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Evaluating fluctuations in homicide: crowdsourcing trends and assessing sentiments of change

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ABSTRACT

Guided by both recent anecdotal speculation of and realized statistical spikes in homicide and violence in several major U.S. cities, this study presents results of an effort to empirically examine the nature and correlates of recent changes in homicide rates (i.e. 2012–2018) with particular attention to a spike in 2014–2016 in select U.S. cities. Data were derived from multiple sources using a unique mixed-methods approach. To measure the magnitude of changes in homicide rates in recent years, quantitative homicide data were collected from the Uniform Crime Reports, media articles, individual police department queries, Project Safe Neighborhood grantee sites, and the Major Cities Chiefs Association, Violent Crime Survey. Qualitative assessments were then captured from both academic experts as well as practitioners in the field relative to the possible correlates of these observed trends. Quantitative findings substantiate that homicide rates in select U.S. cities were increasing but variation was also found with rates in other cities having remained stable or even declining over the period studied. This work delineates the practical contours of these correlates and finds concordance of practitioner beliefs with research findings while providing a glimpse toward future actions in response to both real and perceived fluctuations.

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Introduction

Evaluations and empirical assessments unequivocally demonstrate that the best policies and practices are well informed with relevant and timely data. As such, criminal justice practitioners are increasingly pushed to use data and research to make decisions backed by empirical evidence. Nevertheless, there is a significant lag time in the availability of information beyond any singular jurisdiction, which impedes the contextualization of local trends during decision-making and arguably diminishes the effectiveness of law enforcement to combat crime in their communities. Therefore, alternative sources of information are needed when seeking well-timed insights into crime trend changes and their possible correlates.

The Federal Bureau of Investigation's (FBI) Uniform Crime Reports (UCR) constitute a widely used source of crime data in the United States. However, as is commonly known, UCR crime statistics for 1 year are not released until the fall of the following year (and often adjusted between then and the next release), resulting in nearly a year-long staleness before any analysis is possible. For example, the 2016 UCR statistics were released on 25 September 2017 (FBI National Press Office 2017) and this

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timing is consistent with previous years. This leads to an acute gap in the examination of current crime trends across jurisdictions and makes it difficult to contextualize local crime patterns within a broader national or regional landscape (see e.g. Rosenfeld 2007; 2016 for similar criticisms). As such, the ability of criminal justice researchers to advise practitioners is dampened, especially among those embedded in non-academic roles or offering guidance to agencies in real time. These limitations have important implications for decision-making and resource allocation.

Acknowledgment of these data issues is not new (see e.g. Rosenfeld 2016), yet recent spikes in violence in various U.S. cities have once again brought this challenge to the forefront. Recent debate in academic and public discourse, as well as among law enforcement officials and the news media, has drawn substantial attention to the reported increases in homicide rates in large U.S. cities (e.g. Frederick 2017; Friedman, Grawert, and Cullen 2017; Lichtblau and Davey 2016; Rosenfeld 2016; 2018; Rosenfeld et al. 2017; Sansburn and Johnson 2017; Wheeler and Kovandzic 2018), and even nationally (Yim, Riddel, and Wheeler 2020). However, due to the lack of publicly available data across jurisdictions, researchers are often limited to studying a single jurisdiction, requesting access to data from other police departments, or waiting nearly a year to study changes in crime rates across U.S. jurisdictions. As a result, speculations regarding whether an increase or decrease occurred, the magnitude of these fluctuations, and locations of the variations in trends remain largely anecdotal (see Rosenfeld 2016; Wheeler and Kovandzic 2018). Repeatedly, researchers and the public have little tacit knowledge as to what factors might be driving current trends. Do the oft-speculated causes and correlates of American homicide (e.g. guns, drugs, police relations, and community-related factors) inform our understanding of these more recent reported shifts? Or, are other, newer explanations perhaps at play?

The current research endeavor stems from a practical need for actionable, real-time data that are often sought by practitioners, but all too often are unavailable. As such, this study has two main objectives. The first is to document efforts to crowdsource 2016 homicide data reflecting the nature and magnitude of rate changes in a sample of U.S. cities. These efforts arose when the data were otherwise unobtainable, yet speculation that homicide rates were beginning to rise first circulated (i.e. 2014 to 2015 and again from 2015 to 2016). To complement this objective and assess the validity of our crowdsourced data, we also compare our findings to the lagged official 2016 UCR data. The second objective is to explore sentiments from a purposive sample of homicide researchers and practitioners as to the potential correlates or drivers of these trends. As such, the overarching goal of this research is to detail the use of crowdsourcing as a method to understand recent contemporary homicide trends and to question experts as to whether changes were related to more common explanations well established in the criminological literature or more contemporary explanations yet to be adequately explored. Knowledge of the salient factors can move the discussion of homicide trends forward, while also providing guidance for researchers and practitioners.

Literature review

Homicides are egregious and detrimental to public health, and thus have long captured the attention of scholars, policymakers, law enforcement practitioners, and the general public. It is also largely agreed that homicides are the most reliably reported and well-documented crime (e.g. Kanis et al. 2017; Marshall and Block 2004; Messner, Raffalovich, and Shrock 2002; Rosenfeld 2016; Parker, Mancik, and Stansfield 2017). As such, there is a wealth of research on homicide patterns and trends, which is broadly covered in the following sections as the core considerations when speculating whether an increase or decrease occurred, potential reasons for changes, and level of importance.

Homicide patterns

Numerous sociological theories have been used to account for the incidence of homicide. The commonly applied theories are grounded in the idea that someone's behavior is related to their

interactions within an environment or given context, which directly affects the likelihood of them becoming a victim and/or offender of homicide (i.e. social disorganization theory lifestyle/routine activities theory, subculture theories). In general, it has been rare for researchers to model homicide trends through the strict adherence to a specific theoretical model. Instead, most scholars have pursued a more modest line of inquiry, seeking to model the social correlates of homicide occurrence. As a result, we have learned that homicides are predictably concentrated among identifiable people, events, and places.

Demographically, research suggests that homicide offenders and victims are disproportionally under the age of 25, African American, and male (Cooper and Smith 2011; Hawkins 1999; Lattimore, Linster, and MacDonald 1997). Indeed, the risk increases at the intersection of those characteristics wherein young Black males are at significant risk of being involved in a homicide, as both victims and offenders (Bastian and Taylor 1994; Smith and Cooper 2013).

Homicide events are comprised of four main components: precipitating circumstances, setting, motive, and victim-offender relationship (Zahn and McCall 1999). The likelihood of a homicide occurring increases with precipitating drug or alcohol use, within private settings, during late-night and early-morning hours, and on weekends and holidays (Harris 1997; Wilson et al. 2004; Wolfgang 1957). Homicides are most likely to occur as the result of an argument and involve people who know one another, particularly if a firearm is present (Parker and Smith 1979; Williams and Flewelling 1987; Zawitz 1995). People who associate with criminals and engage in illegal activities have the greatest chance of being involved in a homicide (Dobrin 2001; Shaffer and Ruback 2002; Zimring and Zuehl 1986). As for places, homicides are more common in Southern states, urban areas, disadvantaged communities, and where there is concentrated gang activity (Lee, Maume, and Ousey 2003; McGarrell et al. 2006; Parker 1989; Parker and Pruitt 2000). Fluctuations in these micro, meso, and macro-level factors related to homicide rates are most apparent when reviewing homicide trends.

Homicide trends

Over the past half century, homicide rates in the U.S. have fluctuated widely, with several noticeable 'booms' and 'busts' (LaFree 1999). Homicide rates were fairly stable from the end of WWII (i.e., 1945) to the early 1960s, at a rate of approximately 4 to 5 homicides per 100,000 residents (Levitt 2004). In the mid-1960s to 1970s, major increases in homicide rates occurred, with the steepest increase occurring from 1963 to 1974 when homicide rates more than doubled (LaFree 1999; Zimring 2007). Rates peaked in 1980 at 10.2 incidents per 100,000 residents (Blumstein and Rosenfeld 1998; Levitt 2004) before falling between then and 1985. From 1985 through the early 1990s, however, there was another sharp increase in the national homicide rate before one of the largest and longest declines in recent history (LaFree 1999), dubbed the 'Great American Crime Decline' (Zimring 2007). Indeed, there was a 40% to 45% decline in homicide rates from 1991 to the turn of the century (e.g. Barker 2010; Fox and Zawitz 2010; Levitt 2004; Parker 2008; Rosenfeld 2002; 2004; Zimring 2007).[1]

The decline in homicide rates observed in the 1990s lasted until the early 2000s when they began to level off, remaining flat for the first few years of the twenty-first century (Wallman and Blumstein 2006), and then increasing again slightly in 2005 and 2006 (Police Executive Research Forum [PERF] 2006). This was followed by another decline in homicide rates beginning in 2007 (Uggen 2012; Rosenfeld and Oliver 2008) that lasted until 2011 (Butts and Evans 2014; Parker, Mancik, and Stansfield 2017). More recently, evidence from local news accounts and official statistics indicate homicides rose again, particularly in large cities between 2015 and 2016, before subsiding again in 2018 (Federal Bureau of Investigation [FBI] 2012-2019). As retrospective data are released, researchers will increasingly examine the crime trends across jurisdictions looking to contextualize local patterns and identify drivers. Unfortunately, practitioners are less likely to find research efforts to disentangle factors related to the recent fluctuations actionable once the 'crisis' has passed.

Recent homicide trend fluctuations

Despite a substantial body of literature devoted to describing and explaining crime trends more broadly, there is a lack of empirical literature on fluctuations in the homicide trends over the past few years, largely due to data availability. Acknowledging this paucity of evidence, two recent National Institute of Justice (NIJ) white papers (Rosenfeld 2016; Rosenfeld et al. 2017) addressed whether an increase in homicides occurred in large U.S. cities from 2014 to 2016 and explored three possible explanations for recent homicide trends. In the first study, Rosenfeld (2016), drew on data collected on 56 cities by contacting police departments, police organizations, and news outlets. These data indicated that a homicide rise did occur and that it was 'real and nearly unprecedented' (p. 2), as 40 of the cities' rates increased from 2014 to 2015. In line with well-established research on homicide patterns, he offered several possible explanations for the observed increases. Those include expanding urban drug markets due to a heroin epidemic, reductions in incarceration to where prisoner release exceeds or equals prisoner intake, and two possible interpretations related to the 'Ferguson Effect,' a term that captures the rise in public scrutiny following widely publicized instances of officer use of force. The first interpretation suggests police pulled back on proactive policing, often referred to as 'de-policing,' in the wake of Ferguson. The second attributes the rise in violence to a legitimacy crisis between police and the public, particularly in communities of color.

