




Epidemiology and Criminology: Managing Youth Firearm Homicide Violence in Urban Areas

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Abstract

Violence is considered a public health problem in the United States, yet little is known about the benefit of using a combined epidemiology and criminology (EpiCrim) approach to focus on urban youth gun violence. The purpose of this general qualitative study was to determine in what ways Akers and Lanier's EpiCrim approach, in tandem with Benet's polarities of democracy approach, is explanatory of gun homicides by youth in U.S. urban areas and if the Youth Risk Behavior Surveillance System adequately addresses gun abatement measures. I collected data through semi-structured interviews with 16 criminal justice practitioners and medical professionals with experience relative to juvenile justice policies pertaining to gun violence. After inductively coding the interview data, I performed a thematic analysis procedure. The findings indicate that EpiCrim provides a platform to focus research efforts on complex issues that are drivers for behavioral risk factors associated with youth gun violence in urban areas. EpiCrim research can provide data that help identify the root cause of youth gun violence in urban areas, and the Youth Risk Behavior Surveillance System does not fully address gun abatement measures.

Keywords: *criminal justice, criminology, epidemiology, EpiCrim, firearms, homicides, polarities of democracy, public health, violence, youth*

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Introduction

The focus of this research was on understanding which barriers and/or facilitators impede and enhance an integrated combined epidemiological and criminology (EpiCrim) approach to address youth homicides in urban areas. While studies exist that singularly approach firearm violence from each discipline's unique perspective, this research provides policymakers with other potential options.

The public health model approach is specifically designed to halt the spread of contagions and identify solutions for perplexing problems. Akers and Lanier (2009) first identified EpiCrim when they suggested a lack of approaches integrating criminology methodology with other disciplines to research potential linkages

related to crime. Lee (2017) supported this approach and identified benefits in designating violence as a public health issue that can be addressed from an integrated multidisciplinary or scientific approach.

Literature Review

Identifying concrete strategies to reduce youth gun violence has perplexed both public health and criminology practitioners. Efforts are needed to understand the degree to which current methods impede or facilitate a combined EpiCrim approach to the problem. I reviewed the available EpiCrim literature, examining the theoretical and conceptual frameworks grounding this work. Further, I examined pertinent literature related to understanding the barriers to and/or facilitators of using an EpiCrim approach. Knoepke et al. (2017) identified that, annually, more than 31,000 people are killed or injured by firearm violence. With such carnage comes commensurate engagement from the healthcare community for services and subsequent interaction with victims. Additionally, there is a need for research advancing a focus on a combined epidemiological and criminology approach to address urban youth gun violence.

In considering the benefits of an integrated multidisciplinary approach, Luty (2009) discussed the advantages derived from a collaborative public health and criminology perspective. Additionally, the approach aligned with researchers (Akers & Lanier, 2009; DeLisi, 2016) who suggested, from a research perspective, the necessity of using epidemiology modeling and criminology in tandem.

This study specifically focused on understanding how a combined epidemiological and criminology approach could reduce gun homicides by youth in U.S. urban areas. Butts et al. (2015) and Howell (2019) discussed the Cure Violence initiative conducted in several urban areas and its focus on reducing gun violence through a public health model. Gebo (2016) identified the benefits of combining public health and criminal justice approaches to fill the gaps in knowledge regarding specific issues.

Public health and criminal justice disciplines potentially engage individuals who traverse both domains. With public health practitioners' access, an opportunity exists to determine how they can engage and counsel patients relative to strategies concerning the reduction of death and injury from firearms violence. Researchers have suggested that healthcare providers are positioned to educate patients regarding risks associated with firearm possession, violence prevention, and safe storage initiatives in at-risk communities and offer the additional benefit of addressing public health and criminology issues (Carter et al., 2013; DeLisi, 2016; Knoepke et al.; 2017; Moore, 2017).

While Akers and Lanier (2009) have been credited with advancing the EpiCrim concept, DeLisi (2016) indicated that Cressey (1960) initially suggested the necessity for a better understanding of the combined role epidemiology could play in crime and victimization. Further, while the focus on EpiCrim as an approach emerged from Akers and Lanier (2009), the literature search identified Mercy and O'Carroll (1988), who suggested a failure in singularly approaching violence from a criminal justice perspective by not leveraging public health practices to prevent injuries and death from violence. A review of the literature revealed support for the study of criminal epidemiology and differential association to advance individual criminal conduct theory.

According to Bhui et al. (2012), intervention by public health practitioners has been emphasized principally on population-focused issues. McCullough et al. (2018) embraced this idea and suggested public health shifts away from the provision of services to individuals to more population-centric activities because of the impact various diseases have across such populations. The shift was attributed to a myriad of factors such as healthcare reform and identification of the necessity for more community partnerships. With this shift comes the realization and recognition of challenges associated with public health components not collaborating on issues because of their centralized structures, which could have an impact on their efficiency of operations and

collaboration capabilities. Relational coordination is an area seen to benefit better communications. According to McCullough et al. (2018), relational coordination involves having shared goals, knowledge, and mutual respect. Such approaches can also benefit criminal justice-focused challenges that intersect with public health concerns.

