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Tale of Four Cities: Improving our Understanding of Gun Violence

Draft Final Summary Overview

2013-R2-CX-0015

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Purpose of Project

This project seeks to increase understanding of firearms violence by creating a cross-city database including fatal and nonfatal shootings and conducting a variety of analyses within cities and across cities. Data collection and analysis focuses on four Midwestern cities (Detroit, Indianapolis, Milwaukee, and St. Louis). The specific project goals include:

Goal #1: Create a better understanding of nonfatal shootings and how they relate to gun homicides

Goal #2: Improve data systems on gun violence

Goal #3: Increase understanding of the spatial and network dimensions of firearms violence

Goal #4: Dissemination

Goal #5: Expand study from Detroit, Indianapolis and Milwaukee to include St. Louis

Project Design, Methods and Analysis

The key challenge for this project was the fact that police records management systems (RMS) do not typically include a specific focus on nonfatal shootings. Although homicides are available in police records management systems, nonfatal shootings are subsumed in other Uniform Crime Reporting (UCR) categories, particularly aggravated assaults and robberies. However, absent additional analytical work, aggravated assaults and robberies involving a nonfatal shooting cannot be distinguished from other incidents not involving a firearm or involving a firearm but where no individual was actually shot. This RMS limitation has

significantly hampered firearm crime research with researchers typically limiting their analyses to firearm homicides. A key purpose of this study was to collect data on both firearm homicides and nonfatal shootings to support analyses that will shed light on the value of including nonfatal shootings in future firearm crime research. Consequently, the central research design issue was to develop methods for capturing nonfatal shootings across four Midwestern police departments.

The cross-city PI team created a design for data collection to guide collection in the four research sites. The team began by following processes developed in Milwaukee through the Milwaukee Homicide Review Commission that had been capturing nonfatal shooting data since 2006. These processes were then adapted and customized to each local research site. Detroit, Indianapolis and Milwaukee built upon systematic law enforcement-led, multi-agency incident reviews that occurred in each jurisdiction to identify nonfatal shootings and to capture additional data not available in police incident reports. St. Louis, did not conduct systematic incident reviews – not an uncommon characteristic of many large metropolitan jurisdictions. Consequently, the research team worked with the St. Louis Police Department to use folder reviews of incidents to identify nonfatal shootings and to capture data on firearm homicides and nonfatal shootings. The processes developed across the four cities were the subject of one of initial project peer reviewed articles.[i]

The product of this design and processes is a relational database of firearm homicides and nonfatal shootings developed for each city and then integrated into a cross-city database. The relational database is organized by incident as well as by person (victim, offender). Initially, there were over 60 incident and 60 person variables. In order to facilitate cross-city analyses, recoding was undertaken to create common variables and categories. Additionally, common data

from the American Community Survey (census data) were integrated across the four cities to allow for addressing a variety of research questions with a common set of variables.

Project Findings

Table 1 displays the basic descriptive characteristics of victims involved in fatal and nonfatal incidents across the four cities. In Detroit, the data represent all incidents occurring in two precincts that were part of a Ceasefire intervention and that were included in incident reviews. There were 534 incidents of which 84% were nonfatal shootings. In Milwaukee, the incidents were collected city-wide and were also part of regular incident reviews. There were 1,330 incidents of which 83% were nonfatal shootings. Indianapolis data represent incidents that were part of a nonfatal shooting review process. The data reflect a sample of nonfatal incidents and all homicides occurring in 2014-15. There were 1,084 incidents that included 75% nonfatal shootings. In St. Louis, reviews of case files were conducted on all fatal and a sample of nonfatal shootings. There were 698 incidents that were more evenly distributed between fatal (46%) and nonfatal (54%) shootings. Consistent with prior research, shooting victims tend to be young men of color. Nonfatal shooting victims were slightly younger in each city other than Detroit where there was no age difference between fatal and nonfatal shooting victims.

The cross-city database was developed to allow for current and future firearm violence research and will be submitted to the NACJD. Early in the project, the analyses focused on single cities and then broadened to include two or more cities. Examples include a comparison of adult and youth involvement in firearms crime in Detroit;[ii] a study of the wound patterns comparing nonfatal shootings and homicides in Indianapolis;[iii] and a study of cooperativeness among nonfatal shooting victims in Indianapolis and St. Louis.[iv] The cooperativeness paper resulted in additional data collection in Detroit and Milwaukee, as well as recognition of the importance of

examining clearance rates in nonfatal shootings (and related data collection efforts). Current projects underway and future projects will increasingly use the cross-city database.