In the second study, as a follow-up to the initial NIJ white paper, Rosenfeld et al. (2017) extend the earlier analysis with more recent (i.e. 2016) and complete data. In this work, they again found homicides increased in most large cities from 2015 to 2016 with some qualifications, as some large cities experienced declines or remained relatively stable. They also found the increase from 2015 to 2016 was smaller than the increase from 2014 to 2015 and that different cities contributed to the increase across the 2 years. In this subsequent report, the authors also revised their conclusions in light of findings suggesting that expanding drug markets due to the heroin and synthetic opioid epidemic were more evident as well as weaker evidence supporting a de-policing interpretation of the 'Ferguson Effect.' We underscore these incongruent findings because they demonstrate that conclusions can be contingent upon the availability of current and reliable data that can condition research outcomes.

In contrast, Wheeler and Kovandzic (2018) take a different approach and criticize the attention given to recent upticks in homicide, emphasizing that homicide rates are still at near historical lows. They argue that there is no need to examine the reasons for the recent spike in homicides because volatility is normal and expected, and that cities that experienced the greatest increases are cities with traditionally high homicide rates. This general sentiment is echoed in other reports addressing recent crime trends, including a report by the Vera Institute of Justice analyzing homicide rates from 1975 to 2016 in 65 major U.S. cities (Frederick 2017) and a report by the Brennan Center for Justice examining homicide rates from 1990 to 2016 in the 30 largest U.S. cities (Friedman, Grawert, and Cullen 2017). Collectively, these early empirical explorations into more recent homicide trends in select U.S. cities indicate that homicide is increasing in some U.S. cities, and a select few cities with substantially larger homicide increases appear to be influencing the overall national trend.

Although literature on the drivers of recent homicide fluctuations is sparse, previous literature on crime trends, such as the increase in homicide and violence in the late 1980s and the decline in the 1990s and into the 2000s has garnered substantial empirical attention. In this larger body of literature, a plethora of factors have been argued to impact temporal trends in homicide. Some of the most debated explanations include changes in such factors as economic conditions, family structure, demographics (e.g. age structure and immigration), incarceration, policing, drug markets, and firearms. The roles of these factors in explaining crime trends have been extensively documented elsewhere (see e.g. Blumstein and Wallman 2006), and therefore we do not go into detail on them here; however, we return to them in the discussion of our findings.

Regardless of debates over whether heightened attention to recent homicide fluctuations is warranted (Rosenfeld 2016; Rosenfeld et al. 2017) or exaggerated or premature (Bialik 2015;

Frederick 2017; Friedman, Grawert, and Cullen 2017; Wheeler and Kovandzic 2018), preliminary evidence suggests that at least some U.S. cities did in fact experience substantial increases in homicide and violence in their communities, with some cities suffering homicide rates similar to those during the peak in the early 1990s (e.g. Chicago, Baltimore). Given the shortage of empirical analyses of recent homicide trends, more generally, and the potential drivers of these trends, more specifically, an exploration of the factors that may be contributing to such increases, as well as inquiries into why certain cities remain safe, is imperative from both a practical and research standpoint.

It is important to note that since our initial inquiry at the start of 2017, and as official national-level data have become available to substantiate some of these claims, more scholars have acknowledged that a real increase occurred and that this departure from earlier trends warrants study (see, for example, the entire 2019 special issue in *Homicide Studies* devoted to the 2015–2016 homicide rise).[2] These observations and the question of whether practitioners and researchers were aware of these shifts and associated drivers, even though official data were unavailable to confirm such notions, led us to the overarching research questions examined here:

RQ1) Was there evidence available, prior to the release of official nationwide data, to indicate that cities were experiencing increases in homicide rates during the period of interest (i.e. 2014 to 2016)? If so, how accurate was it?; and

RQ2) Based on that evidence, what were the real-time prevailing notions among those who study and analyze these trends as to what may be influencing these changes?

Data and methods

To address these research questions, this study used a mixed-methods approach, combining quantitative data on local homicide counts and homicide rate changes with qualitative data from a purposive sample of experts on the perceived drivers of the observed changes. Data for this effort were collected using a crowdsourcing methodology to ascertain what was known about the homicide trends *at the time*. This strategy was adopted to overcome the lack of timely official data as documented earlier and to leverage local efforts that were likely to reflect the trends, but not yet known to national authorities such as the FBI UCR.

Crowdsourcing is not new to research endeavors; others have examined its utility. For instance, Jeff Howe brought widespread attention to the idea and benefits of this strategy in his 2006 article, 'The Rise of Crowdsourcing,' in which he defined crowdsourcing as a 'business practice that means literally to outsource an activity to the crowd' (Howe 2006:2) and is most often employed in problem-solving. Additionally, Lynch (2018) addressed the merits of crowdsourcing in a recent Presidential Address to the American Society of Criminology. As such, crowdsourcing methodologies for data collection have become increasingly popular in the past few years, and its multiple benefits, including providing a way to obtain information on new or understudied topics, have been widely documented (e.g. Goodman 2011; Hansen 2015; Sheehan 2018). It is especially informative where data and information are lacking, as was the case with the current study.

Within the criminal justice literature, crowdsourcing has most notably been used in efforts to collect and analyze instances of police use of deadly force (see e.g. Finch et al. 2019; Nix et al. 2017; Ozkan, Worrall, and Zettler 2018; crowdsourced databases include Deadspin, Fatal Encounters, Killed by Police, Mapping Police Violence, The Counted, among others). It has also been used to gather information on self-reported criminal involvement or victimization (e.g. Fissel and Reyns 2020), particularly with the creation of Amazon's Mechanical Turk (MTurk), an online crowdsourcing platform that allows researchers to pay respondents a minimal fee to complete surveys and other menial tasks, such as receipt transcription. Law enforcement has even used crowdsourcing to gain information to aid in investigations (Cunningham 2018; Zercoe 2017). While the underlying validity and reliability of crowdsourced data remain relatively unknown, it provides an initial starting point in studies such as this where the actual data required are elusive or non-existent. Additionally, although

focused on crowd-sourced data about police killings and limited to just one city, Ozkan, Worrall, and Zettler (2018) confirmed the validity of crowd-sourced data. Using these crowdsourcing techniques, we detail a two-step approach involving both quantitative and qualitative methods to examine the research questions posed above, before turning to the results.

Step I: quantitative data collection on homicide rates in U.S. cities

The original impetus for this project began when the authors questioned homicide increases in their own cities, accompanied by preliminary anecdotal evidence and news reports of homicide increases in several other cities across the United States. The question of whether cities were experiencing an actual increase in homicides or random year-to-year variation was informally posed by some scholars throughout the field who noticed similar changes. Given these observations, and in an effort to understand local homicide patterns and contextualize those findings nationally, we crowdsourced 2016 year-end homicide data from a sample of cities across the U.S at the beginning of 2017. We were specifically interested in the 2016 data, which, at the outset of this study were not yet available through the UCR. To overcome this constraint, we manually compiled data from both official and unofficial sources, such as police departments and colleagues working with them.[3]

We began by contacting colleagues known to keep homicide data or work in multiple cities to obtain 2016 counts. Colleagues with federally funded grants to study local crime conditions and those who worked in agencies provided the most accessible sources of data. However, to collect a wide net of geographically representative data, homicide counts were also obtained from calls to individual homicide units (with varying success), searching news articles, and obtaining the FBI Major Cities Chiefs Association's Violent Crime Survey.[4] This resulted in homicide data for a sample of 59 large U.S. cities (see Table 1 for a list of included cities). To measure the magnitude of change in recent years, UCR data from 2012 to 2015 for the 59 cities in our sample were collected and rates were calculated using population totals obtained from the U.S. Census Bureau. Analyses included year-to-year rate changes and a 5-year trend measure. Later, when the official 2016 data were eventually released by the FBI, we used those homicide counts for each city to examine the accuracy of the crowdsourced data.

Step II: qualitative data collection on sentiments from the field

While the homicide data and rankings compiled in Step I were useful in many ways, including analyses supporting the notion that recent homicide rates looked different than the preceding years in many places, it also gave rise to a list of practical questions pursuant to Step II of the research here:

> *With such limited data and research on recent homicide changes, what is known about the potential drivers of these trends? Do those who study homicide suggest the well-established correlates of homicide account for the current observed patterns? What other factors do the real-time prevailing notions suggest may be relevant?*

To answer these questions and gain an understanding of current trends, we collected qualitative data from experts in the areas of homicide and crime trends. We pursued a standard course of action within developmental science to study processes and trends – nonprobability sampling (Bornstein, Jager, and Putnick 2013). We were also purposive in our sampling strategy wherein a four-person research team intentionally sought out experts – both academics and practitioners – who could offer their insights across our sampled cities (e.g. researchers working in multiple sites). While the experts lived and worked in one or more of the sampled cities, we did not seek out individuals to represent each of the 59 included in Step I. Rather, subjects were selected based on their expertise in the subject matter and awareness that they could each address the research question at hand (Etikan, Musa, and Alkassim 2016); data collection ceased once we reached saturation (Miles and Huberman 1994). Furthermore, our target group only included experts in homicide and violence because

Table 1. Homicide counts and rates in 59 large US cities: 2012 to 2016[a].

