extent of the rally cities. Studies informed by theories of social contagion<sup>13,14</sup> find evidence that emotional states can be transmitted through news reports and digital social media.<sup>15-17</sup> Rallies were widely broadcast and discussed through these media, including instances when candidate Trump is reported to have normalized, if not promoted, acts of violence. For example, statements toward rally attendees protesting his candidacy include: "I'll beat the crap out of you," "I'd like to punch him in the face," and "Maybe he should have been roughed up."<sup>18</sup> It is possible that the violent language employed by candidate Trump affected the mood and behavior of other rally attendees, as well as those exposed to the rally through news reports and digital social media, contributing to increased violence across the city.

This study is subject to several limitations. Increases in police-reported assaults on the days of candidate Trump's rallies may be due to increased detection through police activity and vigilance on the days when these events occurred.<sup>19</sup> Rallies may also coincide with random fluctuations in assaults, systematically missing assaults, or other unmeasured factors that affect assaults. For instance, the theoretical mechanism linking day -2 for candidate Clinton to increased assaults in cities with populations less than 1 million is not clear. Given the numerous sensitivity analyses undertaken, this anomalous finding may be a false-positive association. Although we emphasize that parameter estimates for day 0 for both candidates were highly robust to different model specifications, this finding serves as a critical reminder that our results may be affected by limitations common to all time-series analyses.<sup>20</sup> Finally, results for this convenience sample may not generalize to all rallies in all cities.

In order to prevent the threats to public health due to violence, it is important to understand the underlying motivations and etiologies of violent behavior. This analysis provides empirical evidence that assault incidence increased on days and in cities that candidate Trump held rallies during the campaign for the 2016 US presidential election. We know of no other empirical studies that investigated violence at a population level associated with previous US presidential election rallies. Given the ongoing reports of violence at political gatherings in the US (e.g. March 4, 2017, in Berkeley, California, where pro- and anti-Trump protestors clashed),<sup>21</sup> whether and how political rhetoric that normalizes or promotes violence affects violence at the population level appears to be an important area for further research.

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