As noted in the purpose/goals section above, the project also sought to support research on the spatial patterns of firearms violence and social network connections. Initial studies of spatial patterns have involved conference presentations on Risk Terrain Modeling, street segment analyses, and development of a lethality metric to examine the variation of fatal to nonfatal shootings within and across the cities. These spatial analyses will continue to be developed and will be enhanced by the common census data that have been integrated in the cross-city database. Similarly, conference presentations using data from Detroit and Milwaukee have been used to examine the social network patterns of people involved in homicides and nonfatal shootings.

Table 1: Victim Characteristics in Homicide and Nonfatal Shooting Incidents

	Homicide		**Nonfatal Shooting**		**Total**	
Detroit						
Incidents	88 (16%)		446 (84%)		534	
Victims	107		564		671	
	#	%	#	%	#	%
Victim Cooperation						
Yes	n/a	n/a	259	46	259	46
No	n/a	n/a	262	47	262	47
Unknown	n/a	n/a	43	8	43	8
Victim Race						
Black	103	96.3	542	96.1	645	96.1
White	3	3	12	2.1	15	2.2
Unknown	1	0.93	10	1.8	11	1.6
Victim Gender						
Male	91	85	491	87.1	582	87
Female	15	14	71	12.6	86	13
Unknown	0	0	2	0.4	2	0.3
Average Age	28 years		29 years			
	Homicide		**Nonfatal Shooting**		**Total**	
Milwaukee						
Incidents	230 (17%)		1,100 (83%)		1,330	

Victims	249		1,215		1,464	
	#	%	#	%	#	%
Victim Cooperation						
Yes	n/a	n/a	342	28.2	342	28.2
No	n/a	n/a	267	22	267	22
Unknown	n/a	n/a	62	5	62	5
Missing	n/a	n/a	544	45	544	45
Victim Race/Ethnicity						
Black	206	83	1,058	87	1,264	86.3
White	16	6.4	73	6	89	6.1
Hispanic	22	9	74	6	28	2
American Indian	0	0	2	0.2	2	0.1
Asian	5	2	7	0.6	12	0.8
Other	0	0	1	0.1	1	0.01
Victim Gender						
Male	218	88	1,055	87	1,273	87
Female	31	12.5	160	13.2	191	13
Average Age	30 years		27.5 years			

	Homicide		**Nonfatal Shooting**		**Total**	
Indianapolis						
Incidents	270 (25%)		814 (75%)		1,084	
Victims	280		889		1,169	
	#	%	#	%	#	%
Victim Cooperation						
Yes	n/a	n/a	348	39.2	348	39.2
No	n/a	n/a	347	39	347	39
Unknown	n/a	n/a	194	22	194	22
Victim Race/Ethnicity						
Black	198	71	692	78	890	76
White	67	24	157	18	224	19.2
Asian	1	0.4	4	0.5	5	0.4
Hispanic	14	5	0	0	14	1.2
Unknown	0	0	36	4.1	36	3.1
Victim Gender						
Male	228	81	797	90	1,025	88
Female	52	19	92	10	144	12.3

Average Age	31.5 years		28.4 years			
	Homicide		**Nonfatal Shooting**		**Total**	
St. Louis						
Incidents	322 (46%)		376 (54%)		698	
Victims	323		488		811	
	#	%	#	%	#	%
Victim Cooperation						
Yes	n/a	n/a	92	19	92	19
No	n/a	n/a	175	36	175	36
Unknown	n/a	n/a	221	45	221	45
Victim Race/ Ethnicity						
Black	294	91	470	96.3	764	94
White	27	8.4	15	3.1	42	5.2
White (Hispanic)	1	0.3	2	0.4	3	0.4
Asian	1	0.3	0	0	1	0.1
Unknown	0	0	1	0.2	1	0.1
Victim Gender						
Male	274	85	416	85	690	85
Female	49	15	72	15	121	15
Average Age	29.4 years		26.5 years			

Scholarly Products Produced or in Process (article published or under review)

1. Hipple, N. K., Garrity, K.T., Huebner, B.A., & Magee, L.A. (Under Review). I know but I ain't telling you: Understanding victim cooperativeness in cases of nonfatal gun assaults.