	Count					Rate (Per 100,000 Residents)									
City	2012	2013	2014	2015	2016	2012	2013	2012–2013 Change	2014	2013–2014 Change	2015	2014–2015 Change	2016	2015–2016 Change	2012–2016 5-yr Diff[c]
St. Louis	113	120	159	188	188	35.46	37.67	2.21	49.91	12.24	59.29	9.38	59.55	0.26	24.09
Orlando[b]	24	17	15	32	85	9.74	6.71	−3.02	9.39	2.68	11.92	2.53	31.37	19.45	21.64
Birmingham	67	63	52	79	104	31.42	29.72	−1.70	24.52	−5.20	37.21	12.70	48.95	11.74	17.53
Baltimore	218	233	211	344	318	34.85	37.42	2.57	33.84	−3.58	55.37	21.53	51.14	−4.23	16.28
Cleveland	84	55	63	121	132	21.33	14.13	−7.20	16.21	2.08	30.49	14.28	34.01	3.52	12.68
Syracuse	14	21	20	22	30	9.59	14.60	5.01	13.84	−0.76	15.27	1.44	20.81	5.54	11.22
Milwaukee	91	104	90	145	154	15.18	17.31	2.13	14.99	−2.32	24.15	9.16	25.66	1.51	10.48
Louisville	62	48	56	81	117	9.31	7.15	−2.15	8.26	1.11	11.90	3.64	19.01	7.11	9.71
Chicago	500	414	411	478	762	18.46	15.22	−3.24	15.09	−0.13	17.52	2.43	28.01	10.49	9.55
Memphis	133	124	140	135	190	20.23	18.85	−1.38	21.38	2.52	20.52	−0.86	28.97	8.45	8.74
Richmond	42	37	41	43	61	20.21	17.38	−2.83	18.92	1.53	19.47	0.56	27.69	8.22	7.48
Tulsa	42	60	46	54	70	10.53	15.21	4.68	11.51	−3.70	13.45	1.94	17.35	3.90	6.82
Anchorage	15	14	12	26	34	5.01	4.68	−0.34	3.98	−0.69	8.63	4.65	11.38	2.75	6.37
Pittsburgh	41	45	69	57	59	13.14	14.63	1.49	22.43	7.80	18.57	−3.86	19.38	0.81	6.25
Washington, DC	88	103	105	162	135	13.92	15.93	2.02	15.94	0.00	24.10	8.16	20.08	−4.02	6.17
New Orleans	139	156	150	164	173	38.31	41.38	3.07	38.75	−2.63	41.68	2.93	44.40	2.72	6.10
Indianapolis	97	129	136	144	149	11.57	15.17	3.61	15.85	0.67	16.67	0.83	17.46	0.79	5.90
Las Vegas	76	97	122	127	166	5.33	6.54	1.21	8.13	1.59	8.36	0.23	10.63	2.27	5.29
Cincinnati	46	70	60	66	62	15.53	23.61	8.08	20.16	−3.45	22.11	1.96	20.77	−1.35	5.24
Atlanta	83	84	93	94	111	18.99	18.62	−0.37	20.47	1.84	20.23	−0.24	23.93	3.70	4.94
Albuquerque	41	37	43	42	61	6.18	6.63	0.45	7.68	1.05	7.50	−0.18	10.91	3.40	4.73
Kansas City, Mo	105	99	78	109	127	22.63	21.27	−1.36	16.65	−4.61	23.03	6.37	26.72	3.69	4.09
San Antonio	89	72	103	94	151	6.45	5.14	−1.30	7.21	2.07	6.42	−0.79	10.27	3.85	3.82
Rochester	36	42	27	33	43	16.98	19.95	2.96	12.84	−7.11	15.72	2.88	20.50	4.78	3.51
Houston	217	214	242	303	302	9.97	9.81	−0.15	10.90	1.09	13.32	2.42	13.15	−0.17	3.19
Norfolk	34	28	25	28	41	13.86	11.32	−2.54	10.12	−1.20	11.41	1.29	16.64	5.23	2.78
Wichita	23	15	26	27	34	6.02	3.88	−2.13	6.69	2.81	6.93	0.23	8.72	1.79	2.70
Nashville	62	35	41	72	83	9.99	5.51	−4.48	6.33	0.82	10.94	4.61	12.68	1.74	2.69
Jacksonville	93	93	96	97	117	11.06	11.00	−0.07	11.21	0.22	11.18	−0.03	13.48	2.29	2.42
Fort Worth	44	48	55	61	65	5.71	6.08	0.37	6.77	0.69	7.35	0.58	7.80	0.45	2.09
Charlotte	52	59	47	61	67	6.43	7.04	0.61	5.48	−1.56	6.95	1.46	8.10	1.15	1.67
Denver	39	40	31	53	53	6.20	6.16	−0.04	4.66	−1.50	7.77	3.11	7.77	0.00	1.56
Columbus	91	75	83	99	106	11.24	9.11	−2.13	9.93	0.82	11.68	1.75	12.47	0.79	1.23
Sacramento	34	34	28	43	41	7.13	7.11	−0.02	5.80	−1.31	8.78	2.98	8.36	−0.43	1.22
Phoenix	123	118	114	113	146	8.28	7.86	−0.42	7.45	−0.40	7.24	−0.21	9.34	2.10	1.06
Raleigh	17	12	16	17	23	4.04	2.80	−1.24	3.71	0.91	3.86	0.16	5.10	1.23	1.06
Mesa	14	22	13	16	19	3.10	4.82	1.72	2.81	−2.01	3.40	0.58	4.03	0.63	0.93

(*Continued*)

Table 1. (Continued).

	Count			Rate (Per 100,000 Residents)										
City	2012	2013	2014	2015	2016	2012	2013	2012–2013 Change	2014	2013–2014 Change	2015	2014–2015 Change	2016	2015–2016 Change	2012–2016 5-yr Diff[c]
Dallas	154	143	116	136	172	12.40	11.39	−1.01	9.12	−2.28	10.45	1.33	13.23	2.78	0.83
Colorado Springs	18	26	20	25	22	4.16	5.96	1.80	4.49	−1.47	5.53	1.03	4.82	−0.71	0.65
Austin	31	26	32	23	39	3.72	3.03	−0.70	3.54	0.52	2.45	−1.09	4.19	1.74	0.46
Long Beach	32	34	23	36	33	6.81	7.24	0.43	4.88	−2.36	7.56	2.68	6.96	−0.60	0.15
San Diego	47	39	32	37	49	3.51	2.89	−0.62	2.34	−0.55	2.64	0.30	3.51	0.87	0.00
San Jose	45	38	32	30	47	4.61	3.83	−0.78	3.17	−0.66	2.91	−0.26	4.58	1.67	−0.03
Los Angeles	299	251	260	282	294	7.76	6.47	−1.28	6.66	0.18	7.12	0.46	7.40	0.29	−0.35
Newark	96	112	93	106	95	34.42	40.25	5.83	37.33	−2.92	38.25	0.91	33.69	−4.55	−0.73
Minneapolis	39	36	31	47	38	9.99	9.09	−0.91	7.66	−1.42	11.37	3.70	9.25	−2.12	−0.75
Oakland	85	90	80	85	85	21.28	22.28	1.01	19.51	−2.77	20.26	0.75	20.27	0.01	−1.00
New York	419	335	333	352	335	5.05	3.99	−1.06	3.93	−0.06	4.12	0.19	3.92	−0.20	−1.14
Buffalo	48	47	60	41	44	18.29	18.16	−0.13	23.22	5.06	15.89	−7.33	17.05	1.16	−1.24
Boston	57	39	53	38	49	9.04	6.06	−2.98	8.10	2.04	5.71	−2.39	7.34	1.63	−1.69
Oklahoma City	85	62	45	73	78	14.27	10.25	−4.02	7.28	−2.97	11.58	4.29	12.35	0.78	−1.92
Tucson	43	47	35	31	31	8.09	8.94	0.85	6.66	−2.29	5.85	−0.80	5.83	−0.02	−2.26
Aurora	29	23	13	24	22	8.61	6.70	−1.91	3.68	−3.02	6.66	2.98	6.12	−0.54	−2.49
Fresno	51	40	47	39	39	10.08	7.86	−2.22	9.16	1.30	7.49	−1.67	7.50	0.01	−2.58
Miami	69	71	81	75	60	16.65	16.97	0.32	19.19	2.22	17.12	−2.07	13.61	−3.52	−3.05
Omaha	41	42	32	48	29	9.81	9.88	0.07	7.30	−2.58	10.61	3.32	6.53	−4.08	−3.28
Philadelphia	331	247	248	280	273	21.51	15.90	−5.60	15.91	0.00	17.86	1.95	17.42	−0.44	−4.09
Hartford	23	23	19	32	14	18.37	18.41	0.04	15.21	−3.20	25.69	10.48	11.29	−14.40	−7.08
Detroit	386	316	298	295	302	54.59	45.15	−9.44	43.52	−1.63	43.82	0.30	44.60	0.78	−9.99
# cities homicide rate increase								24		25		45		42	41
# cities homicide rate decrease								35		32		14		16	17
# cities no change in homicide rate								0		2		0		1	1

[a]Homicide data were derived from multiple sources; 2012–2015 data were derived from the UCR and 2016 data were derived from our crowdsourcing efforts outlined in the paper. Counts and population totals listed here may not match other records.

[b]2016 Orlando counts include the 49 victims killed in the Pulse Nightclub shooting. This is consistent with the UCR including mass casualties in homicide counts (except for 11 September 2001) and the approach Rosenfeld and his colleagues used in their study of the 2015–2016 homicide increase (Rosenfeld et al. 2017). Excluding these 49 victims, would result in an increase in the homicide rate of 11.49% from 2015–2016, instead of 19.45%.

[c]Sorted by 5-year difference (descending)

homogeneity increases the generalizability of findings from nonprobability-sampled data (Jager, Putnick, and Bornstein 2017).

Similar approaches have been used in prior research. For example, Ouimet and Montmagny-Grenier (2014) conducted the World Homicide Survey, in which they surveyed 366 experts from 93 countries around the world to gather data on perceptions of factors impacting crime, including common risk factors (e.g. firearms) and criminal justice response. In line with the current study, they relied on an expert sample to generate data that were largely lacking elsewhere. Ouimet and Montmagny-Grenier (2014) went on to assess the construct validity of their survey by comparing the experts' responses with verifiable data. They concluded that experts do, in fact, have a good understanding of the factors impacting crime and the prevalence of those factors in their respective countries.

Throughout 2017, the research team used this purposive method to gather qualitative data via several techniques, such as contacting experts by telephone, electronic mail, or in person.[5] Specifically, we systematically collected experts' sentiments of what was going on in their communities and what they deemed as primary explanations by (1) conducting *informal* interviews; (2) collecting information at several criminology and criminal justice conferences, meetings, and webinars throughout the year; (3) sending out inquiries over listservs; and, (4) having informal discussions and debates with colleagues and experts we engaged along the way. Most responses came from our query over listservs (approximately 45%) and interviews conducted at conferences (about 30%). While this was a purposive sample, which contains limitations of its own (see Bornstein, Jager, and Putnick 2013), the goal was to get feedback and insights from experts in the field regarding the factors contributing to homicide and homicide changes in their locales. In fact, many of the active scholars cited herein were approached for comment in this study. We were particularly interested in capturing the sentiments of those in cities that experienced an increase in homicides over the time period examined.[6] For example, data were collected from individuals about Atlanta, Orlando, Memphis, Anchorage, Cleveland, Baltimore, New Orleans, Phoenix, Los Angeles, and Boston, among others. Once no new apparent explanations were forthcoming, we believed we had reached saturation.[7] Overall, qualitative data were collected from approximately 50 participants in locales across the U.S. and their responses were examined using manifest and latent content analyses. That is, we analyzed both the respondent's actual words they used regarding reasons for recent homicide trends in their cities (manifest content analysis), as well as broader underlying themes that developed (latent content analysis).