I performed an exhaustive literature search and review of available material through numerous sources and found minimal research advancing the EpiCrim approach (Akers & Lanier, 2009; Bhui et al., 2012; DeLisi et al., 2018; Lanier et al., 2010; Luty, 2009; Potter & Akers, 2010; Shetgiri et al., 2016; Weisheit & Wells, 2014; Welsh et al., 2014). The issue of youth homicides was mentioned within the contours of gangs in research supporting an EpiCrim approach (Welsh et al., 2014). However, only Levine et al. (2012) tangentially suggested the necessity for using a combined EpiCrim approach to research homicides by youth in urban areas.

I researched available literature by reviewing material from a variety of sources for the following key search terms, which were used to identify peer-reviewed journal articles: *qualitative, gun violence, firearm violence, epidemiological study, youth homicide last 5 years, firearm access, homicide, epidemiology, youth violence and prevention, criminal justice, EpiCrim, urban intervention and prevention strategies, adolescent violence, risk perception, criminology, barriers to public health, and firearms 2014–2018*. The databases searched consisted of SAGE Journals, EBSCO, the Office of Justice Programs National Criminal Justice Reference Service, PsychInfo, ProQuest Criminal Justice, Medline, PubMed, Google Scholar, *Journal of Adolescent Health*, Social Sciences Citation Index, and Emerald Insight.

Purpose Statement

Juvenile homicide offenders trended upward from 2013 through 2016 (Office of Juvenile Justice and Delinquency Prevention, 2016). Despite this increase, there was a dearth of combined EpiCrim research studies specifically focused on risk behavior factors related to youth who commit homicides and the development of intervention and prevention strategies.

The purpose of this qualitative study was to understand whether the EpiCrim approach, as suggested by Akers and Lanier (2009), can be used to reduce gun homicides by youth in U.S. urban areas. The research sought to address: in what ways can a combined epidemiological criminology approach contribute to or detract from the reduction of gun homicides by youth in U.S. urban areas?

Akers and Lanier (2009) formed EpiCrim as a theoretical and conceptual framework that provided a method for practitioners in public health and criminology to bridge approaches and address matters that transcended both disciplines. However, it was not until Lanier (2010) codified a definition and application for broader use of the concept that EpiCrim could be applied to the following scenarios: (a) development of grant applications, (b) formulation of disciplinary teams, (c) clarifying terminology, (d) exposing harmful social policy, (e) and the identification of criminal victims.

Given the dynamics between the criminology and public health disciplines, a decision was made to use a conceptual framework to understand the polarities between the disciplines. In his polarity management theory, Johnson (1996) identified a necessity to differentiate between a problem that can be solved and “a dilemma [polarity] you will need to manage” (p. 14). This captures the essence of the dilemma presented when seeking to understand the polarities that exist between the public health and criminology disciplines. Identifying concrete strategies to address gun violence challenges committed by youth has perplexed both public health and criminology practitioners. To understand the polarities between public health approaches and criminology, Benet’s (2006, 2012, 2013) polarities of democracy theoretical framework offered an approach in conjunction with EpiCrim.

Benet (2012) identified five polarities that require management in a democracy: (a) freedom and authority, (b) justice and due process, (c) diversity and equality, (d) human rights and communal obligations, and (e) participation and representation. While the entire polarity of democracy theory was considered in the study, my focus was on the human rights and communal obligations polarity pair, given their potential capability of understanding both barriers and facilitators of the EpiCrim approach. Akers and Lanier's (2009) research supports this belief; they identified the benefit of EpiCrim in addressing issues that transcend the public health and criminology disciplines. Further, Luty (2009) identified EpiCrim as grounded in the theory of crime being a public health issue. When using epidemiological modeling and criminology in tandem, researchers must consider where the two disciplines align and diverge to address the challenging problem of violence committed by youth in urban areas.

Scope and Delimitations

This study did not include any interviews with youth involved in homicides. Additionally, all personal identifying information of participants in the study was redacted. Comprehensive searches of criminology and health field research databases identified a plethora of research studies on various criminal justice topics. However, no research studies were found that specifically used combined EpiCrim approaches, as identified by Akers and Lanier (2009), related to youth gun violence in urban areas. Additionally, no studies focused on understanding which barriers and/or facilitators impede and/or enhance an integrated combined EpiCrim approach.

For this study, I interviewed a total of 16 participants with equal dispersion across criminal justice and public health sectors. Additionally, to achieve transferability, semi-structured interview codes were compared against CDC YRBSS behavioral risk factors for analogous codes.

Limitations

A qualitative research design with semi-structured interviews was used to address the research question. This methodology approach was selected given my desire to understand the nuances between public health and criminal justice disciplines. A snowball sampling process of identifying participants assisted with removing any potential bias in the selection of contributors. Finally, to ensure dependability and replicability of this study, a thick description relative to the identification and selection of participants and articulation of the process was used to reduce any potential researcher bias.

