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

Joseph Anthony McMillan  
*Walden University*

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# Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

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2019

Abstract

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

by

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MS, The National Defense Intelligence College, 2007

MA, The George Washington University, 1986

BS, Wilmington College, 1981

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Criminal Justice

Walden University

February 2020

## 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. Data were collected through semi structured interviews of 16 criminal justice practitioners and medical professionals with experience relative to juvenile justice policies pertaining to gun violence. Interview data were inductively coded, then subjected to 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. Participants perceive a necessity for legislative revisions supporting gun violence research and the reduction of privacy issues that pose barriers to EpiCrim research. 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. The positive social change implications stemming from this study include recommendations to local, state, and federal legislatures to explore legislative action to incorporate EpiCrim strategies as a method to reduce gun violence among youth in urban communities.

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## Dedication

First and foremost, I thank God from whom all blessings flow. It is only because of God's grace and mercy that I am here today. Second, to my mother Jean Ruthel Porter who passed away before I started this journey. Even from heaven above, I have felt your presence and recognize that you have always been an integral part of my drive to pursue goals that others might believe were unattainable. To my sister Jo Antoinette Kinnebrew who died shortly before my completion, I will miss you. To my daughters, Tinisha and Valencia, I love you both with all my heart. I want you to never give up on your dreams. If your mind can conceive it and your heart can believe it, then you can achieve it. To my godmother Nancy Bratcher, your love and guidance throughout my life have been truly appreciated. Finally, to my lovely wife, Dr. Stephanie McMillan, you have been there for me every step of the way on this journey. This product is just as much yours as mine.

The great gospel artist Mahalia Jackson sang a song that said "If I can help somebody as I travel along, if I can cheer somebody with a word or a song. If I can show somebody that he's traveling wrong, then my living shall not be in vain." It is from the perspective of my living not being in vain that I have taken this journey: to give back and help others. To God be the glory from whom all blessings flow.

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## Chapter 1: Introduction to the Study

### **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. Specifically, by understanding the barriers and/or facilitators of a combined EpiCrim approach, decision-makers are better positioned in formulating appropriate strategies for youth gun violence prevention and intervention strategies in urban areas.

In this chapter, I first provide an understanding of the background relative to the concept of EpiCrim and the potential benefits of using an integrated approach to address a specific gun violence issue. I describe the problem of youth homicides in the United States and the gap in literature relative to using an EpiCrim approach toward youth violence in urban areas. I describe my research question and the theoretical and conceptual frameworks I used to conduct this study. Benet's (2006, 2012, 2013) polarities of democracy was the theoretical framework for this study with specific emphasis placed on application of the human rights and communal obligations polarity pair. Johnson's (1996) polarity management along with Akers and Lanier's (2009) conceptual frameworks were also used to examine issues relative to understanding the barriers and/or facilitators of using a combined epidemiological criminology approach toward youth violence in urban areas.

Following my discussion of the various frameworks selected for the study, I provide definitions identified as relevant to understanding the concepts discussed in the study. I continue the section with a discussion of my assumptions and pertinent scope and delimitations, as well as limitations of the study. I then conclude this chapter with a discussion of the significance of this study from a social change perspective.

### **Background**

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 integrating criminology methodological approaches 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.

In considering the benefits of an integrated multidisciplinary approach, Lutya (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 the necessity from a research perspective in using epidemiology modeling and criminology in tandem.

My research specifically focused on understanding how a combined epidemiological and criminology approach could reduce gun homicides by youth in U.S. urban areas. Butts, Roman, Bostwick, and Porter (2015) discussed the cure violence initiative conducted in several urban areas and its focus on reducing gun violence through

a public health model. Fowler, Dahlberg, Haileyesus, Gutierrez, and Bacon (2017) researched data collected from the National Violent Death Reporting System related to 1,297 youth. This research identified 53% of the deaths were attributed to homicides. Gebo (2016) identified the benefits of combining public health and criminal justice approaches to fill the gaps in knowledge regarding specific issues. Ruggles and Rajan (2014) identified several specific behavioral risk factors that could be linked to gun possession and social issues by the students. DeLisi (2016) examined the strengths and challenges of mapping gang related research onto a public health approach.

### **Problem Statement**

The Office of Juvenile Justice and Delinquency Prevention identified in 2016 that juveniles were involved with 731 homicides in the United States (Office of Juvenile Justice and Delinquency Prevention, 2016). Additionally, juvenile homicide offenders trended upward from 2013 through 2016 (Office of Juvenile Justice and Delinquency Prevention, Statistical Source Book 2016). Despite this increase, there has been 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.

Comprehensive searches of criminology and health field research databases identified a plethora of research studies on various criminal justice topics, including probation, radicalization, human trafficking, and gangs (Bhui, Hicks, Lashley, & Jones, 2012; Lanier, Pack, & Akers, 2010; Luty, 2009; Potter & Akers, 2010). The search also identified that Shetgiri, Boots, Lin, and Cheng (2016) recommended study of benefits



toward specific ethnic group's weapons-related behaviors. No research studies found specifically used combined EpiCrim approaches 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.

This study filled the gap in understanding how an EpiCrim approach could be used to reduce gun homicides by youth in U.S. urban areas. Further, it provides policymakers with data to consider in the application and identification of EpiCrim approaches to developing youth gun violence prevention and intervention strategies in urban areas.

### **Purpose Statement**

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.

### **Research Question**

The specific research question I sought to address is: 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?

### **Theoretical and Conceptual Framework**

Fundamental to developing appropriate intervention and prevention strategies to address violence as a public health issue is a firm understanding of matters that either support or impede policy development. Benet's (2006, 2012, 2013) polarities of democracy framework offers an approach for such an examination. Under this

framework, Benet identified five polarity pairs that are necessary for workplace and societal democracy. While all the paired polarity elements are essential, none is sufficient alone; they are interdependent with their paired element. From an approach perspective, violence as a public health issue can be assessed under the polarities of democracy theoretical framework. However, for this study, I decided to specifically focus on the human rights and communal obligations polarity pair. Different from Benet's (2006, 2012, 2013) research, in this study, I narrowly focused on an example of a specific right and obligation; I did not address a myriad of examples.

I used Benet's (2006, 2012, 2013) polarities of democracy as the theoretical framework for this study. Further, Johnson's (1996) polarity management and Akers and Lanier's (2009) EpiCrim conceptual frameworks were used to examine this issue. The decision to use Benet's polarities of democracy theoretical framework along with Johnson's polarity management and Akers and Lanier's EpiCrim conceptual frameworks was motivated by their versatility to assess a variety of challenges. Such frameworks provide a unique platform to study youth gun violence in the United States and challenges associated with the development of mitigating intervention strategies.

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 I used the entire polarity of democracy theory, my focus on the human rights and communal obligations polarity pair for this study was appropriate given their potential capability of understanding both barriers and facilitators of the EpiCrim approach. Where

Benet's (2006) original focus was on workplace dynamics, this research focused on violence as a public health problem. As such, I believe the human rights and communal obligations polarity pair are relevant to explore the EpiCrim approach. Akers and Lanier's (2009) research supports this belief; they identified the benefit of EpiCrim addressing issues that transcend the public health and criminology disciplines. Luty (2009) identified EpiCrim as grounded in the theory of crime being a public health issue. When using epidemiological modeling and criminology in tandem, consideration must be given where the two disciplines align and diverge to address the challenging problem of violence committed by youth in urban areas.