Findings

RQ1: homicide rates in U.S. cities

Table 1 presents the results of the initial quantitative data collection efforts, including homicide counts, rates, and rate changes for each year from 2012 to 2016 for the 59 large cities in our sample. To reiterate, homicide counts for 2012 to 2015 came from the UCR and the 2016 counts were derived from crowdsourced data. Cities in Table 1 are ranked according to the difference in city-level homicide rates from 2012 to 2016, with those experiencing the largest increases over the 5-year period at the top of the list and cities experiencing the largest decreases in homicides over this timeframe at the bottom of the list.

Over this 5-year period, our results indicate that homicide rates per 100,000 increased in 41 of the 59 cities (69%), with the largest increases occurring in St. Louis (+24.09), Orlando (+21.64)[8], Birmingham (+17.53), Baltimore (+16.28), and Cleveland (+12.68). Results also revealed that homicide rates decreased in 17 of the 59 cities (29%), with Detroit (−9.99), Hartford (−7.08), Philadelphia (−4.09), Omaha (−3.28), and Miami (−3.05) experiencing the largest decreases. Homicide rates remained stable in one of the research cities (San Diego) over this time frame. For the 59 cities in our sample, the average homicide rate was 13.84 in 2012 and surged to 17.25 in 2016, an increase of 3.41 homicides per 100,000 residents, representing a 24.6% increase over this time frame. Figure 1 provides a visual representation of this same information (as an easy comparison to Rosenfeld 2016).

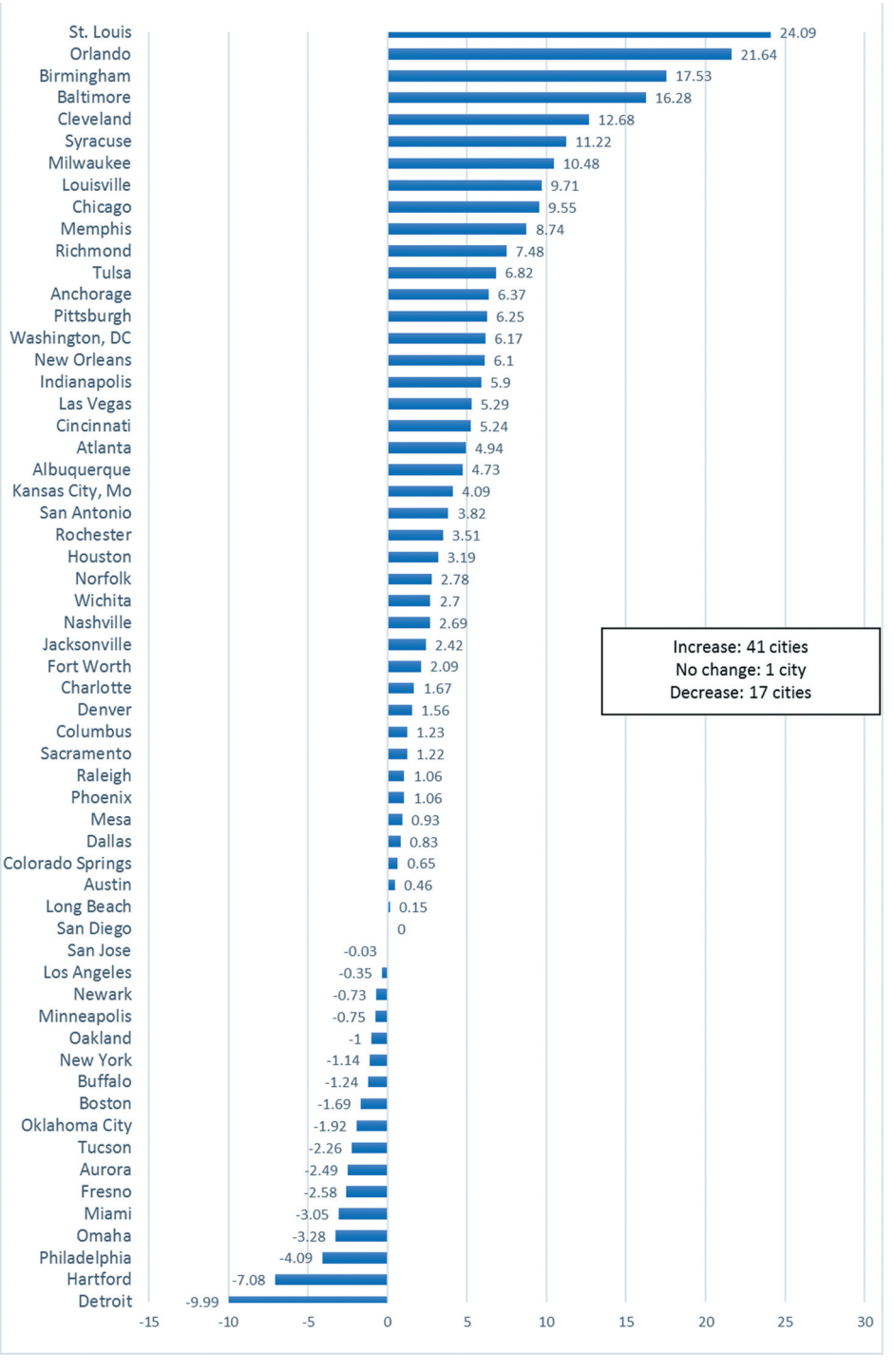

Figure 1. Five-year (2012–2016) homicide rates (per 100 k residents) change in 59 large U.S. cities.

In late 2017, towards the end of our qualitative data collection endeavor, 2016 UCR data were finally released. This allowed an ideal opportunity to compare the timely crowdsourced homicide data with the later officially reported UCR data. Table 2 presents that comparison, listing the counts, rates, and differences in the 2016 data by type. Cities are ranked by how much sourced counts overestimated homicide in each city to how much they were underestimated. Since UCR reporting is voluntary, we had missing UCR data on four of the 59 cities in our initial sample – a prime example of unit missingness often discussed as a limitation of UCR data. Figure 2 provides an itemized visualization of the differences listed in Table 2.

Of the remaining 55 cities for which we had comparison data, we sourced 80% within a 3-count margin of error (resulting in a .999 correlation between datasets; $p < .001$). Our collected numbers exactly matched the UCR reported numbers 38.18% of the time. Homicide counts were overestimated 34.55% of the time (range from +1 to +15) and underestimated 27.17% of the time (range from −1 to −6). The largest discrepancy occurred for the city of Columbus, in which the sourced count was 106 versus the official report of 91 homicides. We highlight that while there are some minor differences, the overarching correspondence of our crowdsourced data with official UCR data corroborated the finding of increasing homicide rates in certain large U.S. cities.

According to UCR data, U.S. homicides in 2015–2016 increased by over 12 persons per day compared to 2013–2014. While there was a small uptick in overall violence, the percentage change in homicide was substantial, with a 12% increase in 2015 and another 8% increase in 2016 (FBI 2012-2019). In the biggest cities (the more than 85 cities with populations greater than 250,000) the increase from 2014 to 2016 resulted in two additional people murdered per every 100,000 residents.

Figure 3 further illustrates there were minimal discrepancies between the 2016 crowdsourced compared to official released data. Specifically, of the 55 cities that had comparable data available, we had the exact same count of homicides for 21 of those cities (38.18%). Counts were only one number off in 10 cities (18.18%); two numbers off in seven cities (12.73%); three numbers off in five cities (9.09%); four numbers off in one city (1.82%); five numbers off in four cities (7.27%); and, over five numbers off (ranging from six to 15) in seven cities (12.72%). Regardless of the discrepancy in counts, none of the cities that were identified as having an increase in homicides over the 5 years were erroneous.[9] This not only gives heightened confidence in the data collected and analyzed in Step I, but also in the associated qualitative findings in Step II. That is, inferences made from our original data collection (i.e. the numbers presented in Table 1) are reliable and would likely have been the same if we used our crowdsourced data or waited for official crime statistics to be released. Again, this underscores the need for timely and relevant data, particularly for those in roles advising practitioners.

As we continued working on this project, additional years of UCR data became available (i.e. 2017 and 2018), adding context to our findings and suggesting many cities experienced a decline in homicide rates since 2016. Table 3 shows the 2016–2018 homicide counts, rates, and rate changes in our sample (sorted by their 3-year rate change, ascending). More than half of the cities experienced a rate decrease in 2017 and two-thirds decreased in 2018. Again, not all cities submitted data in these years, but we validated our sample rate trends with the official data on cities with similar population totals ($r = .952$; see Figure 4).

RQ2: qualitative sentiments from the field

Qualitative findings reveal that potential sources influencing these trends were situated among three overarching themes: situational aspects, system and policy, and environmental factors (see Table 4). Notably, while the qualitative responses provide us with much insight, responses were primarily obtained in reference to cities that experienced recent upticks or have historically had higher rates of homicide. Even in the 18 cities that did not experience an overall 5-year homicide rate increase, 16 of them experienced an increase in the primary years of interest – either 2014–2015 (12 cities), 2015–2016 (9 cities) or both (5 cities). Only two cities – Tucson, Arizona and Miami, Florida –

Table 2. 2016 collected and UCR homicide counts and rates (per 100,000) in 59 large U.S. cities[a].