2. Hipple, N. K., McGarrell, E. F., O'Brien, M., & Huebner, B. M. (2017). Gun crime incident reviews as a strategy for enhancing problem solving and information sharing. *Journal of Crime and Justice, 40*(1), 50-67. doi:10.1080/0735648X.2016.1155303

3. Hipple, N. K., & Magee, L. A. (2017). The difference between living and dying: Victim characteristics and motive among nonfatal shooting and gun homicides. *Violence and Victims, 32*(6). doi:10.1891/0886-6708

4. Circo, G., J. Pizarro, & E.F. McGarrell. (2016). Adult and Youth Involvement in Gun-Related Crime: Implications for Gun Violence Prevention Interventions. *Criminal Justice Policy Review* Online First doi: 10.1177/0887403416655431

Scholarly Conference Presentations

1. Circo, G., A. DeBiasi, & E. McGarrell. (2017). "Examining Gun Crime Micro-Place Hotspots Exploring the Varying Correlates of Spatial Risk." Annual Conference of the American Society of Criminology. Philadelphia, PA

2. Garrity, K., B. Huebner, & T. Lentz. (2017). "Reassessing How Gangs Facilitate Violence: Replicating St. Louis Findings 20 Years Later." Annual Conference of the American Society of Criminology. Philadelphia, PA

3. Hipple, N.K., Waymire, M. & M. Thomas. (2017). Association of Prosecuting Attorneys Smart Prosecution Peer to Peer Technical Assistance Webinar on Non-fatal Shooting Reviews (March –we inadvertently failed to report this in our prior progress report).

4. Magee, L. & N.K. Hipple. (2017). "Does it Count? Classification Issues and Non-fatal nonfatal Shootings." Annual Conference of the American Society of Criminology. Philadelphia, PA

5. O'Brien, M. & L. Emer. (2017). "Firearm Violence Clearance Rates: Fluctuations and Implications for Future Violence." Annual Conference of the American Society of Criminology. Philadelphia, PA

6. Garrity, K. & B. Huebner. (2017). "Reassessing How Gangs Facilitate Violence: Replicating St. Louis Findings 20 Years Later." 19th Meeting of the EuroGang Project. East Lansing, Michigan.

7. Huebner, B. (2017). "Dangerous Places: Gangs and Gun Violence." Youth Violence and Juvenile Justice Annual Conference. April. St. Louis, Missouri.

8. Magee, L. & N.K. Hipple. (2017). "Fatal and nonfatal Shooting Incidents: Understanding the Circumstances of Victimization." Understanding Our Gun Culture Conference, Ashland Center for Nonviolence, Ashland, Ohio.

9. Hipple, N.K., E.F. McGarrell, M. O'Brien, & B. Huebner. (2017). "Gun crime incident reviews as a strategy for enhancing problem solving and information sharing." *Journal of Crime and Justice* 40, 1:50-67. doi: 10.1080/0735648X.2016.1155303

10. Circo, G. & E. McGarrell. (2016). "Environmental Risk Factors and Gun Crime." Thematic Panel - Patterns of Firearms Violence across Four Cities, American Society of Criminology. New Orleans, LA.

11. Garrity, K. & B. Huebner. (2016). "Matters of Life and Death: Situation, Place, and Lethality of Firearm Violence." Thematic Panel - Patterns of Firearms Violence across Four Cities, American Society of Criminology. New Orleans, LA.

12. Hipple, N.K. & L. Magee. (2016). "Nonfatal Shootings, Victim Cooperativeness, and Case Clearance." Thematic Panel - Patterns of Firearms Violence across Four Cities, American Society of Criminology.

13. Magee, L. & E. McGarrell. (2016). "Comparing Different Methodological Approaches in Identifying Gang/Group Membership." Thematic Panel - Patterns of Firearms Violence across Four Cities, American Society of Criminology.

14. O'Brien, M. & L. Ertl. (2016). "Nonfatal Shootings and Clearance Rates." Thematic Panel - Patterns of Firearms Violence across Four Cities, American Society of Criminology.

15. O'Brien, M., E. McGarrell, & N.K. Hipple. (2015). "Systematic Incident Reviews as a Tool to Understand Firearms Violence." American Society of Criminology.

16. Hipple, N.K., M. Bohmert, L. Magee, A. Hemsath, & J. Peterson. (2015). "It's Ladies Night at the Shoot Out: Female nonfatal and Fatal Gunshot Victims." American Society of Criminology.

17. Magee, L. & N.K. Hipple. (2015). "Level of Gunshot Wound Severity in nonfatal Shooting Incidents." American Society of Criminology.

18. Circo, G. J. Pizarro, & E. McGarrell. (2015). The Stability of Robbery Hot Spots: A Micro-level Analysis. American Society of Criminology.

19. Hipple, N.K., & L. Magee. (2015). *Understanding nonfatal Shooting Incidents through GIS Analysis* at the 2015 Indiana Geographic Information Council, Indiana GIS Conference. Bloomington, Indiana.