In his polarity management theory, Johnson (1996) identified a necessity to differentiate between a problem, which 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 polarities that exist between the public health and criminology disciplines. Identifying concrete strategies to address gun violence challenges consummated by youth has perplexed both public health and criminology practitioners. Given these challenges, continuous efforts must be made to understand to what degree current approaches impede or facilitate advancement toward potential solutions. To understand the polarities between public health approaches and criminology, Benet's (2006, 2012, 2013) polarities of democracy theoretical framework offers an approach.

Benet (2013) suggested that democracy is a solution to oppression. Further, Benet posited the polarities of democracy as a useful model toward the development of "healthy, sustainable, and just communit[y]" (p. 32). This theory is particularly relevant

in communities where violence is prevalent and mass incarcerations can result from responses to the violence. Based on the response attempting to reduce violence, there can be an adverse impact on a community's sustainability. Additionally, subsequent overincarceration of citizens from areas impacted by violence might be viewed as a form of oppression.

Given the upward trend of youth homicides, a democratic society's appropriation of sufficient fiscal support for the implementation of violence reduction strategies is important. Failure to provide fiscal resources might be considered a form of oppression. Understanding the barriers and facilitators of the human rights and communal obligations polarities of an EpiCrim approach provides a significant benefit to policy makers.

### **Nature of the Study**

For this research, I conducted a qualitative study that consisted of semi structured interviews of senior law enforcement, public health, and criminal justice practitioners. I selected this approach to understand the nuances between public health and criminal justice disciplines to identify ways a combined epidemiological and criminology approach could contribute to or detract from youth gun violence homicides in urban areas. I developed coding themes from these interviews, and the results of this coding process were compared with data collected from the Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System (YRBSS) to determine if additional themes were identified that had not been collected.

## **Definitions**

*Criminology*: “The systematic study of the nature, extent, cause and control of law-breaking behavior” (Lanier, 2009, p. 71).

*Criminal justice*: “The crime control practices, philosophies, and policies used by police, courts and corrections” (Lanier, 2009, p. 71).

*Epidemiology*: “One of the five branches of public health ... the study of variables, vectors and factors that affect disease spread” (Lanier, 2009, p. 71).

*Epidemiological and criminology (EpiCrim)*: “The explicit merging of epidemiological and criminal justice theory, methods, and practice” (Lanier, 2009, p. 72).

*Senior law enforcement*: Personnel operating in any of the following positions: chief of police, deputy chief of police, commissioner, deputy commissioner, superintendent, deputy superintendent, assistant superintendent, sheriff, undersheriff, director, deputy director; and sworn federal law enforcement officials who served as members of the senior executive service.

## **Assumptions**

Several ontological realities drive the various assumptions relative to issues surrounding this study. Some assumptions are driven by perceived restrictions that affect the sharing of information between the disciplines being studied. Other assumptions are predicated on nothing more than how the two disciplines approach matters in their individual fields of study. The choice to either share or not share between the disciplines is often driven by patterns, practices, and policies within their individual arenas. As noted in the study, understanding how individual disciplines approach sharing information or a

reluctance to share provides significant benefits to understanding their ability to leverage the EpiCrim model. An example of this ontological assumption from a medical perspective relates to access to medical information. Medical providers traditionally do not share information gathered from victims with law enforcement personnel for fear of violating Health Insurance Portability and Accountability Act (HIPAA) regulations without authorization from a patient or an appropriate court order. This assumption was validated as a concern by several participants.

Given my extensive law enforcement background, I know that traditional barriers exist between the law enforcement and medical communities and can be attributed to articulable restrictions relative to sharing information because of specific laws and policies. This epistemological assumption is driven by my experience whereby law enforcement professionals are reluctant to share information outside of law enforcement circles for fear of compromising operational matters (M. R. Davis III, personal communications, June 2, 2019). When criminologists and epidemiologists operate in silos and do not share information, it can retard advancing knowledge of offenses in areas such as youth gun violence homicides in urban areas.

My axiological assumptions are that the values contained in the polarities of democracy theory (justice and due process, human rights and communal obligations, and freedom and authority) are essential for the reduction of youth gun homicides. Each pair impacts seminal values in play when matters of rights intersect with policies and laws. Additionally, public debate surrounding gun violence reduction strategies are affected by these values by those in positions of responsibility and by society at large.

I appreciate the value of information-sharing and its relationship to this research. In some cases, I have witnessed a lack of information-sharing between law enforcement officials and medical personnel. When health care providers engage with patients regarding the underlining causes of their injuries from violence, this knowledge can be essential to law enforcement personnel. Semi structured interviews with multiple participants provided a methodological approach to assist in determining the value of the research. Such semi structured interviews provided a platform to distill salient points that can also help shape prevention and intervention strategies.

A final assumption relates to the lack of fiscal support by U.S. governmental organizations to research the use of firearms as a public health issue. Such an approach has created a barrier to fully understanding potential capacities, which can be leveraged through an EpiCrim approach. All assumptions create potential barriers to fully exploit the benefits of using EpiCrim to identify risk behavior factors associated with youth gun violence homicides in urban areas. These assumptions are supported by the lack of research specific to the use of EpiCrim to identify risk behavior factors associated with youth gun violence homicides in urban areas.

### **Scope and Delimitations**

This research did not include any interviews with youth involved in homicides. Additionally, all personal identifying information of participants with the study were redacted. Comprehensive searches of criminology and health field research databases identified a plethora of research studies on various criminal justice topics. However, as noted, no research studies were found that specifically used combined EpiCrim

approaches 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.

Benet's (2006, 2012, 2013) polarities of democracy theoretical framework provided a method to understand various attributes that were factors in a democratic society. While I used the whole theory, I focused on the human rights and communal obligations pair for the study.

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

### **Limitations**

I have an extensive career as a law enforcement professional and executive in the public sector. I selected participating senior law enforcement practitioners and public health officials. I leveraged relationships through two professional law enforcement organizations and a social media platform.

I chose a qualitative research design with semi structured interviews to address the research question. This approach was selected given the 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



thick description relative to the identification and selection of participants, as well as articulation of the process was used to reduce any potential researcher bias.

### **Significance**

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, policy makers at the local, state, and federal levels could be better positioned to develop potential intervention and preventive strategies. Given the impact of gun violence in various urban communities, policy makers often must identify solutions to problems that seem intractable.

Violence has been defined as a public health issue (Legislative History for the Omnibus Consolidated Appropriations Act, 1997; Satcher, 1994), the American College of Physicians (ACP) (Butkus, Doherty, & Daniel, 2014), and 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. From a positive social change perspective, the outcomes of such an approach could significantly affect communities suffering from youth firearm violence.

### **Summary**

The purpose of this dissertation was to understand how a combined EpiCrim approach could contribute to reducing youth gun homicides in U.S. urban areas. Because violence is considered a public health problem, this research could identify potential intervention strategies previously not considered. In Chapter 2 of this study, I explored the relevant EpiCrim literature and factors believed to be seminal to understanding the

approach's value. The literature review includes a discussion of this topic from both a theoretical and conceptual framework perspective.