	Collected Data			UCR/Released			Difference[b]	
City	Count	Population	Rate	Count	Population	Rate	Count	Rate
Columbus	106	850,106	12.47	91	862,515	10.55	15	1.92
Milwaukee	154	600,155	25.66	141	600,193	23.49	13	2.17
Jacksonville	117	868,031	13.48	106	880,557	12.04	11	1.44
Las Vegas	166	1,562,134	10.63	158	1,592,178	9.92	8	0.71
Oklahoma City	78	631,346	12.35	70	641,681	10.91	8	1.44
Anchorage	34	298,695	11.38	28	299,097	9.36	6	2.02
Cincinnati	62	298,550	20.77	57	298,880	19.07	5	1.7
Miami	60	441,003	13.61	55	449,469	12.24	5	1.37
Minneapolis	38	410,939	9.25	35	416,751	8.4	3	0.85
Wichita	34	389,965	8.72	31	391,399	7.92	3	0.8
San Antonio	151	1,469,845	10.27	149	1,498,642	9.94	2	0.33
Nashville	83	654,610	12.68	81	668,685	12.11	2	0.57
Pittsburgh	59	304,391	19.38	57	302,443	18.85	2	0.53
Houston	302	2,296,224	13.15	301	2,334,348	12.89	1	0.26
Los Angeles	294	3,971,883	7.4	293	4,007,905	7.31	1	0.09
Dallas	172	1,300,092	13.23	171	1,320,939	12.95	1	0.28
Indianapolis	149	853,173	17.46	148	866,351	17.08	1	0.38
Orlando	85	270,934	31.37	84	227,719	36.89	1	−5.52
Tucson	31	531,641	5.83	30	533,663	5.62	1	0.21
New York	335	8,550,405	3.92	335	8,566,917	3.91	0	0.01
Baltimore	318	621,849	51.14	318	618,385	51.42	0	−0.28
Philadelphia	273	1,567,442	17.42	273	1,570,826	17.38	0	0.04
St. Louis	188	315,685	59.55	188	314,507	59.78	0	−0.23
Phoenix	146	1,563,025	9.34	146	1,586,611	9.2	0	0.14
Atlanta	111	468,878	23.93	111	472,579	23.49	0	0.44
Oakland	85	419,267	20.27	85	424,998	20	0	0.27
Charlotte	67	827,097	8.1	67	896,379	7.47	0	0.63
Albuquerque	61	559,212	10.91	61	561,560	10.86	0	0.05
Boston	49	667,137	7.34	49	673,880	7.27	0	0.07
San Jose	47	1,026,908	4.58	47	1,041,844	4.51	0	0.07
Buffalo	44	258,071	17.05	44	257,446	17.09	0	−0.04
Rochester	43	209,802	20.5	43	209,643	20.51	0	−0.01
Fresno	39	520,052	7.5	39	524,796	7.43	0	0.07
Austin	39	931,830	4.19	39	956,911	4.08	0	0.11
Long Beach	33	474,170	6.96	33	476,476	6.93	0	0.03
Syracuse	30	144,142	20.81	30	143,925	20.84	0	−0.03
Omaha	29	443,885	6.53	29	446,163	6.5	0	0.03
Aurora	22	359,407	6.12	22	366,477	6	0	0.12
Mesa	19	471,825	4.03	19	478,277	3.97	0	0.06
Hartford	14	124,006	11.29	14	123,736	11.31	0	−0.02
Detroit	302	677,116	44.6	303	669,673	45.25	−1	−0.65
New Orleans	173	389,617	44.4	174	397,208	43.81	−1	0.59
Fort Worth	65	833,319	7.8	66	851,849	7.75	−1	0.05
San Diego	49	1,394,928	3.51	50	1,413,414	3.54	−1	−0.03
Kansas City, MO	127	475,378	26.72	129	478,364	26.97	−2	−0.25
Louisville	117	615,366	19.01	119	683,825	17.4	−2	1.61
Tulsa	70	403,505	17.35	72	405,748	17.75	−2	−0.4
Colorado Springs	22	456,568	4.82	24	464,113	5.17	−2	−0.35
Chicago	762	2,720,546	28.01	765	2,725,123	28.07	−3	−0.06
Washington, DC	135	672,228	20.08	138	681,170	20.26	−3	−0.18
Cleveland	132	388,072	34.01	135	386,227	34.95	−3	−0.94
Denver	53	682,545	7.77	57	699,259	8.15	−4	−0.38
Newark	95	281,944	33.69	100	281,450	35.53	−5	−1.84
Norfolk	41	246,393	16.64	46	245,734	18.72	−5	−2.08
Memphis	190	655,770	28.97	196	656,434	29.86	−6	−0.89
Birmingham	104	212,461	48.95					
Richmond	61	220,289	27.69					
Sacramento	41	490,712	8.36					
Raleigh	23	451,066	5.1					

[a]Homicide data were derived from multiple sources. The data in the 'Collected Data' columns were derived from our crowdsourcing efforts outlined in the paper and the data in the 'UCR/Released' columns came from the September 2017 FBI release of UCR homicide counts and rates. Totals listed here may not match other records.

[b]Sorted by count difference between the collected number of homicides and UCR released counts of collected homicides (descending)

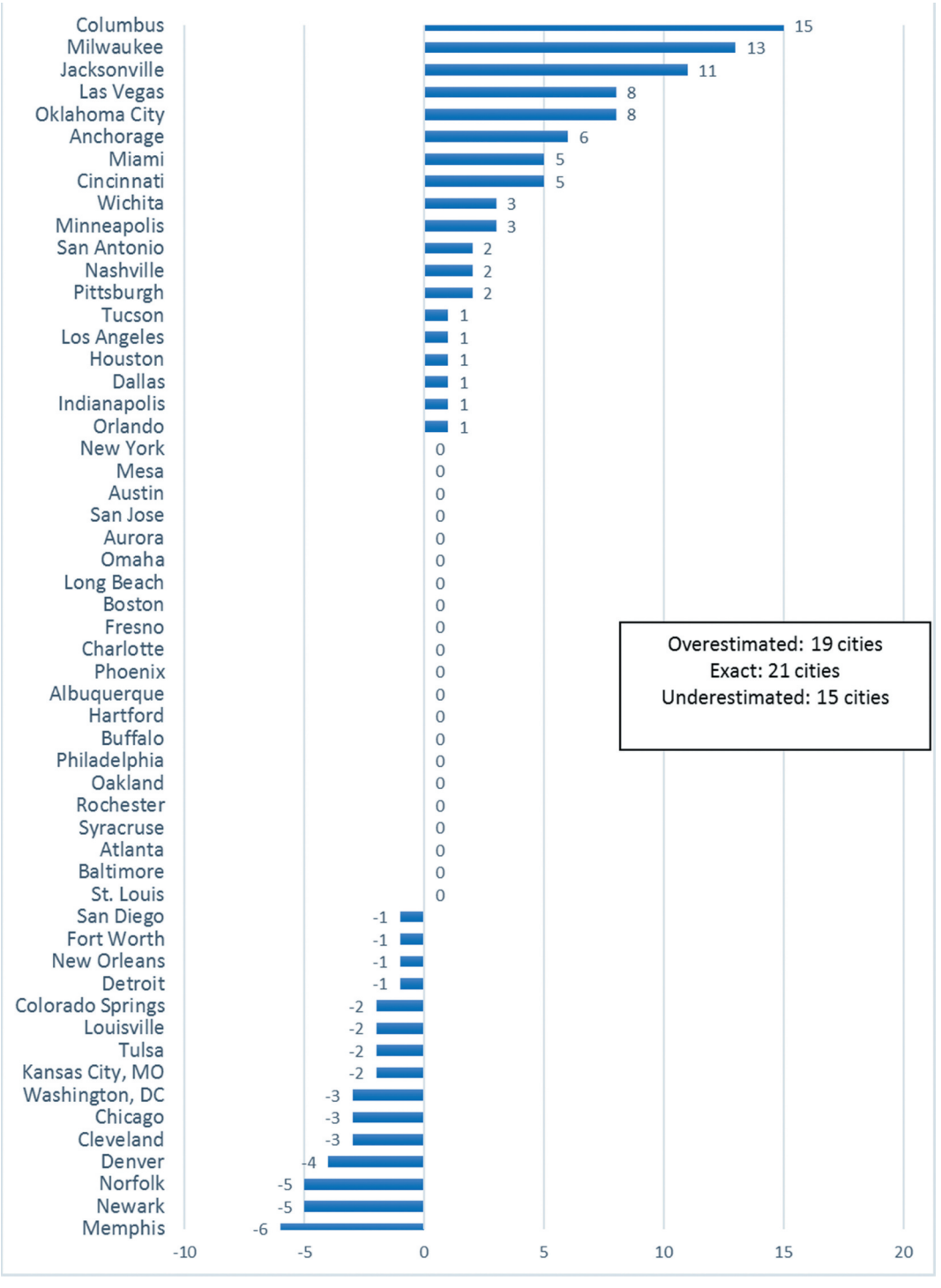

Figure 2. Difference between 2016 collected homicide counts and 2016 UCR reported homicide counts in 59 large U.S. cities.

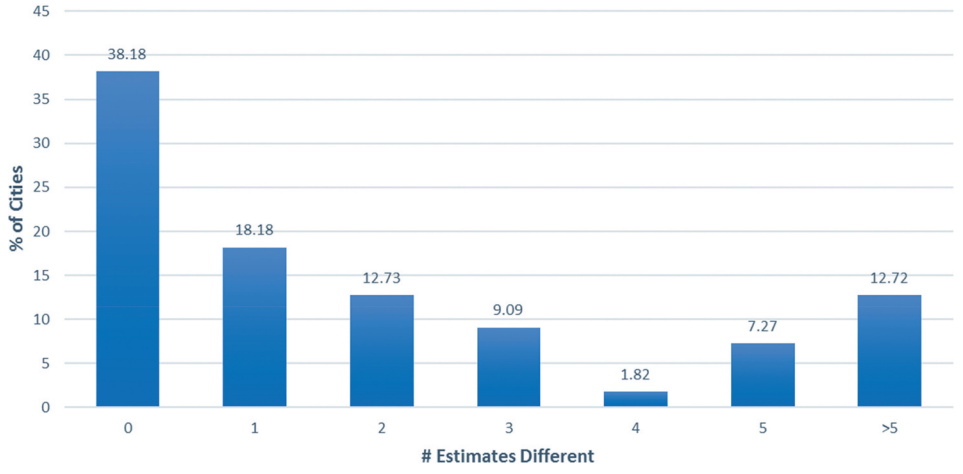

Figure 3. Discrepancies between 2016 collected and UCR data.

experienced homicide rate decreases in 2014–2015 and 2015–2016. As such, the expert sentiments we collected were all in reference to the recent homicide increases across cities.