Methods

For this research, a qualitative study was conducted that consisted of semi-structured interviews with senior law enforcement, public health, and criminal justice practitioners. The selected approach was designed to understand the nuances between public health and criminal justice disciplines to identify ways that a combined epidemiological and criminology approach could contribute to or detract from youth gun violence homicides in urban areas. Further, coding themes from interviews were developed and the results of this coding process were compared with data collected from the Center for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System (YRBSS). To achieve transferability, semi-structured interview codes were compared against CDC YRBSS behavioral risk factors for analogous codes. This research approach component was to align themes collected through the interviews and their correlation with areas surveyed by the YRBSS.

Research Question

In what ways can a combined epidemiological criminology approach contribute to or detract from the reduction of gun homicides by youth in U.S. urban areas?

Participants

Participants selected were active members of the police and criminal justice fields with experience relative to juvenile justice policies. The medical professionals selected for this study were forensic pathologists, epidemiologists, and medical physicians involved with violence reduction strategies. The criteria for law enforcement personnel were active and retired chiefs of police, deputy chiefs of police, sheriffs, or superintendents who had served in municipal, county, state police, or sheriff agencies with a sworn law enforcement population of at least 100 personnel from urban areas. No coding systems were directly or indirectly linked in the study to any individual. All participants' identities—names, ethnicity, age, years in the position, and location of their position—were protected and were not disclosed.

Based on the criteria established, I used a snowball purposeful sampling strategy (Patton, 2015) to recruit participants for this study. While a total of 25 individuals received either an email or direct solicitations for this study, data was ultimately collected from 16 participants. All participants were informed of their rights as provided by the IRB (07-31-19-0732873) and told that they could cease the interview at any time. Additionally, all participants were provided with informed consent, and all concurred. Communications with participants consisted of emails, phone calls, and text messages.

Data Analysis

The information obtained from each recorded interview was uploaded to NVIVO transcription service whereby a transcript was produced for each interview. Each transcript was then reviewed, and I conducted an initial edit whereby I would listen to the tape recording and compare it to the NVivo-produced transcript and my field notes. The transcript was then re-edited and subsequently forwarded to participants for their review. Each participant was given a minimum of 5 business days for their member check review. In most cases, participants returned their transcripts within the requested period. Whenever participants did not return the transcript, a reminder email was sent. Codes were developed manually from the initial review of all transcripts and subsequently revised as necessary when participants returned their edited transcripts. The process consisted of reviewing each transcript question for commonality amongst the data as well as identifying information germane to the research question. Once the initial manual coding process was completed, I reviewed the codes to ensure no duplication. An additional review was then conducted across the data to formulate themes (Braun & Clarke, 2013).

Results

Themes and Complexity of Gun Violence

Several themes resonated from the review of participants' responses to the semi-structured, open-ended questions. Nine of the 16 participants' responses (56%) suggested gun violence is a dynamic and complex issue. It was offered that because of EpiCrim's versatility as a comprehensive multidisciplinary approach, unique capabilities existed to address the complex environment that occurs in communities plagued with gun homicides committed by youth in U.S. urban areas. When reviewing specific comments in alignment with the research question, participants suggested the necessity of using comprehensive research strategies for what is considered a complex, intractable issue. Further, comments supported the ability to engage in

multidisciplinary research as an example of EpiCrim's value and ability to contribute to the reduction of gun violence.

Participants identified a myriad of factors responsible for gun violence in communities and supported the necessity for an EpiCrim approach to aid in identifying various risk factors. These include environmental concerns such as trauma from gun violence due to several factors such as poverty, mental health deficiencies, and criminal activity that occurs in communities plagued by disadvantage. By implementing EpiCrim-centric research approaches, participants suggest that communities would benefit from the deconstruction of data to understand what was occurring in neighborhoods instead of only using aggregate data as is currently done.

Within the second theme, nine of 16 participants (56%) identified two factors contributing to gun violence issues: the impact of insufficient federal funding for research coupled with the need for both public health and law enforcement officials to gain a better understanding of laws related to HIPAA and the Family Educational Rights and Privacy Act (FERPA). Central to these concerns were competing interests and the reluctance to share information in situations even when the laws would not preclude such disclosure. Further, participants suggested that perceived moratoriums by the Centers for Disease Control (CDC) on engaging in gun research were areas that necessitate legislative or policy revisions.

With regards to the third theme, 13 of the 16 participants (81%) identified that barriers to using an EpiCrim approach to research gun homicides committed by youth in U.S. urban areas were primarily predicated on political reasons and not grounded in specific legal barriers. It was suggested that in addition to cultural barriers between the disciplines, there is a dearth of trained researchers with the skill sets to conduct specific EpiCrim studies. The reasons suggested for this gap were linked to the fact that criminology as a discipline is not covered in public health learning domains.

A review of the data for the fourth theme identified that nine of the 16 participants (56%) suggested EpiCrim provides a better approach toward information sharing and the ability to determine the root cause of gun violence and develop effective intervention strategies. They further suggested that intervention through an EpiCrim research approach provides a potential capability to reach at-risk youth prior to violence occurring.