## Chapter 2: Literature Review

### **Introduction**

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. In this chapter, 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.

Akers and Lanier (2009) have been credited with advancing the EpiCrim concept, but 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. A review of literature revealed support for the study of criminal epidemiology and differential association to advance individual criminal conduct theory.

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; 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.

Public health and criminal justice disciplines potentially engage individuals who traverse both. With public health practitioners' access, there exists an opportunity 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 educate patients regarding risks associated with firearm possession, violence prevention, and safe storage initiatives in at-risk communities (Carter et al., 2013; Moore, 2017). Several authors have recognized the potential value of healthcare providers educating patients of risks associated with firearms possession and the additional benefit of addressing public health and criminology issues (Carter et al., 2013; DeLisi, 2016; Moore, 2017; Knoepke et al., 2017.).

An exhaustive literature search and review of available material through numerous sources revealed minimal research actually advancing the EpiCrim approach (Akers & Lanier, 2009; Bhui et al., 2012; Lisi, Nelson, Vaughn, Boutwell, & Salas-Wright, 2018; Lanier et al., 2010; Lutya, 2009; Potter & Akers, 2010; Shetgiri et al., 2016; Weisheit & Wells, 2014; Welsh, Braga, & Sullivan, 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, Goldzweig, Kilbourne,

and Juarez (2012) tangentially suggested the necessity for using a combined EpiCrim approach to research homicides by youth in urban areas.

### **Literature Search Strategy**

Available literature was researched 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 I searched consisted of were 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.

### **Theoretical and Conceptual Framework**

Given the impact of youth gun violence in the United States, there is a need to determine the viability of innovative approaches to address the issue from a research perspective. In this dissertation, I used Benet's (2006, 2012, 2013) polarities of democracy as the theoretical framework. Because Benet used Johnson's (1996) polarity management as his conceptual framework, it was a conceptual framework for this study along with Akers and Lanier's (2009) combined epidemiological and criminology conceptual framework.

## **Polarity Management**

In polarity management theory, Johnson (1996) identified the necessity of differentiating between a *problem* and a *dilemma*. Further, Johnson suggested that whereas a problem may be solved, a dilemma must be managed. Benet (2006) identified that Johnson (1996) offered criteria that must be assessed in polarity management: Is there a polarity to manage or a problem to solve?

## **Polarities of Democracy**

Benet's (2006, 2012, 2013) polarities of democracy theoretical framework provided a method to understand various attributes that are factors in a democratic society. Benet's polarities of democracy framework specifically identified (a) freedom and authority, (b) justice and due process, (c) diversity and equality, (d) human rights and communal obligations, and (e) participation and representation as seminal areas that are interdependent. Through examination, Benet (2013) suggested the theoretical framework can be used to "build healthy, sustainable, and just communities" (p. 36). Within this context, I found value in expanding the polarities of democracy framework for this study.

Benet (2006, 2012, 2013) posited that none of the paired elements works well without its pair, and all 10 elements are necessary for workplace and societal democracy. Further, Benet suggested that democracy is a solution to a problem (2006, p. 57). This approach, as a theoretical framework supported by Johnson's (1996) polarity management theory, provides an avenue for exploration as to whether there are barriers and/or facilitators to using the EpiCrim model.

Each of Benet's identified polarity pairs are interdependent with positive and negative aspects (Benet, 2006, p. 59) for each pole. Further, Benet (2006) suggested the necessity to assess not only the rights but also the responsibilities associated with each of the poles for the five pairs (p. 59). For this study, while I used the whole theory, and I focused on the human rights and communal obligations pair.

According to Benet (2012), democracy in and of itself is not a polarity, but it is a means by which to address or overcome oppression. Understanding the polarity dynamics of the human rights and communal obligations pair is important and may provide insight into methods that either impede or facilitate an EpiCrim approach. This approach also affords an opportunity to identify potential strategies to reduce firearm violence as a form of oppression. Additionally, the effectiveness and characteristics of EpiCrim as it relates to youth gun violence was explored through the lens of the polarities of democracy framework.

### **Epidemiological and Criminology Approach**

Epidemiology is a component of public health much like criminal justice relates to criminology. EpiCrim was first identified in Akers and Lanier (2009), and they suggested a lack of integrating criminology methodological approaches with other disciplines to research potential linkages related to crime. Similarly, Lutya (2009) suggested that EpiCrim is grounded in the concept of crime as a public health issue. While epidemiology and criminology are separate and distinct disciplines, they can nonetheless be combined to address areas that cross both areas (Akers & Lanier, 2009; Bhui et al., 2012; Carter et al., 2013; DeLisi, 2016; DeLisi et al., 2018; Knoepke et al.,

2017; Lanier et al., 2010; Lanier, Zaitzow, & Farrell, 2015; Levine et al., 2012; Moore, 2017; Luty, 2009; Potter & Akers, 2010; Shetgiri et al., 2016; Weisheit & Wells, 2014). Further, Lanier (2010) suggested that EpiCrim draws from both disciplines' epistemological foundations.

The importance of understanding the definition of EpiCrim correlates to its application to a variety of criminal justice challenges that have the potential for addressing public health concerns. My comprehensive literature review identified that the EpiCrim approach has been studied in areas such as probation, violent radicalization, narcotics, human trafficking, weapons violations, burglary, substance abuse, and gangs (Akers & Lanier, 2009; Bhui et al., 2012; DeLisi et al., 2018; Lanier et al., 2010; Lanier et al., 2015; Levine et al., 2012; Luty, 2009; Potter & Akers, 2010; Shetgiri et al., 2016; Weisheit & Wells, 2014). However, no studies were identified that specifically used an EpiCrim approach for the study or identification of barriers and facilitators related to firearm homicides committed by youths in urban areas. I identified several studies that addressed matters that traversed both public health epidemiological and criminal justice focused areas (DeLisi, 2016; DeLisi et al., 2018; Gebo, 2016; Vaughn et al., 2012).

## **Literature Review**

### **Integrating Epidemiology and Criminology Approaches**

According to McCullough, Eisen-Cohen, and Lott (2018), there is a necessity to understand 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. McCullough et al. (2018) identified several facilitation approaches, such as organizational structures, culture, cloud meetings, and social identity. Conversely, barriers identified in the study consisted of the evolving interpretation of collaboration, lack of time without the right people at meetings, lack of service alignment, and lack of trust. An exhaustive search for similar barriers and facilitators from a criminal justice perspective failed to identify a parallel study.

Given that most criminal justice research is conducted by academics and not practitioners, Payne (2016) identified potential reasons for the dearth of such research. Payne suggested that criminal justice academics do not embrace interdisciplinary activity and create artificial barriers relative to understanding social problems. Such 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, many complex issues that could benefit from interdisciplinary approaches, and value in scientific research to solve societal problems.

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 on 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 which intersect with public health concerns.

Lanier et al. (2015) suggested EpiCrim as an area that affords the ability to research areas which affect not only the health of a society such as crime, terrorism, or even HIV/AIDS, but other areas which 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). In using EpiCrim to bridge health and criminal justice issues, some criminologists have embraced the idea of mining large data sets to address questions surrounding the actions of those engaged in criminal behavior (DeLisi, 2016).