Situational Aspects. Many respondents emphasized the roles of drugs, gangs, and guns, particularly the interplay between these factors in relation to illegal drug markets. These observations focused primarily on how the systemic aspects of drug *markets* contributed to homicide in their communities. Sampled experts noted violence stemming from dispute resolution, turf wars, drug sales and territorial boundaries, and increased access to guns. Respondents also mentioned the impaired judgment and more pharmacological effects that drugs can have on involvement in homicide, but this was rarer than the emphasis on the systemic aspects of drug markets and their connection to homicide and violence. Unsurprisingly, youths were often implicated in the responses associated with the increase in drug-, gang-, and gun-related homicides. Respondents suggested that other factors put youths at risk of involvement in the drug trade, including dropping out of school, lack of conflict resolution skills, and self-esteem issues. While experts considered homicide rates largely related to increases in drug and gang violence across cities, rises in intimate partner homicide were also expressed as a major concern in certain cities (e.g. Memphis).

System and Policy. Another theme that emerged as an explanation of the current homicide trends was related to system and policy issues. Experts explained that deteriorating relationships between police and the community and the lack of, removal, or shortage of resources that once proved effective at mitigating violence among communities were partially responsible for increases in homicides in their cities. When discussing policing, both interpretations of the 'Ferguson Effect' were provided, including changes in policing styles related to a decline in proactive policing, as well as poor police-community relations. Respondents suggested this led to a breakdown in communication between police and residents, driving a 'handle it ourselves' mentality on the part of the public related to retaliatory crime. As such, concerns were shared regarding dampened witness cooperation, incident reporting, and intelligence gathering.

In addition to changing policing styles and deteriorating police-community relations, respondents also frequently emphasized the role of resources, both for police to do their job and for maintenance of previously successful crime prevention programs. Limitations of policing resources, such as hiring freezes, were said to reduce their ability to maintain focus and staffing. Relatedly, the lack of resources was linked to the capacity of police to make arrests. The sentiment was that low clearance rates are a problem because offenders 'see and feel' no response, decreasing deterrence. Certainly, the volume of crime and clearance rates often have an inverse relationship (e.g. Brown

Table 3. Homicide counts and rates in 59 large US cities: 2016 to 2018[1.]

	Count			Rate (Per 100,000 Residents)					
City	2016	2017	2018	2016	2017	2016–2017 Change	2018	2017–2018 Change	2016–2018 3-yr Diff[b]
Milwaukee	141	118	31	23.49	19.83	−3.66	7.24	−12.59	−16.25
Cleveland	135	107	86	34.95	27.77	−7.18	22.36	−5.41	−12.59
Newark	100	77	75	35.53	27.14	−8.39	26.57	−0.57	−8.96
Chicago	765	653	563	28.07	24.13	−3.94	20.70	−3.43	−7.37
New Orleans	174	157	147	43.81	39.50	−4.31	37.09	−2.41	−6.72
Rochester	43	27	29	20.51	12.94	−7.57	13.96	1.02	−6.55
Detroit	303	267	261	45.25	39.80	−5.45	38.88	−0.92	−6.37
Atlanta	111	79	88	23.49	16.41	−7.08	17.74	1.33	−5.75
Syracuse	30	20	23	20.84	13.98	−6.86	16.07	2.09	−4.77
Norfolk	46	36	36	18.72	14.68	−4.04	14.73	0.05	−3.99
Oakland	85	69	70	20.00	16.24	−3.76	16.27	0.03	−3.73
San Antonio	149	124	107	9.94	8.15	−1.79	6.95	−1.20	−2.99
Oklahoma City	70	81	52	10.91	12.49	1.58	7.96	−4.53	−2.95
Tulsa	72	70	60	17.75	17.29	−0.46	14.88	−2.41	−2.87
Las Vegas	158	205	120	9.92	12.60	2.68	7.30	−5.30	−2.62
Miami	55	52	46	12.24	11.23	−1.01	9.72	−1.51	−2.52
San Jose	47	32	28	4.51	3.08	−1.43	2.67	−0.41	−1.84
Omaha	29	31	22	6.50	6.90	0.40	4.69	−2.21	−1.81
Orlando[a]	35	23	39	15.37	8.10	−7.27	13.60	5.50	−1.77
Dallas	171	167	155	12.95	12.48	−0.47	11.38	−1.10	−1.57
Aurora	22	30	17	6.00	8.15	2.15	4.56	−3.59	−1.44
Fresno	39	56	32	7.43	10.64	3.21	6.02	−4.62	−1.41
Memphis	196	181	186	29.86	27.73	−2.13	28.52	0.79	−1.34
Fort Worth	66	70	58	7.75	8.02	0.27	6.49	−1.53	−1.26
Phoenix	146	157	132	9.20	9.55	0.35	7.99	−1.56	−1.21
Minneapolis	35	42	31	8.40	10.02	1.62	7.24	−2.78	−1.16
Charlotte	67	86	59	7.47	9.40	1.93	6.34	−3.06	−1.13
Houston	301	269	276	12.89	11.50	−1.39	11.77	0.27	−1.12
San Diego	50	35	35	3.54	2.46	−1.08	2.44	−0.02	−1.10
Los Angeles	293	281	258	7.31	7.01	−0.30	6.40	−0.61	−0.91
Austin	39	25	32	4.08	2.57	−1.51	3.29	0.72	−0.79
Mesa	19	23	17	3.97	4.67	0.70	3.37	−1.30	−0.60
Long Beach	33	22	30	6.93	4.67	−2.26	6.38	1.71	−0.55
Anchorage	28	27	26	9.36	9.12	−0.24	8.90	−0.22	−0.46
New York	335	292	295	3.91	3.39	−0.52	3.46	0.07	−0.45
Baltimore	318	342	309	51.42	55.77	4.35	51.04	−4.73	−0.38
Cincinnati	57	70	57	19.07	23.40	4.33	18.88	−4.52	−0.19
Pittsburgh	57	55	57	18.85	17.98	−0.87	18.84	0.86	−0.01
Jacksonville	106	109	110	12.04	12.18	0.14	12.18	0.00	0.14
Columbus	91	142	99	10.55	16.28	5.73	11.09	−5.19	0.54
Boston	49	57	56	7.27	8.35	1.08	8.06	−0.29	0.79
Kansas City, MO	129	150	137	26.97	30.93	3.96	27.78	−3.15	0.81
Denver	57	59	65	8.15	8.35	0.20	9.02	0.67	0.87
St. Louis	188	205	187	59.78	66.07	6.29	60.94	−5.13	1.16
Indianapolis	148	156	162	17.08	17.91	0.83	18.46	0.55	1.38
Albuquerque	61	70	69	10.86	12.47	1.61	12.32	−0.15	1.46
Colorado Springs	24	29	32	5.17	6.13	0.96	6.79	0.66	1.62
Wichita	31	35	38	7.92	8.95	1.03	9.70	0.75	1.78
Washington, DC	138	116	160	20.26	16.72	−3.54	22.78	6.06	2.52
Tucson	30	46	47	5.62	8.64	3.02	8.75	0.11	3.13
Philadelphia	273	316	351	17.38	20.06	2.68	22.12	2.06	4.74
Buffalo	44	40	57	17.09	15.61	−1.48	22.07	6.46	4.98
Hartford	14	29	21	11.31	23.60	12.29	17.06	−6.54	5.75
Louisville	119	109		17.40	15.93	−1.47			
Birmingham			88				41.79		
Raleigh			33				7.03		
Richmond			52				22.62		
Sacramento		39	36		7.80		7.10	−0.70	

(*Continued*)

Table 3. (Continued).

	Count			Rate (Per 100,000 Residents)					
City	2016	2017	2018	2016	2017	2016–2017 Change	2018	2017–2018 Change	2016–2018 3-yr Diff[b]
Nashville	81	110		12.11	16.30	4.19			
# cities homicide rate decrease						29		33	38
# cities homicide rate increase						26		20	15
# cities no change in homicide rate						0		1	0
# cities homicide data missing						4		5	6

[1]Data were retrieved from the FBI released UCR tables. Counts and population totals listed here may not match other records.
[a]The official 2016 Orlando counts included the 49 victims killed in the Pulse Nightclub shooting. The count and rate presented here exclude those 49 victims to present the 2016–2018 rate change more accurately.
[b]Sorted by 3-year difference (descending)

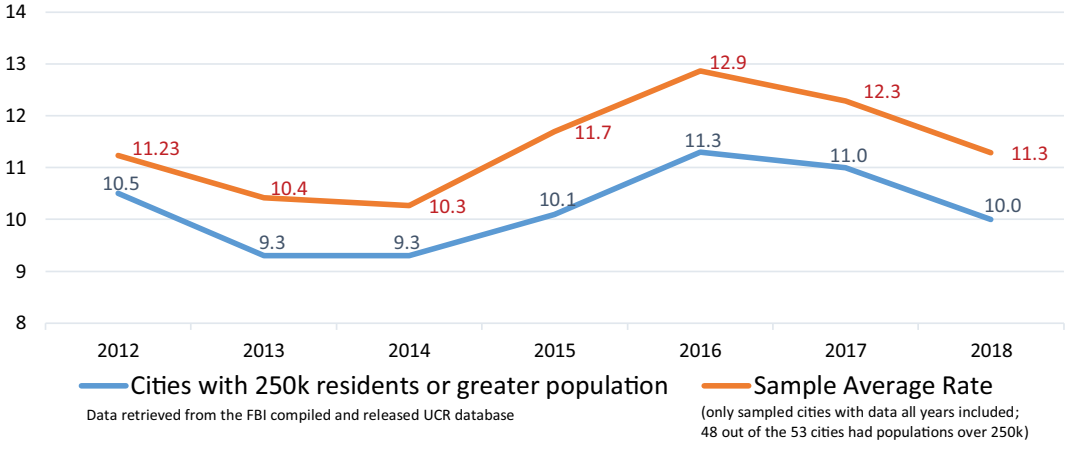

Figure 4. Homicide rate trend 2012–2018.

1978; Tittle and Rowe 1974; Wellford 1974). A similar argument emerged regarding low conviction rates increasing offenders' brazenness. Respondents posed that not only was this a drain on resources impacting law enforcement, but it also affects crime prevention programs, with decreased money and resources for gang-crime prevention and gang-reduction strategies effectively being shut down. Furthermore, career violent offenders would return home without proper assistance, hindering their reintegration, and resulting in a higher likelihood they would return to criminal activity. Local programs were seen as strained, lacking coordination, and struggling with acculturation.