The fifth theme identified the value of early detection capabilities by integrating a public health approach to recognize problems and commensurate solutions. Participants identified the value of an epidemiological diagnosis to focus on intervention strategies from several domains, such as school officials, mental health practitioners, or medical physicians. It was further suggested that traditional research approaches were not effective. Further, participants postulated that the public health approach provides a platform accustomed to targeting specific causal factors that would be beneficial in researching gun violence issues.

The final theme focused on annual questions asked of students through the CDC YRBSS. Participants identified that because of gun abatement measures (Magnetometers, School Resource Officers, and safe passage zones), guns, for the most part, are not being carried into schools. However, those involved in gun violence have been known to hide guns outside of school properties for easy access. The issue of violence, whether a firearm was used or not, was also suggested as being a cause of concern by participants. It was also noted that in one jurisdiction, school administrators seek to handle administratively any incidents of guns being carried into schools by students and not involve law enforcement officials. The participant who identified this issue also stated that, on a weekly basis, law enforcement officials remove a firearm from a school setting despite the use of different gun abatement measures.

The following tables (1–6) represent the composite data responses of all 16 participant interviews when analyzed across each specific theme.

Table 1: *Theme 1: Gun Violence Is Dynamic and Involves Complex Issues*

LE-003: “Take a look early on at what those factors are, what that environment is that you know has the potential of creating. Gun violence, youth gun violence, as being a problem. And if they start taking a look at it early, not just from a physical standpoint but even from a mental health standpoint, that we’ll be able to... reduce what happens.”

LE-004: “So I think it’s complicated; it’s very complex. That’s why there has to be comprehensive research, to really look into these issues if we want to come up with effective intervention and prevention strategies that [make] it more difficult for people to actually get their hands on guns.”

LE-005: “I don’t think that there is enough being done to study beyond the simple how many guns are out there or how stiff the laws are out there. And how can we make the sentences longer and how much are longer and incarceration. I think there needs to be more done in terms of doing a study of how it’s impacted by the environment in which the young people... are raised in.”

LE-006: I think that a lot of research needs to be done so we can get to the bottom of what’s causing some young people who are exposed to certain types of trauma to be involved in this type of behavior.”

PH-002: “We’re not providing enough jobs and things for people to do that could keep them out of trouble and off the streets. And we’re not able to formulate a program that’s really allowing the students’ parents or family or caretaker to be involved with their education.”

PH-004: “So gun violence is a complex issue that occurs within neighborhoods which need to be considered as complex adaptive systems.... When you look at public policy, it’s not informed by the evidence.... I think that that’s one of the things that we’ve been handicapped with is that we look at aggregate data and don’t deconstruct that so as to appreciate what’s happening in not only minority communities but also minority communities that are affected by concentrated disadvantage.”

PH-006: “Again you know urban violence is not—it’s not a monolith.... You have to understand what are the risk factors in that particular individual. And then what are the risk factors in the family, the community, and the society at the ecological model.... We need as many practitioners from criminal justice from social work from law enforcement, from public health from medicine from surgery, from divinity—all looking at this problem from their perspective and their lens and developing programs that intersect and knit together.”

PH-007: “Well I think the value of public health approach is ... no matter what problem you’re looking at. The reality is that you now begin to bring to the table a system-wide approach to a very complex problem.... We need to understand that in urban environments—and I want to emphasize urban environments—most gun crime whether on school property or off school property is gang-and drug-related.... If we’re talking about guns, we don’t just talk about purchasing a gun and where the gun was purchased from. We don’t talk about, just what was the ammunition and what type of clip. We don’t talk about what was the demographic of the perpetrator. We talk about structural racism that puts people in environments where there is food insecurity, where there is a lack of jobs, where there’s poor schooling, and quite frankly, where there’s poor policing. We talk about a context of living where people fear for their lives and don’t trust the people who are being actively paid to protect them.”

PH-008: “I’m not really seeing any instance where a simple solution to a complex problem has worked.... You normally don’t get an opportunity to have this kind of bundle of resources. Complex solutions for complex problems can produce change that is long lasting and that is going to impact a broad swath of people. We don’t pay attention to the broader problem and so the remedies are going to be limited and short lived.”

Table 2: *Theme 2: Revisions Are Needed to Gun Violence Funding Research Authorization, HIPAA and FERPA Laws*

LE-001: An example of that is many cases where the schools can't release that information because of federal and state laws. We can't release medical information even of a generic sense because of HIPAA. And yet we don't need that. All we need to know is this person a client and would you like to talk to them.

LE-004: "I see a lot of the systems as being disjointed there's not enough sharing of information [and] some of that has to do with HIPAA requirements and things of that nature especially when you're talking about mental health, and things of that nature having access to databases that might identify young people that are prone to you know resorting to gun violence."

LE-006: "I do think now that you bring it up that that is probably an area where we could make some adjustments. That would be helpful. I think you have competing interests. You have obviously personal privacy versus public safety. And that's a hard scale to balance."