According to DeLisi (2016), the National Epidemiologic Survey on Alcohol and Related Conditions and the National Survey on Drug Use and Health are two sources of information which contain significant data used by researchers to create behavioral profiles of offenders. DeLisi (2016) identified the National Epidemiologic Survey on Alcohol and Related Conditions contains information on 43,093 alcohol and substance

abuse disorders, as well as psychiatric and personality maladies of young adults in the age range of 18 – 24. DeLisi (2016) also identified the National Survey on Drug Use and Health contains illicit substance use and abuse patterns, as well as psychological and psychiatric and trend data on 68,487 randomly selected youth in ages 12 and above.

Through accessing National Survey on Drug Use and Health data, DeLisi (2016) identified approximately 10.7% of the surveyed population were criminals with combined violence and substance use morbidity. Accessing data such as contained in the National Epidemiologic Survey on Alcohol and Related Conditions and the National Survey on Drug Use and Health also suggests potential value in data mining other large databases by those using an EpiCrim approach. While criminal justice practitioners are accustomed to accessing restricted large data bases for official purposes such as the National Crime Information Center and the Combined DNA Index System, accessing publicly available databases such as local, state, and federal court records afford potential areas of value for use by those engaged in EpiCrim research.

The approach is taken by DeLisi (2016) whereby criminologists leverage large epidemiological data sets to conduct research, which aligns with Lanier's (2010) suggestion regarding the benefits of applying EpiCrim in correctional and policing settings where specific problems can be addressed by practitioners in both disciplines. Additionally, Delis supports Lanier, Polizzi, and Wade (2014) to use an EpiCrim approach for anything that affects the health of society. For example, using EpiCrim to address HIV/AIDS situations in correctional settings affords both health care and

criminal justice professionals to be more forward-leaning in policy making for long term societal public health and criminal justice issues, which can impact communities.

Integrating a combined epidemiological and criminology approach creates unique situations that require attention. A pertinent example of a polarity management challenge relative to this study relates to the sharing of information between the two disciplines. For example, privacy laws and regulations clearly impact both the combined epidemiological and criminology disciplines (HIPAA, 2002), and must be factored into the polarity management discussion for this study. In some respects, such laws would appear appropriate for reconsideration to ensure public safety while at the same time not compromising an individual's privacy. However, without the necessary support, these communal obligations can create a dynamic that can be difficult to manage and thwart the sharing of information between the public health and criminal justice communities. Given the impact of youth firearm violence, awareness of this challenge suggests the necessity to better understand what prevents appropriate integration of the two disciplines to address firearm violence in communities.

Johnson (1996) suggested polarities consist of four quadrants with both upsides and downsides. Taking this application Benet (2006, 2012, 2013) examined the human rights and communal obligations polarity pair's relationships and this study explores the characteristics of EpiCrim through the same approach. For example, characteristics of trust, care, and access can be attributed to the combined epidemiological and criminology disciplines as positive upsides. Conversely, no trust, lack of care, and lack of access can be placed in both disciplines' negative downsides.

Johnson (1996, p. 81) posited understanding whether a difficulty is ongoing and if the two poles are interdependent are important aspects of determining whether there is a polarity to manage. 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 on-going polarities that necessitate being managed (Johnson, 1996, p. 82).

Consideration must be given where epidemiology modeling and criminology function in tandem to understand where they align and diverge to address the challenging problem of violence committed by youth in urban areas. This concept captures the essence of the dilemma presented when seeking to understand the barriers to and facilitators of using a combined epidemiological and criminology approach. This dilemma is explored in the remaining sections of this chapter.

### **Violence and Public Health Relationship**

In addition to violence being considered a public health issue by Congress and the CDC (Legislative History for the Omnibus Consolidated Appropriations Act, 1997; Satcher, 1994), the American College of Physicians (ACP) (Butkus, Doherty, & Daniel, 2014) raised concerns in a position paper on the necessity to advocate for policies supportive of reducing firearm violence. According to Butkus et al. (2014) the ACP policy statement identified firearm violence as both a criminal justice issue and a public health threat necessitating a multifaceted approach to reduce its impact on communities. Butkus et al. (2014) reported the ACP Public Policy Committee identified the following areas and suggested recommendations to its membership as policy positions taking a

public health approach to firearm-related violence: (a) the development of coalitions between health professionals and law enforcement and other advocates, and (b) the counseling of patients regarding firearm-related death and injuries.

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. In their study, homicide was identified as a significant cause of death, which could benefit from approaches used to prevent and treat infections and chronic diseases (Mercy and O'Carroll, 1988). Mercy and O'Carroll suggested the public health model offered several dimensions at the core of epidemiology that are central to the development of information for decision making: (a) public health surveillance, (b) risk group identification, (c) risk factor exploration, and (d) program evaluation. Additionally, Mercy and O'Carroll specified the aforementioned public health model components are not specific to the public health domain.

In a study conducted by Wolf et al. (2018) emergency room nurses considered both the barriers and facilitators of health care professionals engaging with their patients. Accordingly, Wolf et al. suggested firearm injury screening and assessment practices created an intrusive act. Wolf et al. also considered the impact whereby questions created a concern of retribution by patients and contemplated this to be a significant barrier to public health personnel engaging patients. Surprisingly, the same study suggested that having available resources and education for the medical staff was considered a potential

facilitator to overcome what might be considered an identified barrier and ultimately improve screening of patients.

Wolf et al. (2018) considered screening questions challenging for medical providers because of potential safety concerns for nurses without guidance being provided to medical staff relative to the maintenance of information that could impact patient safety. Conversely, Teplin et al. (2014) considered screening opportunities for health care providers to be an appropriate opportunity for preventive intervention. According to Teplin et al. such screening by medical providers allowed them to assess both mental health and substance abuse concerns, which might relate to the patient's firearm injuries. The study by Teplin et al. followed a similar study by Carter et al. (2013) that addressed the value of healthcare providers being able to identify potential behavioral risk factors.

In their study, Carter et al. (2013) identified 23.1% of the 1,581 patients, which were treated by emergency room personnel, possessed automatic or semiautomatic firearms for a variety of reasons before their treatment. Secondly, Carter et al. (2013) provided visibility into means by which healthcare professionals could be leveraged to identify specific areas where law enforcement efforts should be applied to divert illicit firearm transactions. Third, areas were identified whereby healthcare providers could be used to educate patients about the risks associated with firearm possession. Finally, Carter et al. (2013) suggested healthcare providers could be beneficial in the formulation of violence prevention and safe storage initiatives in communities they serve. The research provided by Carter et al. provides several areas, much like Teplin et al. (2014),

in identifying specific areas whereby healthcare providers were able to assist law enforcement's situational awareness relative to behavioral risk factors of youth involved with firearm violence in communities. Such collaboration could prove beneficial in public health and law enforcement efforts to prevent gun violence.

Hemenway and Miller (2013) suggested the CDC public health model offers several approaches worthy of consideration for prevention of gun violence in communities. Specifically, Hemenway and Miller 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. Further, Hemenway and Miller suggested the model provides a means by which to examine all potential intervention strategies.

Why a public health approach? Simply, the public health methodological approach, which has proven beneficial in a variety of areas, is an approach to identifying potential solutions to public health issues (CDC, 2017; Mercy & O'Carroll, 1988). As a public health problem, the public health model could be employed to determine whether a viable approach to reducing gun violence exists.