Environmental Factors. When it comes to the structural factors associated with the environment in which homicides were occurring, respondents documented the lack of basic necessities, including food and shelter. The role of poverty and food deserts (i.e. areas with limited access to healthy food options, particularly found in impoverished areas) (Walker, Keane, and Burke 2010) were considered primary contributors to increased homicide, as well as the shutting down of certain housing complexes in their communities. The shutting down of housing complexes is related to another theme regarding the environment – residential mobility and migration. Experts attributed intensified instability in neighborhoods with associated territorial issues and population shifts. Lastly, neighborhoods with entrenched drug markets were said to have experienced the most homicide and violence in their cities.

Table 4. Summary of qualitative findings.

Situational Aspects	
	Drugs, Gangs, and Guns
	– Illegal drug markets (both the opioid epidemic and crack cocaine)
	– Associated dispute resolution (drug markets/systemic)
	– Associated turf wars (drug markets/systemic)
	– Violence related to drug sales and territorial boundaries
	– Increased access to guns
	– Impaired judgment (pharmacological)
	Youths
	– Dropping out of school
	– Lack of conflict resolution skills
	– Self-esteem issues
	– Involvement in drug markets and drug trafficking
	Domestic Violence
	– Intimate Partner Violence
System and Policy	
	Policing Styles
	– Decline in proactive policing
	Police-Community Relations
	– Deteriorating relations
	– Ferguson effect (legitimacy argument) and breakdown in communication
	– Increase in 'handle it ourselves' mentality
	Politics and Resources
	– Drain on resources
	– Hiring freezes
	– Unable to maintain focus and staff
	– Capacity to make arrest low → offenders 'see and feel' no response increasing their brazenness (relatedly, low conviction clearances)
	Crime Prevention Programs
	– Career violent offenders returning home and returning to crime
	– Gang reduction strategies effectively shut down
	– Decreased money and resources for gang crime prevention
	– Resources dry up
	– Offenders acculturate to programs
	– Lack of coordination between efforts
Environmental Factors	
	Lack of Basic Necessities (food and living)
	– Poverty
	– Food deserts
	– Shutting down apartment complexes (see also below)
	Residential Mobility/Migration
	– Instability in neighborhoods
	– Territorial issues
	– Population shifts
	Entrenched drug markets in communities

We corroborated these themes by generating a word cloud from our qualitative data, shown in Figure 5.[10] The word cloud clearly demonstrates the most prominent causes and correlates of homicide rates reported, which were drugs/drug market, police/policing practices, gangs, youths, clearances, resources, homelessness, domestic, and community relations (as illustrated by their greater prominence and larger size in the word cloud).

Discussion

This study found there was clear evidence available, prior to national data being obtainable, to indicate that there was a spike in homicide rates across cities and documented the real-time prevailing notions among experts as to what may have been driving those changes. Quantitative

Figure 5. Word cloud of qualitative responses.

findings show that homicide rates in many of the cities in our sample were in fact increasing, while homicide rates in a smaller number of cities remained stable or even declined during the period studied. Overall, however, homicide had gone up in major cities across the U.S. This crowdsourced-based finding is largely consistent with the limited literature on this topic (e.g. McDowall 2019; Rosenfeld 2016; Rosenfeld et al. 2017; Rosenfeld and Fox 2019). Furthermore, 2016 UCR data confirmed this finding and more recent 2018 UCR data suggest the majority of cities experienced a decline in homicide rates since 2016 (see also Yim, Riddell, and Wheeler 2020 who show a similar pattern for the national homicide trend over this time period).

Results reveal a real homicide increase in many of the large cities in our sample which require explanation. This finding led us to Step II of the study and the gathering sentiments from those in the field. Additionally, the convergence with the UCR data underscores the need for these data to be available in a more timely manner to avoid extensive and time-consuming data collection efforts and allow researchers and practitioners to address crime rate changes in real time. Even though the body of literature on the recent homicide increase is sparse, of the studies that are published, most are descriptive, documenting the nature and magnitude of homicide rate changes. Research testing explanations of the possible causes and correlates of the recent fluctuations is lacking as well, which is also likely due to the unavailability of the necessary data.

The interview data from practitioners and researchers in the field suggested multiple potential drivers for these trends. Though qualitative in nature, a myriad of possible correlates for the homicide increases were identified, with no single prevailing universal driver of these trends. This is consistent with previous research on explanations for homicide trends, where several factors are often concurrently at play. Results do suggest, however, that a small number of identifiable themes and explanations may exist, including situational aspects, system, and policy, and environmental factors.

Explanations identified include long-held notions within the research community as to contributors to homicide and violence. That is, many of the usual suspects were thought to be contributing to the homicide increases, as they have in the past, although with more contemporary nuances. That none of the explanations were necessarily new sentiments related to crime trends is remarkable in the perennial instance that these factors do affect homicide trends, and appear to be quite robust

predictors. However, other newer explanations or different iterations of long-standing explanations also emerged, some of which have recently been supported in the empirical literature (e.g. the role of drug markets and the ongoing debate about the potential Ferguson Effect) (see especially Gaston, Cunningham, and Gillezeau 2019; Rosenfeld 2016). It is a matter of time and data availability before we can examine whether the murder of George Floyd by Minneapolis police officers in May, 2020 and the subsequent civil unrest and associated police legitimacy crisis impact subsequent crime trends.

A common theme that emerged from the interviews was the role of drugs, gangs, and guns, particularly involving youth. It is noteworthy that similar arguments appeared in both research papers and public discourse in the mid- to late-1980s and early 1990s homicide increase (Diiulio 1995). The prevailing notion was that homicide increases leading up to the peak in the early 1990s were largely attributable to the rise and distribution of the crack cocaine market, associated turf wars, and distribution of firearms (Blumstein 1995). During this time, the homicide increase primarily impacted young Black males and was driven largely by increases in homicides committed with firearms. While experts in the current study suggested similar overarching elements remain, the specifics of the arguments have shifted in recent years. For instance, some respondents still note the role of crack cocaine markets in homicide increases in certain hotspots; however, most responses focused on the opioid epidemic and violence associated with the opioid drug markets.

After finding no discernable variations between the explanations given by experts across geographic locale, we examined city compositional factors for potential patterns among cities that had homicide increases compared to those with decreases. Drawing on earlier empirical research in this area showing the 2016 rise in homicide rates was prolific across demographic groups, with Blacks, Whites, and Hispanics all experiencing an increase (Rosenfeld and Fox 2019), we examined the distribution of age, sex, race, educational status, and poverty in each city (see Appendix A). In a supplemental analysis using U.S Census data (U.S. Census Bureau 2016), we found no significant differences in these characteristics among the cities with increased versus decreased homicide rates grouped by the 2014–2015 or the 2015–2016 rate trends. We then compared the 17 cities that had declines in homicide rates from 2012 to 2016 with the 41 cities that experienced homicide rate increases. There were also no significant differences between cities in terms of demographic composition (i.e. percent Black, percent Hispanic, percent white, percent male, or percent under the age of 18).[11] There were, however, significant differences in the educational and socioeconomic levels among those cities. Cities with 2012–2016 homicide rate declines, on average, had a larger percentage of residents without a high school degree (29.76% vs. 19.44%; $t = 2.111$; $p = .039$) and a smaller percentage of residents living in poverty (34.71% vs. 43.66%; $t = -2.102$; $p = .040$). Future research seeking to explain recent homicide trends should incorporate these factors.

Another common theme that emerged across multiple respondents and locales was related to changes in policing – both in terms of resources and strategies. Again, these explanations on the surface are not new, and in fact, have been the subject of much debate about prior crime trends (see especially Baumer 2008; Conklin 2003; Eck and Maguire 2006; LaFree 1999; Levitt 2004; Roeder et al. 2015; Zimring 2007), but as with the recognition of the role of drugs, gangs, and guns, there are some nuances to this argument that differ from earlier discussions. In line with early empirical research on the possible 2016 homicide rise (e.g. Rosenfeld 2016; Rosenfeld et al. 2017), respondents discussed changes in policing styles, particularly the notion of 'de-policing' (or a decline in proactive policing strategies) and an emphasis on changes in police-community relations. The findings that emerged in our qualitative analysis echo well-established scholarship suggesting deteriorating police-community relations contribute to a breakdown in communication between police and citizens, as well as increases in a 'handle it ourselves' mentality, especially in areas lacking strong informal social control ties and networks (e.g. Black 1983; Carr, Napolitano, and Keating 2007). Notably, respondents also emphasized the role of local politics and resources available for police to do their jobs effectively. Several mentioned the drain on resources or hiring

freezes, along with the associated inability to maintain focus and staff, impeding the ability of police to carry out their duties.

Both of these elements – deteriorating police-community relations and limited resources – impact law enforcement's capacity to make an arrest as well as the community's trust in the police to protect and serve their community. The lack of real or perceived law enforcement involvement or criminal justice response to criminal behavior, including homicide, contribute to a reduction in the deterrence impact of the criminal justice system (e.g. Grasmick and McLaughlin 1978; Nagin 2013) and further the overpolicing-underpolicing paradox documented in impoverished and predominately minority communities (Leovy 2015; Rios 2011).

Another theme related to resources also emerged. Several respondents discussed how previously successful violence reduction strategies were not sustained due to a lack of financial support or the social capital needed to effectively target and reduce violence. Others suggested criminal adaptation to the violence reduction strategies to avoid detection whilst continuing to commit crimes. It stands to reason that cities might experience a decline in homicide rates if locally successful strategies were reestablished or revamped.

Lastly, although social disorganization has long been associated with crime rates, the role of residential mobility was especially emphasized by respondents in our qualitative assessment, specifically the closing of housing complexes, instability in neighborhoods, and the impact these residential shifts and population turnover had on crime. These observations are crucial given that residential mobility patterns have not received as much attention in the previous literature on homicide, or on crime trends, more broadly.

Limitations and future research

These findings should be considered within the context of the study limitations. Perhaps the most obvious limitations are the reliance on crowdsourced data and the use of a purposive sample of researchers and practitioners to yield observations relative to sources of influence over these trends. For our quantitative results, the corroboration with released UCR data somewhat mitigates this concern and increases confidence in the results presented here. For the qualitative responses, these results provide a starting point from which to move forward and speculation as to the most important factors at play in recent years. However, we acknowledge that the responses garnered may not be generalizable to the larger community of scholars and practitioners. That is, interpretations of these results may be accurate for the communities from which these responses came but may not apply to all jurisdictions as local dynamics differ considerably across communities. We did not attempt to empirically test the validity of these responses and we do not purport that these are the only or even the most impactful sources of change. Rather, we encourage future researchers to consider these results within other empirical research on historical and recent homicide rate fluctuations and perhaps validate such notions with more rigorous methods than were employed here.