LE-007: "I think that if it had a little bit of the HIPAA relaxation on that side would be a benefit."

PH-003: "I can't give you a source of this information but it's about understanding is that the Centers for Disease Control has been restricted from studying injury to homicides due to a gun. And you know, if you're not able to study the problem you can't really come up with a logical systematic and an effective implementation to address the problem. So, I would say you not only allowing but directing and funding our research by the CDC. It would be the first step."

PH-004: "So the approach that most that I see as far as and not just me but what the literature is that when you look at public policy. It's not informed by the evidence."

PH-005: "The Department of Health to tell physicians to stop making such questions in the patient interview. So, if the physicians are already being frightened because of that, then they will be fearful of violating HIPAA in their questions of parents or other persons regarding even gun ownership, gun safety, you know whether there are guns in the home etc. and that will impact on the end result they are seeking."

PH-006: "So there needs to be improved federal funding for specific gun violence research."

PH-008: "And people had proposed that FERPA and other kinds of the privacy rules have prohibited certain of the law enforcement partners and even the educational partners from fully... divulging information even in a sequestered environment. In a kind of quarantined environment. They are not free to disclose certain information because of violating those privacy rules. Then you wind up not being able to fully utilize the youth shooter review because you need some of those details to be able to understand the fullness of the incident, what led up to the incident, what happened afterward, what kind of support were available to the family and so forth."

Table 3: *Theme 3: Barriers Are Manufactured and Not Necessarily Because of Specific Laws and/or Policies*

LE-001: “I think there are. And most of them frankly are made by humans and not necessarily legal in all cases. The way to overcome it in my experience and we’re doing this for both young people as well as people that are adults. And that is to have frank conversations and not so much for what we can’t provide but what can we share and not violate laws so we can try to keep kids and people out of jail and get them into facility treatment in other locations.”

LE-002: “The barriers, it’s the people who feel that (pause) they made it in the mainstream, that you know, it’s not so much a problem you just got to just be more law enforcement focused.”

LE-003: “You know you got HIPAA laws and some of the other protective laws that’s in place that don’t allow the sharing of certain information you know and then you just need to have some more concrete study on looking at that approach to see how effective or evidence based the approach is.”

LE-004: “I mean there are issues and barriers that need to be addressed in order for there to be a flow of information or free flow of information and where the people that need help can get the help they need.”

LE-005: “Well I think a lot of it from a political perspective... I think there... are barriers to it that keeps the two from coming together and keep the especially the medical side of it from being given the due diligence and high level of concern that it should.”

LE-006: “I think that’s a potential barrier, somebody set in their ways and they don’t have an open mind and give it consideration.”

PH-001: “So I do think there are cultural barriers within our different sectors that... certainly play a part in our failure to do this, and with not trusting in changing how we think.”

PH-002: “I believe that barriers that exist are in setting up these types of studies, having funding for these studies and the appropriately trained people that can do the studies without bias. I think that’s where the barriers exist. It’s not something that is impossible to do but it takes a concerted effort by a large group of people.”

PH-003: “I think the real barrier is the lack of resources.”

PH-004: “I think the most important barrier the most prevalent the most prominent barrier is that we look at these this issue as a problem to be solved. And not as either a polarity or a complex issue that is absolutely new.”

PH-005: The barriers now are mostly legal barriers.

PH-006: “The barrier today is that there is limited amount researchers limited amount of perspectives and it’s not until we get the best and the brightest looking at this problem on a regular basis and evaluating programs and establishing best practices or promising practices in the area of gun violence prevention.”

PH-008: “If you’re trying to engage live persons and those persons don’t have any trust in the system, and you might represent (that system), I think that poses a barrier.” “I’m thinking of barriers that may exist because of the history of racism and oppression and disparate treatment that certain communities have felt at the hands of systems that complicate the way that you would want to kind of move into a community engage in research and you know kind of do what might be textbook research.”

Table 4: *Theme 4: EpiCrim Affords a Better Ability to Share Information Across Disciplines and Study the Root Cause of Gun Violence*

LE-001: “If you could tap into those and look for that where you have a number of these converging at the same time you might be able to at least forecast the possibility of a problem.”

LE-003: “That will help prevent violence from even happening. So, I think you know just doing a look at it from that angle and looking at you know what those [s]ymptoms are of gun violence and how [w]e address those symptoms.”

LE-004: “I think it could reduce it if we knew the root causes. And if we were able to develop effective intervention strategies, so that we are able to reach at risk and high-risk youth. Before they actually commit act of violence with a gun or even pick up a gun to use for that purpose then I think it can have a tremendous impact.”

LE-005: “I absolutely think that if there is an opportunity to do a comprehensive study on the medical side of it. And merging and sharing of the information I think that we would definitely have a better approach and a better understanding of the impact of gun homicides by youth... in the United States.”

LE-007: “It allows us to bring in a different matter of resources than we just traditionally haven’t used our resolve in the criminal justice field is the arrest. But I think epidemiology will be able to bring in what other issues may be underlining that we can bring resources to help us out and resolving and reducing this level of violence.”