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).



This methodology provides an approach that can be adapted for a variety of situations in the criminal justice arena. As previously stated, this is an example whereby the specific terminology (Akers & Lanier, 2009; Gonzalez & Akers, 2017; Prothrow-Stith, 2004; Wolf et al. 2018) used by the individual disciplines comes into play. For example, terminology such as root cause in criminal justice correlates to primary care in the public health arena, or tertiary care in the public health arena aligns with criminal justice strategies or programs (Akers & Lanier, 2009; Gonzalez & Akers, 2017).

According to Gonzalez and Akers (2017) both public health and criminal justice practitioners approach their disciplines from their unique training perspectives despite the methodological intersection and similarity in their specialties. For example, Gonzalez and Akers suggested that criminal justice practitioners did not initially embrace longitudinal research designs until the 1990s, whereas epidemiologists had traditionally seen the benefit in such studies.

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, there are other areas that could prove to be more problematic. An example of this concept is where health care providers are prohibited from providing information under existent regulations (HIPAA, 2002).

Conversely, absent specific policies restricting the sharing of law enforcement or criminal justice information by law enforcement personnel, such restrictions would not apply. The ultimate information sharing would be on a need to know basis decided by the particular agency. However, analogous to HIPAA restrictions, a parallel example would be where access to juvenile records are sought. Given existent restrictions for access to juvenile records, this is a situation that requires specific court authorization prior to admission.

The potential benefits for employing a public health approach to address criminal activity cannot be understated. According to Blaser et al. (1984) such application of epidemiology tools was used to identify factors that put children at risk in 22 unsolved homicides and two disappearances of children in Atlanta, Georgia, between 1979 and 1982. Ultimately the public health approach utilized in this study identified several attributes that assisted in the investigation of those crimes. According to Dahlberg and Mercy (2009), the investigation in Atlanta, Georgia, and a suicide cluster in Plano, Texas, supported the epidemiological research methods applied to incidents of violence.

Levine et al. (2013) suggested a unique relationship between criminal justice and public health, whereby both disciplines seek to reduce crime and disease in communities. To that extent, a comparison of public health and criminal justice approaches relevant to violent behavior and prevention was offered to correlate terminology that transcended both disciplines. Where public health sought to prevent new occurrences of disease, it was offered that criminal justice sought to identify conditions which precipitate criminal acts.

The Levine et al. (2012) approach aligned with an assessment of barriers and collaboration by Prothrow-Stith (2004) relative to the interdisciplinary aspects of public health and criminal justice practitioners. In this review, the author suggested several barriers and differences between health professionals and criminal justice addressing violence and identifying strategies which meld with their disciplines. Where public health seeks to approach matters from a risk mitigation perspective, criminal justice focuses on public safety and the assignment of blame and prosecution of offenders. Additional barriers identified were the ineffective collaboration between the disciplines, professional jealousy, and a failure to use their resources collaboratively to address identified issues.

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 toward examining the value of a multidisciplinary approach such as EpiCrim. The polarities provide the ability to understand both barriers and facilitators associated with using a combined epidemiological and criminology approach of youth homicides in urban areas. Additionally, Benet's polarities of democracy theory melds with the EpiCrim framework relative to policy making challenges. This approach allows for comprehension of inherent problems associated with understanding polarities that might exist with identifying potential strategies during policy formulation.

Given the approach of examining human rights and communal obligations, there is a necessity to understand the tenets that support both concepts. First, the United Nations Universal Declaration of Human Rights (1948) provided a platform by which nations adopted a core set of principles, whereby they pledged to conduct themselves in

supporting basic rights for all human beings. One key component of the declaration relates to Article 3, which states “[e]veryone has the right to life, liberty and security of person” (United Nations, 1948, para 1). As codified, the United Nations Universal Declaration of Human Rights to life is a right that should not be abridged but supported by United Nations member states. Analysis of the polarities of democracy approach related to the polarity pair of human rights and communal obligations reflects a correlation with youth violence in urban communities and the role of government in leveraging its capabilities to reduce such violence.

While this study is 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, to include 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. Further, a target objective for SDG 16 unambiguously challenged nations to reduce the level of violence and death in their countries (UN SDG, 2015).

Life is espoused as an inalienable right by our Bill of Rights. With communal obligations to provide for societal protections against violence, questions can be asked if appropriate measures are being provided to meet this obligation. This concern is

specifically relevant in the juxtaposition between individual gun rights and community violence.

Within the United States, the relationship between firearm ownership and gun violence is often debated with respect to perceived rights under the Constitution being abridged if gun control restrictions are enhanced (Fleming, Rutledge, Dixon, & Peralta, 2016; Kleck, Kovandzic, & Bellows, 2016; Moore & Bergner, 2016; Vizzard, 2015). While actively deliberated, the prevalence of firearms and relationship to violence has also been studied by various researchers (Brezenski, 2018; Fowler et al., 2017; McCarthy, 2013; Moore & Bergner, 2016; Weiner et al., 2007; Wintemute, 2015).

Benet (2006, 2012) did not examine all rights and obligations potentially available within a democracy. However, he did identify the U.S. Bill of Rights (2006, p. 212) as an example of rights being impacted. In his research, Benet (2006, 2012) discussed the inalienable rights afforded to citizens (2006, p. 213) and the obligations of organizations as well as individuals to secure and support such rights. Given the carnage caused by shootings involving youth, an argument can thus be made that gun rights embodied under the Second Amendment to the U.S. Constitution should not impinge the correlated obligations of government to provide for safe and secure environments free from violence. This position aligns with arguments that workers should be protected in the workplace (Benet, 2006, 2012).

Exploration of existing literature provides discernibility relative to the rationale behind what can be viewed as inadequate public sector research funding. As such insufficient funding coupled with a dearth of public sector engagement to aggressively

address what can be considered government operations' inertia to use its resources to address the fiscal logjam, raises the question of public sector complicity in failing to reduce a public health concern that ravages communities. Additionally, questions can be raised regarding the extent to which the basic human right of life can be examined through the human rights and communal obligations polarity pair lenses. One area worth examination relates to the impact of insufficient funding support by Congress for CDC firearm violence research. This approach first necessitates understanding the root of U.S. Government fiscal funding of gun violence research.

### **Funding Appropriation Factors Impacting Effective Gun Violence Research**

Firearm violence has historically suffered from insufficient fiscal support at the federal government level. According to Jamieson (2013) the impetus behind the Centers for Disease Control (CDC) firearm research restrictions were linked to a CDC study that determined home ownership of a firearm also increased the risk of homicide. In this study Satcher (1994) suggested firearm violence was a public health matter. Satcher states the CDC could not address violence without factoring in the role firearms play with respect to violence. As a result of this finding, the National Rifle Association lobbied and initially sought congressional support to eliminate the CDC's ability to engage in research on gun control (Omnibus Consolidated Appropriations Act, 1997). When those efforts failed, National Rifle Association congressional supporters sought a reduction in the CDC's budget, and advanced efforts to restrict the CDC from researching the role firearm accessibility plays in gun crime rates (Omnibus Consolidated Appropriations Act, 1997).