To this point, recent empirical research that was published after our data collection was complete appears in part to corroborate these study findings, particularly the role of drug markets and police legitimacy (Gaston, Cunningham, and Gillezeau 2019). However, several qualitative responses from experts geographically dispersed across the U.S. emphasized the role of mobility or instability in contributing to recent increases, a consideration largely missing from current and past debates about crime trends. This finding suggests that future researchers should consider mobility more closely as a potentially important covariate.

We concede that both the crowdsourcing method for collecting the quantitative data and the qualitative results emanating from a purposive sample may introduce barriers to nationally representative or generalizable findings. Quantitatively, as all 59 cities included in our Step I analysis were large U.S. cities (i.e. populations over 100,000 residents, and 90% with 2016 population estimates over 200,000), there may be different patterns or explanations for smaller cities or rural areas.

Preliminary evidence indicates the increase in homicides in rural areas may have been larger than the increases in cities and suburban areas (Rosenfeld and Fox 2019).

Similarly, the qualitative responses may also not be representative of academic and practitioner communities nationwide. As with any research endeavor, higher response rates and access to a larger pool of academics and practitioners would have been preferred and could have yielded some variation in our findings. Tempering this limitation is the consistency found between our qualitative responses and the existing literature on primary drivers of homicide trends, which begs the question of whether practitioners and researchers outside academia are as uninformed of the academic literature as translational criminology advocates sometimes imply.

When it comes to the time period covered, we acknowledge that these data are now a couple of years old and the relevance of the findings and discussion here may have diminished permanence to policy and practice as time goes by. However, this is tempered by recently published research that also focuses on this time period (e.g. the entire 2019 special issue on the homicide rise in *Homicide Studies*) and we still need data-driven research to explain these fluctuations in recent years, especially as they go against the long-term downward trend observed since the 1990s. Furthermore, Rosenfeld and Fox (2019, 221) note, 'Even if the homicide rise documented here [in their study] is eventually determined to have been a short-term phenomenon, it remains an important task to understand what happened between 2014 and 2016, given that so many lives are at stake.' The delay in empirically assessing some of these arguments also underscores one of our primary points about the need for timely data. As such, this research has provided a guidepost of how to conduct such analyses and delineates potential explanations for future researchers to consider.

Conclusion

There has been much anecdotal speculation regarding recent homicide trends in several U.S. cities. Our goal was to add to the relatively limited understanding of homicide rate fluctuations. Due to limitations with data availability, this led us to use a rather non-traditional approach of crowdsourcing both quantitative and qualitative insights into the dynamics behind these trends. We highlight four key takeaways from this research. First, and at its core, this work clearly delineates the need for timelier crime data. At a minimum, this would allow us to examine descriptive patterns and make comparisons across time and jurisdictions in an appropriate manner. Many police departments are already reviewing homicide counts monthly, if not weekly, even among those that have few to no homicides. If we had a system in place for them to submit those numbers under the caveat that they may be subject to change (e.g. as a result of an investigation or delayed death) or even could change them later, transparency and data use might be improved. Indeed, some Project Safe Neighborhood partners are developing such practices. Of potential interest is how the FBI's transition in upcoming years to a NIBRS-only system may impact the quality and timeliness of data.

Second, the results reported here are corroborated by other limited scholarship documenting an increase in homicide rates in certain U.S. cities in 2016 (e.g. Gaston, Cunningham, and Gillezeau 2019; McDowall 2019; Rosenfeld and Fox 2019; Rosenfeld et al. 2017). We found that almost 70% of cities in our sample experienced increases in homicide rates from 2012 to 2016, with many of the increases being quite large. Third, results reveal the concordance with academic research illustrating the persistence of certain factors and explanations as important predictors of homicide trends. That is, many of the same factors that were identified as drivers of homicide and violence at its peak in 1992 persist today, even in the wake of more than 25 years of subsequent research. Lastly, potentially new and underexplored explanations were brought to light, including the importance of migration and population change on variations in homicide rates across several of the cities. Varied causes and correlates demand not just further research but innovative research designs and data collection strategies to yield an improved evidence base that will support or refute the importance of these factors as relevant to current and future crime trends.

Notes

1. Despite the substantial decline in homicide rates in the 1990s, the magnitude of the decline was still not as steep as the increase in homicides in the 1960s and 1970s (LaFree 1999).
2. Given this was not available at the time our research was conducted, we draw more on this recent special issue and empirical research in our discussion and conclusion sections.
3. We are unable to explicitly identify the source(s) of data in each city due to the promise of confidentiality when relying on our respective credentials and connections used to make the requests. In addition, specifying which cities' data were obtained from cooperating police agencies might highlight those which did not, possibly limiting future access to such data.
4. Using a similar procedure, Rosenfeld (2016) manually gathered 2015 homicide data from local police departments and news sources for the 56 large U.S. cities he used in his study on the 2014–2015 homicide increase.
5. Additional attempts were implemented when necessary.
6. Notably, many of our responses were generated from cities that had experienced recent upticks in homicide, and we note this as a limitation of our work.
7. The authors presented preliminary findings at the 2017 Annual American Society of Criminology conference for comment and additional insight from those in the audience. No new insights were gleaned from this approach, furthering our confidence in the findings presented here.
8. Consistent with UCR reporting standards, the homicide count and rate for Orlando include the 49 victims of the Pulse Nightclub shooting in June 2016.
9. The correct trend directions were produced via crowdsourcing for 54 of the 55 cities. Newark had been identified as having a 0.73 decreased homicide rate when in fact it slightly increased by 1.11 per 100,000 residents.
10. A word cloud of the entirety of the qualitative responses yielded little meaningful results, with placeholders and filler words being the most prevalent. For example, the word 'homicide' by far dominated in the word cloud. As a result, we pulled the specific explanations respondents provided and extracted the reasons they gave for recent homicides in their cities (i.e. the more substantive findings) to produce the current word cloud presented in Figure 4.
11. Expanded results available upon request.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendices

Appendix A. American Community Survey Demographic Estimates, 2016.

City	<18yo	Male	A/A, Black	Hispanic	White	<HS Grad	Impoverished
Albuquerque	23%	49%	3%	48%	41%	11%	19%
Anchorage	25%	51%	6%	9%	60%	7%	8%
Atlanta	19%	49%	52%	5%	37%	10%	24%
Aurora	26%	49%	16%	29%	46%	13%	15%
Austin	21%	50%	8%	35%	49%	12%	17%
Baltimore	21%	47%	63%	5%	28%	16%	23%
Birmingham	21%	47%	72%	3%	21%	14%	29%
Boston	17%	48%	25%	19%	45%	14%	21%
Buffalo	23%	48%	37%	11%	45%	16%	31%
Charlotte	25%	48%	35%	14%	43%	12%	16%
Chicago	22%	48%	31%	29%	32%	63%	22%
Cincinnati	22%	48%	43%	3%	19%	14%	30%
Cleveland	23%	48%	51%	11%	34%	21%	36%
Colorado Springs	24%	50%	6%	17%	69%	7%	13%
Columbus	23%	49%	28%	6%	58%	11%	21%
Dallas	26%	50%	25%	42%	29%	25%	23%
Denver	21%	50%	10%	31%	53%	54%	16%

(*Continued*)

City	<18yo	Male	A/A, Black	Hispanic	White	<HS Grad	Impoverished
Detroit	25%	47%	80%	8%	10%	21%	39%
Fort Worth	29%	49%	19%	34%	41%	19%	18%
Fresno	29%	49%	8%	49%	28%	25%	30%
Hartford	25%	48%	38%	44%	16%	28%	32%
Houston	25%	50%	23%	44%	25%	23%	22%
Indianapolis	25%	48%	28%	10%	57%	14%	21%
Jacksonville	23%	48%	31%	9%	53%	11%	17%
Kansas City, MO	23%	48%	29%	10%	55%	11%	18%
Las Vegas	24%	50%	12%	62%	46%	16%	17%
Long Beach	24%	49%	13%	42%	28%	20%	20%
Los Angeles	22%	49%	9%	49%	29%	24%	22%
Louisville	23%	48%	23%	5%	67%	12%	18%
Memphis	25%	48%	64%	7%	27%	16%	28%
Mesa	24%	49%	4%	27%	64%	12%	16%
Miami	18%	50%	19%	71%	11%	26%	28%
Milwaukee	27%	48%	39%	18%	36%	17%	28%
Minneapolis	20%	51%	19%	10%	60%	11%	21%
Nashville	13%	44%	44%	1%	55%	15%	16%
New Orleans	21%	48%	60%	6%	31%	14%	26%
New York	21%	48%	24%	29%	32%	18%	20%
Newark	25%	49%	50%	36%	11%	27%	29%
Norfolk	20%	52%	43%	8%	44%	12%	22%
Oakland	20%	49%	25%	27%	27%	19%	20%
Oklahoma City	26%	49%	14%	19%	55%	15%	18%
Omaha	25%	49%	13%	14%	67%	12%	16%
Orlando	22%	48%	26%	29%	39%	10%	20%
Philadelphia	22%	47%	43%	14%	35%	17%	26%
Phoenix	27%	50%	7%	42%	44%	19%	22%
Pittsburgh	16%	49%	24%	3%	64%	8%	22%
Raleigh	22%	48%	29%	11%	54%	9%	15%
Richmond	18%	47%	49%	6%	40%	16%	25%
Rochester	24%	49%	41%	18%	37%	19%	33%
Sacramento	24%	49%	14%	28%	34%	16%	21%
San Antonio	56%	49%	7%	64%	26%	18%	20%
San Diego	21%	50%	6%	30%	43%	12%	15%
San Jose	24%	50%	3%	34%	27%	17%	11%
St. Louis	20%	48%	48%	4%	43%	15%	27%
Syracuse	22%	47%	29%	9%	51%	19%	34%
Tucson	22%	50%	5%	43%	46%	16%	25%
Tulsa	25%	49%	16%	15%	56%	13%	20%
Washington, DC	17%	47%	48%	11%	36%	10%	18%
Wichita	26%	49%	11%	16%	63.5%	13%	17%
Average	23%	49%	28%	23%	41%	17%	22%
Median	23%	49%	25%	17%	41%	15%	21%
Range	13–56	44–52	3–80	1–71	10–69	7–63	8–39