PH-003: “Yeah, a proper epidemiological approach provides the data that helps you to determine the root causes. And with that with the data you know the magnitude of the problem and with the magnitude of the problem in self population then you’re able to address it then you’re able to look at root causes or what are the key determinants of the issue. And once you have the root causes the key determinants outlined and that includes the stakeholders that includes the youth and includes people impacted victims and gang members and activists in the community includes everybody. Once you’ve determined those root causes then you’re able to implement strategies that make sense for your community.”

PH-004: “Unless they come together not just as a multidisciplinary or interdisciplinary but as a trans disciplinary approach that we’re not going to make an impact.” “Again, you need to have multiple disciplines sort of coming together not just one or two or three but multiple ones. And again, use a complexity lens. And system science tools. Two of which are Agent Based modelling. And the other one is Mark off Chain.”

PH-006: “The public health approach allows a convening of all disciplines. So, you know the ability to identify an issue, research and apply the research evaluate the (PAUSE) the outcomes of that research, develop policy evaluate the policy that comes out have a discussion and then we kind of refine that same process over and over again.”

PH-008: “I think our public health approach creates a challenge to just thinking our people that are broken as it forces us to look at the macro-outcome and look more broadly at what are the underpinnings and the systemic factors that show themselves to being the root causes for these kinds of criminal justice outcomes because we should be looking across multiple systems at shared contributing factors including institutional and structural factors.”

Table 5: *Theme 5: The Public Health Approach Provides Early Detection Capabilities Through Epidemiological Diagnosis of Issues*

LE-001: “Early detection is the key and I’m convinced that if we find for the most of the types of crimes that we’re looking out looking at especially for young people before they age out of crime that you can change that life course with some approaches tailored to that individual. The intervention can focus on what issues they’re facing and those issues that they’re facing are identified by an epidemiological diagnosis. That can be done at a variety of points along the way. Whether it be in school, whether it be in mental health, whether it be with a doctor, whether it be with their family and it’s not necessarily just one point.”

LE-002: “I think it’s just like if you look in the medical field when doctors are trying to find a cure for a particular disease, you know there’s research, and studies that are involved, but they target specific aspects of that disease and then they take resources from a variety of places to really address the causal factors. I don’t think that’s been done effectively as far as violence and especially gun violence where you have to really bring different, not just law enforcement to the table, but you have to bring different entities to the table, and say this is what we’re going to target.”

PH-001: “And so to use a public health approach to identify the problem and then identify solutions to the problem, we should be able to have a reduction in these types of death.”

PH-003: “We use a problem-solving approach that is systematic and is well proven in multiple different domains of public health issues that help communities to derive solutions that are community specific.”

PH-007: “And so, when we’re talking about a public health approach or health in all policies approach, we’re now talking about not just looking and narrow, but we talk about looking at the broad context”

PH-008: “Public health can help you move from looking just at the individual incidence as individual incident and having lots of them, to look more at the surveillance.” “A more robust research base could leverage and inform programs that are designed to decrease the risk factors and increase protective factors to reduce gun violence.”

Table 6: *Theme 6: While Not Necessarily in Schools, Guns Are Available Near School Environments*

LE-001: “Schools are in many cases reluctant to put magnetometers or other kinds of detection equipment at the schools but they recognize that that is a concern, so they look at their school safety differently across the country with different thresholds.”

LE-002: “So one of the things that occurs is that the young men and nowadays, some young women, they leave their firearms either in their vehicles or they leave them in the shrubbery on the outside of the school because they don’t want to be too far away.”

LE-003: “Unfortunately, we saw a lot of guns being brought to school to the point where a lot of schools have to end up having some kind of gun detection method before a person is even allowed in the school.”

LE-007: “In the metropolitan that I served in we generally take a gun out of a school in the metropolitan area at least once a week which alludes to the fact that this is a significant problem because we’re only capturing that particular gun; it does not capture the guns we don’t catch.”

LE-008: “There is certainly people who report when I mentioned that young people may be injured coming or leaving or attending on their way to school that the guns don’t always have to be in the school building that people certainly hide guns along the pathway to school.”

PH-002: “There’s a greater perception in young people in school that people are carrying guns when they’re not or the issues occur outside of school property. There are occasions of recent where people bring guns into the school but most students are not carrying guns on school property.”

PH-008: “The guns don’t always have to be in the school building that people certainly hide guns along the pathway to school, so the threat of being, (PAUSE) being injured again doesn’t only happen because you’re afraid of walking in or out of the school building but along that route home.”