According to Mercy and O'Carroll (1988) exclusive reliance on a criminal justice response to violence was believed to be incapable of preventing injuries and deaths from violence. The study opined there was a need to utilize public health approaches for such purposes because of the success such approaches had with various leading causes of death at the turn of the century (Mercy & O'Carroll, 1988). Noteworthy, Mercy and O'Carroll identified in their research that prior to 1980, homicide was not listed among the 15 leading causes of death. Further, according to the study, it was not until 1980 when homicide became number 11. Interestingly, homicides ranking has risen and according to the CDC, it was listed as the third leading cause of death for youth in ages 10–19 during 2015–2016 (Kegler, Dahlberg, & Mercy, 2018).

Mercy and O'Carroll (1988) identified that the CDC created the Violence Epidemiology Branch in 1983 to address violence issues. However, according to McCarthy (2013) the CDC created a Division of Prevention in 1991 and subsequently raised the Division to Center status. Interestingly, Dahlberg and Mercy (2009) identified that it was not until the 1990s whereby the public health approach to violence shifted from not simply describing the problem to understanding what could be done to preventing it.

According to the Legislative History for the Omnibus Consolidated Appropriations Act (1997), Congressman Jay Dickey of Arkansas sought a reduction of the CDC's budget and restriction of the CDC engaging in any research associated with the advocacy or the promotion of gun control. Additional review of the same legislative history revealed congressional discussion identifying gun violence as a public health

emergency by Congressional members, as well as being attributed to a similar determination being made by the CDC. As a result, the CDC sought funding through the appropriations process to engage in research to focus on gun injuries before they occur (U.S. Department of Health and Human Services [USDHHS], 2014; USDHHS, 2015; USDHHS, 2016; USDHHS, 2017; USDHHS, 2018).

Throughout the discussion contained in the Legislative History for the Omnibus Consolidated Appropriations Act (1997) several themes were presented both in favor of and against the CDC's ability to research the role firearm accessibility plays with regards to gun crime rates. Given the designation of violence as a public health issue, the discussion suggests the necessity for an appropriate level of research funding support to be established dedicated toward firearm violence.

Former Vice President Joseph Biden (Obama White House, 2012) has been quoted as making the statement during a campaign and contentious budget negotiations "Don't tell me what you value, show me your budget, and I'll tell you what you value" (para. 3). The application of this idiom is supported by various Administration's congressional budget request submissions during fiscal years 2014–2017 (USDHHS, 2014; USDHHS, 2015; USDHHS, 2016; USDHHS, 2017; and USDHHS, 2018). In each request, Former President Barack Obama's administration sought \$10 million each year during 2014 – 2017, to engage in gun violence prevention research. Each request was ultimately denied by congressional appropriators (USDHHS, 2014; USDHHS, 2015; USDHHS, 2016; USDHHS, 2017). Unfortunately, this failure in funding occurred during



increased juvenile homicide offender trends (Office of Juvenile Justice and Delinquency Prevention, 2019).

President Donald Trump's administration fiscal year 2018 Congressional budget justification revealed no mention of firearm violence research funding in the \$7.93 billion-dollar CDC budget request (USDHHS, 2018). Given government fiscal operations are synonymous with communal obligations from a democracy perspective, evaluating the budget process and its relationship to funding or not funding gun violence research is appropriate.

Based on the legislative history there was and continues to be a lack of congressional support to fund research dedicated to determining the role firearm accessibility plays in gun crime rates, despite several mass shooting events in the United States. Interestingly, according to Levine et al. (2012), the 2009 CDC report titled "The History of Violence as a Public Health Issue" was silent on the role of firearms.

This 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; Wintermute, 2015). According to Levine et al. (2012) the CDC identified African Americans between the ages of 20-34 had the highest mortality rates because of gun violence.

It is clear from the available literature that during the early 1990s, the CDC was making progress toward researching the role violence played in society and supported the necessity for an evidence-based approach toward designing prevention strategy (Legislative History for the Omnibus Consolidated Appropriations Act, 1997; Satcher,

1994). The literature review suggests there was a willingness to accept the findings of the CDC and congressional acknowledgment that firearm violence is a public health problem. With this framework, the literature points to the necessity to take 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. Yet, this funding for CDC research relative to firearm access relationship with violence has not been appropriated since 1994.

As noted, 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, 2014; Department of Health and Human Services Center for Disease Control, 2015; Department of Health and Human Services Center for Disease Control, 2016; and Department of Health and Human Services Center for Disease Control, 2017). Interestingly, despite several high-profile mass shootings in America and public pressure from various segments of society, there has been no movement and virtually inertia toward changing the congressional position and appropriating public funds for the CDC to conduct such research. Without congressional appropriations, the CDC authorities are left with few options to support such research.

Following the 2012 Sandy Hook Elementary School shooting in Newtown, Conn, Former President Barack Obama issued Executive Order No. 14 (2013), which stated in part:

The Secretary of Health and Human Services (Secretary), through the Director of the Centers for Disease Control and Prevention and other scientific agencies within the Department of Health and Human Services, shall conduct or sponsor research into the causes of gun violence and the ways to prevent it. The Secretary shall begin by identifying the most pressing research questions with the greatest potential public health impact, and by assessing existing public health interventions being implemented across the Nation to prevent gun violence.

Despite this Executive Order, no efforts were made toward executing the tenets of the Executive Order by the CDC to research gun violence during President Obama's tenure. To date, there is no evidence of former President Obama's Executive Order No. 14 ever being rescinded. As such, until it is rescinded, the CDC has the authority to conduct such research.

In analyzing the strict verbiage contained in the legislative history, an argument can be made that congressional intent was solely to restrict the CDC from "...engaging in any research associated with the advocacy or the promotion of gun control..." (Legislative History for the Omnibus Consolidated Appropriations Act, 1997). While there are nuanced positions that can be applied as to what constitutes advocacy or promotion, alternative arguments to the contrary can also be applied. The benefits to conducting the research far outweigh the limitations and could result in significant public support despite congressional or the National Rifle Association opposition to the research.

As stated, for the past 23 years there has been virtually total inertia by the Federal Government using the vast capabilities of the NIH's CDC to advance a public health approach and conduct research into the role firearm accessibility plays with regards to gun crime rates. As such, violence continues, and potential solutions are not identified by the premier research agency within the federal government that focuses on public health issues.

As I began this section, I focused on the appropriation factors that played a central role on gun violence research. Given the appropriation process significance, consideration must also be allocated to the relevance of Benet's (2006, 2012, 2013) human rights and communal obligations polarity pair within the appropriation process for firearms research by the CDC. As demonstrated in this section, the lack of federal funding support is a key component to the dearth of CDC research.

### **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 survey's conducted of public and private school students in Grades 9–12 within the United States, to include 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. This concept was supported by Akers and Lanier (2009) who suggested the value of leveraging interdisciplinary approaches such as EpiCrim to identify risk behavior factors associated with youth gun violence in urban areas. The authors also advocated the value of using behavioral data housed by the CDC and comparable terminology by both medical epidemiology and criminal justice, when assessing prevention approaches. The concept of using CDC behavioral data was also advanced through research later conducted by Ruggles and Rajan (2014).