Products for Practitioners and the Public

1. Huebner, B.M. & Hipple, N.K. (2018). A Nonfatal Shooting Primer. National Resource & Technical Assistance Center for Improving Law Enforcement Investigations. Washington, DC: Police Foundation. Retrieved from https://crimegunintelcenters.org/wp-content/uploads/2018/08/NFS-Article-Huebner-and-Hipple-July-2018-NRTAC.pdf

2. Hipple, N. K., & Huebner, B. M. (2018). *5 things you need to know about nonfatal shootings.* Retrieved from Washington, DC: https://centerforimprovinginvestigations.org/wp-content/uploads/2018/04/5-Things-Nonfatal-Shootings_NRTAC_Police-Foundation-March-2018.pdf

3. Hipple, N.K. & Huebner, B.M. (2018). The Value of Nonfatal Shooting Data – A Police Foundation Webinar [Webinar]. *National Resource & Technical Assistance Center for Improving Law Enforcement Investigations Webinar Series, the National Crime Gun Intelligence Center Initiative.* Retrieved from https://policefoundation.app.box.com/s/n70xot4wklsu9kzeeztbk00u1pyznme3

4. Hipple, N.K. & Huebner, B.M. (2018) *5 things you need to know about nonfatal shootings*. Washington, DC: Police Foundation. https://centerforimprovinginvestigations.org/wp-content/uploads/2018/04/5-Things-Nonfatal-Shootings_NRTAC_Police-Foundation-March-2018.pdf

5. Hipple, N.K. (2018, March 26). The way cities report gun violence is all wrong. *The Washington Post.* Retrieved from https://www.washingtonpost.com/opinions/the-way-cities-report-gun-violence-is-all-wrong/2018/03/26/c3abde86-2607-11e8-bc72-077aa4dab9ef_story.html? utm_term=.35382ae45a77

Implications for Criminal Justice Policy and Practice

This project highlighted many issues related to firearm violence data collection. The majority of law enforcement agencies do not collect nonfatal shooting data because there is no federal crime reporting requirement to do so. Neither the Uniform Crime Report (UCR) nor the National Incident-Based Reporting System (NIBRS) have a category for nonfatal shootings. Nonfatal shootings are subsumed under other established crime categories including aggravated assaults and robberies. However, most aggravated assaults and robberies do not involve an incident where a person has been struck by a bullet. Thus, absent special efforts to capture nonfatal shootings, it is impossible to track the number of nonfatal shooting incidents within specific jurisdictions. Law enforcement agencies should make a concerted effort to collect data on nonfatal shootings.

There is no agreed upon national definition for a nonfatal shooting. Agencies should be deliberate and consistent when defining a nonfatal shooting. A definition should include criminal elements that are meaningful to the agency. Yet, agency specific definitions of nonfatal shootings will preclude cross-jurisdictional comparisons.

The definition employed in the current project has three primary components including: criminal intent, a weapon with a powder discharge, and a penetrating wound. Criminal intent is an important characteristic because these are the incidents that police agencies are most concerned about and where they dedicate resources. Nonfatal shootings incidents that are not "unlawful," like self-inflicted and accidental shootings, were not included.

The type of weapon causing the bodily injury is also important. In short, a criminal nonfatal shooting involves a weapon with a powder discharge, therefore, incidents involving air guns or flare guns, for example, do not meet this definition of a nonfatal shooting.

Finally, the type of wound is a critical criterion. The wound should be a penetrating wound caused by the intentional firing of a weapon with a power discharge. Shrapnel wounds such as those due to broken glass or wood splinters would be excluded.

Nonfatal shooting analyses should be part of a larger crime reduction strategy. People, places, and situations associated with nonfatal shootings and homicides are closely related. Prior research[v] suggests that being involved in prior nonfatal shootings is a significant risk factor for being involved in future shootings and homicides. Comprehensive nonfatal shooting data can assist law enforcement in understanding the context of local gun violence and serve to better inform policy and practice.

Should policymakers make a commitment to measuring nonfatal shootings, it should be done in recognition that collecting data on nonfatal shootings is labor intensive. Nonfatal shootings cannot readily be extracted from most law enforcement RMS. A clear and consistent system for collecting and coding data on nonfatal shootings is important. The assistance of a research partner or crime analyst may help with this process. Reliable and timely data collection mechanisms are needed.

Endnotes

[i] Hipple, McGarrell, O'Brien, & Huebner, 2017
[ii] Circo, Pizarro & McGarrell, 2016
[iii] Hipple & Magee, 2017
[iv] Hipple, Garrity, Huebner, & Magee, under review
[v] See, for example, Papachristos, Wildeman, & Roberto, 2015

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