Discussion

Integrating Epidemiology and Criminology Approaches

McCullough et al. (2018) suggest the necessity of understanding both the barriers and the facilitators of intraorganizational collaborations in public health arenas. Further, they cited the public health department’s proclivity to be centralized and siloed (McCullough et al., 2018). The importance of understanding this shift is relevant in many respects to how public health organizations function internally and externally with other organizations. An exhaustive search for similar barriers and facilitators from a criminal justice perspective failed to identify a parallel study. However, given that most criminal justice research is conducted by academics and not practitioners, Payne (2016) identified potential reasons for the dearth of such research, suggesting that criminal justice academics do not embrace interdisciplinary activity and create artificial barriers relative to understanding social problems. Barriers consisted of a lack of fiscal resources within academic departments, decentralized budgets to support interdisciplinary work, and power struggles between various academic departments. Further, despite such barriers, Payne (2016) identified several articulable benefits to interdisciplinary approaches, such as research funding opportunities, identification of numerous complex issues that could benefit from interdisciplinary approaches, and value in scientific research to solve societal problems.

Lanier et al. (2015) suggested EpiCrim as an approach that affords the ability to research areas that affect not only the health of a society, such as crime, terrorism, or even HIV/AIDS, but other areas that have both public health and criminal justice policy implications. Additionally, EpiCrim has served as a bridging theory to research public health and various criminal justice concerns (DeLisi, 2016; DeLisi et al., 2018; Gebo, 2016; Vaughn et al., 2012). Further, DeLisi supports Lanier et al. (2014) using an EpiCrim approach for anything that affects the health of society. Identifying potential challenges that are both barriers as well as facilitators to

understanding youth gun violence is best achieved if communities are cognizant of polarities that adversely affect their abilities to achieve success.

Johnson (1996, p. 81) posited understanding whether a difficulty is ongoing and, if the two poles are interdependent, whether that is an important aspect in determining if there is a polarity to manage. With gun violence being a public health issue, the two poles identified for this study consisted of Human Rights and Communal Obligations.

Balancing codified individual rights under the Constitution relative to bearing firearms against communal obligations to provide for safe environments free of firearm violence are examples of ongoing polarities that necessitate being managed (Johnson, 1996, p. 82).

Violence and Public Health Relationship

Hemenway and Miller (2013) suggested the CDC public health model offers several approaches worthy of consideration for prevention of gun violence in communities. Specifically, they identified that, given the public health model's focus on prevention, it works well in population-based efforts where an individual is not necessarily identifiable. They further suggested that the model provides a means by which to examine all potential intervention strategies.

According to the CDC (2017), the public health model has several components, which are seminal to its success. First, the problem is identified, which is followed by the identification of risk and protective factors, the development and testing of preventive strategies, and widespread dissemination of identified strategies to those who would most benefit. Given the intersection between public health issues and criminology, this model supports an examination of the root cause of violence through the application of a public health model to reduce the potential of epidemics such as violence (Welsh et al., 2014). Further, this methodology provides an approach that can be adapted for a variety of situations in the criminal justice arena.

Different terminology can be a factor toward the implementation of EpiCrim programs. Equally important are areas related to the development of policies that consider this challenge whether they be the result of regulatory or statutory purposes. While information sharing might be appropriate in some situations, in others it would not. For example, while terminology might afford some ability for alignment between the public health and criminology disciplines, other areas could prove more problematic. An example would be when healthcare providers are prohibited from providing information under existent Health Insurance Portability and Accountability Act regulations (U.S. Department of Health and Human Services, 2002). Conversely, absent specific policies restricting the sharing of law enforcement or criminal justice information by law enforcement personnel, such restrictions would not apply.

Levine et al. (2012) suggested a unique relationship between criminal justice and public health, whereby both disciplines seek to reduce crime and disease in communities. Whereas public health seeks to prevent new occurrences of disease, criminal justice attempts to identify conditions that precipitate criminal acts. Finally, understanding the intersection of public health with criminal justice through the application of EpiCrim provides potential visibility to a myriad of areas that can be leveraged toward understanding youth homicide risk factors (DeLisi et al., 2016).

Exploration of the public health model in the context of Benet's (2006, 2012, 2013) polarities of democracy, human rights, and communal obligations is beneficial for examining the value of a multidisciplinary approach such as EpiCrim. The polarities framework provides the ability to understand both barriers and facilitators associated with using a combined epidemiological and criminology approach to youth homicides in urban areas. Additionally, Benet's polarities of democracy theory melds with the EpiCrim framework relative to

policy-making challenges with youth violence in urban communities and the role of government in leveraging its capabilities to reduce such violence.

Funding Appropriation Factors Impacting Effective Gun Violence Research

The lack of research funding is despite evidence of a correlation between mortality and injury because of firearms (Brezenski, 2018; Fowler et al., 2017; McCarthy, 2013; Weiner et al., 2007; Wintemute, 2015). According to Levine et al. (2012), the CDC stated that African Americans between the ages of 20–34 had the highest mortality rates because of gun violence.

With this framework, the literature points to the necessity of taking a diagnostic approach toward identifying not only the problem but potential solutions related to the role firearm accessibility plays in gun crime rates. The public health approach meets this requirement but necessitates sufficient Congressional funding to support the CDC's research efforts. My review of congressional budget material identified that Congress has failed to appropriate sufficient funding to support such research in every reviewed congressional budget request submitted by the CDC since 2014 (Department of Health and Human Services Center for Disease Control [DHHS CDC, 2014]; DHHS CDC, 2015; DHHS CDC, 2016; and DHHS CDC, 2017). While recent efforts have been initiated to fill this gap, more targeted efforts are needed.