According to Ruggles and Rajan (2014), statistical modeling provided a methodology by which to identify behavioral risk factors obtained from YRBSS data related to gun possession by adolescent youth. In their study, the authors highlighted two broad areas of discussion surrounding gun violence prevention: access to firearms and mental health concerns. Given the complexity and challenges associated with gun control, the researchers selected to focus on leveraging trends contained in YRBSS data to better understand behavioral risk factors associated with gun possession among youth.

Ruggles and Rajan's (2014) randomized sample was comprised of 16 unique strata of students in Grades 9-12 within the United States and identified several specific behavioral risk factors, experienced by the students, which could heighten incidents of violence. Several limitations in their study, such as difficulty in identifying confounders when interpreting the data and challenges associated with collecting the data were also discussed by the authors. However, Ruggles and Rajan's (2014) computational modeling

not only demonstrated the value in predictive intelligence to analyze and visualize data but identified a data driven exploratory computational technique which, prior to the study, had not been leveraged to isolate youth risk behavioral factors. Such predictive intelligence is beneficial when partnered with research that identifies specific risk factors such as conducted by Moore and Bergner (2016). In their study, Moore and Bergner examined violent crime, to include homicide being consummated in 1,997 counties in the United States. According to the authors, the study was conducted during 2006 and 2010 and determined that the prevalence of guns significantly increased crimes, including homicides in those urban counties. Such data identifies a risk factor associated in those urban areas.

Several research studies (Abrams & Terry, 2014; Beardslee, Docherty, Mulvey, Schubert, & Pardini, 2018; Fowler et al., 2017; Loeber et al., 2011; Hammond & Ioannou, 2015; Ahonen, Loeber, & Pardini, 2016; Watts, 2018) complimented both Akers and Lanier (2009) as well as Ruggles and Rajan (2014) concerning the necessity to better understand behavioral risk factors specifically related to youth involved with homicides. Having the appropriate situational awareness relative to understanding behavioral risk factors can be of benefit to those engaged in the development of current or emerging youth homicide mitigating strategies.

In their study, Fowler et al. (2017) leveraged a data set maintained by the CDC that was specifically related to mortality. Fowler et al. found the data contained in the CDC's National Violent Prevention Death Reporting System identified 53% of the 1,297 youth deaths reported were specifically attributed to homicides. Further, Fowler et al.

(2017) discussed benefits associated with the level of access to screen for depression and behavior risk factors by medical community personnel. The study also identified other preventive strategies currently used outside the medical community such as successful gun and homicide reduction programs known as Safe Streets and Cure Violence to mediate and moderate the risk of violence (Fowler et al., 2017).

The benefit of using longitudinal studies (Northwestern Juvenile Project, Pittsburgh Youth Study, Boston Youth Survey, and Pathways to Desistance) were advantageous toward identifying potential behavioral risk factors (Ahonen et al., 2016; Beardslee et al., 2018; Carter et al., 2013; DeLisi, 2016; Hemenway, Vrinotis, Johnson, Miller, & Azrael, 2011; Teplin et al., 2014; Watts, 2018) relative to this research. For example, the influence of peer delinquency, conduct problems, neighborhood crimes, as well as concerns related to potential personal victimization were identified and suggested as elevated reasons for youth to be predisposed to possess a firearm and in some cases to either be the perpetrator or victim of homicides. According to Ahonen et al. (2016), the accumulation of several risk factors and not a single risk factor correlated with the prediction of homicide and the youth being a violent offender.

While Ahonen et al. (2016) identified the unique impact of the accumulation of risk factors being of a critical finding, the study also identified that criminology and psychopathology reported different risk factors, which seemed to align with their primary focus areas. Further, Ahonen et al. along with Teplin et al. (2014) suggested additional research efforts are necessary, which specifically focused on potentially modifiable risk factors so that intervention strategies could be developed to reduce youth homicides.

In their study, Knoepke et al. (2017) assessed online comments regarding a peer-reviewed publication that addressed circumstances by which health care providers, should counsel patients relative to firearm violence and strategies to reduce firearm related accidental injury or death by suicide. The authors' analysis identified several themes suggestive of the viability of using an EpiCrim approach. The suggested themes consisted of firearm safety conversations with patients as an appropriate area in the following: (a) when the patient presents a risk of harm to themselves or others or when (b) engaging with parents on injury prevention education to include subsequent distribution of educational gun safety material.

Understanding the intersection of public health with criminal justice through the application of EpiCrim provides potential visibility to a myriad of areas, which can be leveraged toward understanding youth homicide risk factors (DeLisi, Piquero, & Cardwell, 2016). In this study, the researchers used data from the Pathways to Desistance longitudinal study to better understand various behavioral risk factors shared between youth charged with some type of homicide offense against youth who were not similarly charged. According to the Oxford English Dictionary (2019) desistance is the cessation or discontinuance of an action. The Pathways to Desistance study traced 1,354 youth transitioning from adolescence to young adults (ages 14-17) in Philadelphia County, Pennsylvania, and Maricopa County, Arizona, during 2000–2003. In the research, several factors were identified as predictors such as age, intelligence quotient, exposure to violence, perceptions of community disorder and the prevalence of gun carrying by others. The study also identified a higher level of substance abuse exposure for those



youth charged with homicide. This suggests areas whereby an EpiCrim approach could provide beneficial information related to potential predictive risk factors to be explored by both public health and criminal justice entities.

### **Summary**

In this chapter, a discussion was conducted regarding the theoretical framework by which this research would be conducted, as well as the salient areas of focus that underpin this study. Given that violence has been identified as a public health issue, an approach which leverages the public health model seems appropriate. Specific areas of this literature review focused on the role of using a combined epidemiological and criminology approach, integrating epidemiology and criminology approaches, violence and public health, appropriation factors that create a barrier to conducting firearms research, and a discussion of urban behavioral risk factors associated with youth homicides.

As stated, the focus of this study is to understand in what ways an epidemiological criminology approach can contribute to a reduction of gun homicides by youth in United States urban areas. Further, it is important to understand the impact of the human rights and communal obligations polarity pair relative to using a combined epidemiological and criminology approach. The reviewed literature identified several areas whereby epidemiology and criminology complement one another as disciplines, as well as demonstrating areas that necessitate better engagement. Additionally, the review identified that the concept of using a combined epidemiological and criminology approach was beneficial for a variety of criminal justice issues. However, there was a

lack of EpiCrim research specifically focused on understanding barriers to and facilitators of an EpiCrim model focused on youth homicides in urban areas. This is a dilemma. The next chapter addresses the research design used in this study.

## Chapter 3: Research Method

### **Introduction**

The purpose of this study was to understand the barriers and/or facilitators to integrating a combined EpiCrim approach for addressing youth homicides in urban areas. In Chapter 2, I outlined the principal areas impacting the ability to use EpiCrim disciplines as an integrated approach to study youth homicides in urban areas. The theoretical framework underpinning this study is Benet's polarities of democracy, which examined five interrelated polarity relationships that must be managed to maximize the positive and minimize the negative elements of the polarities (Benet, 2013, p. 32) in a democracy. While all polarity pairs identified by Benet are important for application from a theoretical framework perspective, I focused on Benet's polarity pair of human rights and communal obligations as the primary lens for this study. From this perspective, I sought to understand how the human rights and communal obligations pair advances or impedes the ability to apply an EpiCrim approach toward researching violence as a public health issue. Johnson's (1996) polarity management and Akers and Lanier's (2009) EpiCrim were identified as the conceptual frameworks to examine this issue. Finally, in Chapter 2, I discussed the extant literature as well as gaps relative to the topic. In this chapter, I present the methodology I used for this study.