Urban Behavioral Risk Factors Associated With Youth Homicides

The CDC YRBSS is a comprehensive database of health-related behaviors in several categories that contribute to the leading causes of death and injuries. The YRBSS data is developed from surveys conducted of public and private school students in grades 9–12 within the United States, including tribal and territorial areas (CDC YRBSS, n.d.). A review of data contained within the YRBSS identified several behavioral factors contributing to violence. Specifically, as it relates to this study, it included students who carried a weapon and/or gun both on and off school property (CDC YRBSS, n.d.). The use of YRBSS data has value in assessing behavioral risk factors and aligning them with areas identified across the EpiCrim domain.

Limitations of the Study

Selection of participants using the snowball data collection approach proved challenging. Recruiting participants was time-consuming and difficult in setting interview appointments with several participants. A second concern relative to use of the snowball approach is the researcher's limited knowledge of identified participants' backgrounds. This created the potential for participants to be referred that might have limited actual knowledge or expertise of the targeted research topic. It also created the potential for participants to advocate personal or professional agendas that were inimical to understanding issues related to the research.

Recommendations and Conclusions

Recommendations

As evidenced by participant comments and this review, further research is needed to understand the parameters by which Akers and Lanier's (2009) EpiCrim concept can be used to reduce gun homicides by youth in U.S. urban areas. Based on interviews with both law enforcement and public health professionals, I identified several recommendations for future studies.

First, it was suggested that a need exists to broaden the conversation and understand issues relative to youth access to guns in rural areas and not simply focus on urban environments. While existent studies address urban areas, one participant suggested not enough focus is given to gun access by youth in rural areas.

Second, given the annual suicide death rate of youth associated with firearms, more focus should be placed on youth suicides in both urban and rural areas. Although Akers and Lanier (2009) did not discuss rural areas, suicides were mentioned in relation to crime. Youth suicide rates support further examination under the EpiCrim methodological approach.

Third, future research is needed into the benefit for schools of public health to conduct EpiCrim-centric research on a sustained basis. Two public health participants suggested schools of public health do not currently place significant focus on criminology issues. They further suggested that such focused research by public health centers of academic learning would be beneficial toward understanding the root cause of youth gun violence. Finally, other participants suggested that a need exists for mental health and comprehensive, multitiered research that has prevention and response elements as part of the study.

Implications for Theory and Practice

The literature supports that violence has been defined as a public health issue (United States; Satcher, 1994; Butkus et al., 2014). However, epidemiological approaches are not often used to address the problem.

Combining epidemiological and criminology approaches can leverage two disciplines with unique perspectives and capabilities to target an issue.

The significance of this study is grounded in the ability to understand how an EpiCrim approach can contribute to reducing gun homicides by youth in U.S. urban areas. By identifying the drivers of such behaviors, policymakers at the local, state, and federal levels are better positioned to develop intervention and preventive strategies.

Conclusion

In this article, I discussed the benefits of using the EpiCrim approach to research approaches to youth gun violence in urban areas. Given the complexities associated with youth gun violence, engaging an approach that leverages the criminal justice and public health domains provides a capability to manage youth firearm homicides in urban areas.

Using Benet's polarities of democracy theoretical framework, the research provided visibility to understanding whether the EpiCrim approach as suggested by Akers and Lanier (2009) and Johnson's polarity management conceptual framework could be used to reduce gun homicides by youth in U.S. urban areas. This research study allowed 16 participants from two different professional perspectives to provide their insights on the value of public health and criminology collaboration to address youth gun violence in urban areas.

Several suggestions emanated from research participants relative to the benefits of EpiCrim to better predict issues associated with youth gun homicides. One suggestion identified the necessity for policymakers to appropriately fund gun violence research. The ability to identify potential strategies to curb youth gun homicides is diminished without appropriate funding. Other suggestions by research participants identified the necessity for policymakers to abandon traditional approaches and engage in EpiCrim-centric approaches.

While this study was limited to urban areas, the concept has broader global implications as well for positive social change. According to the United Nations Development Program, in 2015, world leaders gathered and agreed to several overarching goals to confront a myriad of global concerns, including poverty, public health, and violence that confront nations. Through their efforts, several objectives identified as United Nations Sustainable Development Goals (SDGs) were codified and adopted with commensurate strategies and targets

(UN SDG, 2015). While many SDGs might not have been pertinent to this study, SDG 16 was specifically developed to focus attention on reducing violence and death rates in nations.

As demonstrated through this study, utilization of an EpiCrim methodology provides a significant benefit for local, state, and federal policymakers to support initiatives that bring different disciplines with their unique capabilities to develop strategies related to youth gun homicides in urban areas. With such an approach, communities are better positioned to address the various dilemmas created by youth gun homicides.

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