### **Research Design**

The reason for selecting the principle question being researched through this qualitative study was to explore the barriers to and/or facilitators of using a combined EpiCrim approach. As demonstrated in Chapter 2, a variety of criminal justice and public

health dilemmas have been researched with an EpiCrim approach. However, none have specifically examined the ability to use EpiCrim for youth who used a firearm to commit a homicide in urban areas.

I chose a qualitative research design with semi structured interviews to address the research question. I selected this approach given the desire to understand the nuances between public health and criminal justice disciplines that may identify behavioral risk factors associated with homicide incidents perpetrated by youths in urban areas. Coding themes were developed from the semi structured interviews. The results of this coding process were compared with risk behavioral data retrieved from the CDC YRBSS to determine if additional risk factors were manifested.

As the researcher for this project, I leveraged my professional skills developed as a retired senior law enforcement executive and past national president of the National Organization of Black Law Enforcement Executives (NOBLE). During my 28-year affiliation with NOBLE, I was involved in representing the organization at numerous engagements addressing youth violence across the United States. According to Gonzalez and Akers (2017), criminal justice and public health officials approach issues within their disciplines from unique perspectives despite evidence of the issues intersecting. Given my experience and professional relationships with NOBLE and the International Association of Chiefs of Police, I guarded against any potential bias while conducting the study.

For this study, I used a snowball purposeful sampling strategy (Patton, 2015) to initially reach out to 15 law enforcement, criminal justice practitioners, and medical

professionals for interviews. The law enforcement personnel represented urban policing jurisdictions. Each participant was an active or retired senior policing, criminal justice practitioner or public health official with experience working within their discipline and collaborating on juvenile violence issues.

Participants were selected members of NOBLE, the International Association of Chiefs of Police, and criminal justice practitioners with experience relative to juvenile justice policies. The medical professionals selected for this study were comprised of forensic pathologists, epidemiologists, and medical physicians. This grouping of individuals was selected from a snowball purposeful sampling strategy of medical examiners, coroners, and physicians identified as being involved with violence reduction strategies.

All participants—regardless of being part of a vulnerable population due to age or medical reasons—were informed that they could cease the interview at any time. Further, they were provided contact information for the Walden University research advocate. Given that a snowball purposeful sampling strategy was used, I was vigilant to ensure no one referred their own students, patients, and/or subordinates, so a coercive environment was not created. Further, it was possible that people over 65 could have been in my sample without my knowledge, but I was not specifically targeting people over 65 for the study. Additionally, the informed consent process and voluntary nature of the study allowed for anyone to decide whether the study was in their own best interest.

For this study, I selected all participants after providing and receiving informed consents. The invitations were requested through social media sites, e-mail, and

professional law enforcement conference relationships established through NOBLE and the International Association of Chiefs of Police. The criteria for law enforcement personnel were active and retired chiefs of police, deputy chiefs of police, sheriffs or superintendents who had served in a municipal, county, state police or sheriff agencies with a sworn law enforcement population of at least 100 personnel from urban areas.

Upon selection, informed consent forms for participation were provided to all participants prior to their engagement in the research study. All participants were informed that any coding systems on the form were for reporting purposes. No coding systems were directly or indirectly linked in the study to any individual. The informed consent form articulated the data collection procedure, the methodology to maintain the individual's privacy, and the criteria used to select participants for the study. The informed consent form specified that participation was voluntary, and the individual could decline or discontinue their involvement at any time. All participants were informed of the estimated time commitment for their contribution. The informed consent form provided an explanation of the study and specified there were no direct remunerations or benefits to the individual. All participants were informed of the potential benefits to society of the study. Additionally, the consent form provided information on procedures to contact me and the Walden University research advocate. The consent form did not contain any verbiage asking participants to waive any legal rights, and I provided sufficient time for the individual to study the information and ask questions. Finally, the consent form contained language suggesting individuals should maintain a copy of the form.

All participants' identities— names, ethnicity, age, years in the position, and location of their position—were protected and were not disclosed. Data collected will be secured for at least five years. Participant interviews continued until thematic saturation was achieved. According to Ravitch and Carl (2015, p. 135), saturation is deemed achieved when no new information is obtained through the snowball sampling approach.

### **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?

### **Instrumentation**

I developed a semi structured interview protocol with a predication on literature reviewed in support of this study as well as personal experiences relative to the topic. A copy of the proposed semi structured interview protocol is included as Appendix A.

### **Data Management Plan**

With this study, interviews were recorded with a digital recorder and subsequently transcribed. In reviewing the written transcripts, I identified pertinent codes and themes, which I believe are relevant to the research. In addition to manually transcribing notes for the semi structured interviews, I used a professional transcription company to transcribe all interviews. Confidentiality agreements have been secured from all transcribers. It should be noted that if the transcription of recorded material did not highlight inflections in interviewees' voices, which, if relevant, was a risk I was willing to accept. However, I listened to all recordings to discern any discrepancies between the actual interview

recordings and professional transcriptions. Further, I correlated such occurrences with manual transcription notes to aid in the identification of potential themes/codes.

According to Saldana (2016, p. 9) coding is heuristic and affords the ability to discover new information through linking and problem-solving. My initial approach consisted of reviewing the semi structured interview transcripts for overarching themes, which were contained in the interviews. By using the Microsoft Word track change function, I extracted potentially relevant codes for consideration. In conjunction with the track changes, I used color coded highlights to group both similar and divergent themes and codes. Through this grouping process I was able to settle on several themes, which transcended the interviews.

According to Patton (2015), computer software tools are uniquely positioned to assist with the analysis and coding of information obtained as a result of qualitative interviews. Through a comprehensive review of available qualitative interviewing analytical software, NVivo produced by QSR International is considered an appropriate data management tool for use in this study. NVivo allows users to categorize, analyze and code data for both qualitative and mixed method research. Additionally, the software allows users to manage bibliographic data from EndNote, Zotero, RefWorks and Mendeley, and import data from and to MS Word.

### **Issues of Trustworthiness**

Given the challenges associated with conducting qualitative research, it is paramount that appropriate strategies were employed to ensure the trustworthiness and credibility of research efforts. According to Lincoln and Guba (as cited by Amankwaa,



2016) trustworthiness involves establishing credibility, transferability, dependability, and confirmability. Each of which entail the use of different, and in some cases similar, strategies to achieve their identified objectives.

Ravitch and Carl (p.189) provide approaches that can be considered in the research design approach to ensure credibility. Measures offered consist of ensuring alignment between identified research design methods and questions. Further, engaging in participant review strategies provides a means by which to ensure a level of credibility is achieved through reported interviews. All participants were provided with copies of their interviews for validation of their accuracy, as well as to determine if there were additional themes or codes which did not get captured that should be included. Additionally, each of these approaches helped to reduce any potential researcher bias and buttress ultimate findings.

To achieve transferability, semi structured interview codes were compared against CDC YRBSS behavioral risk factors for analogous codes. This provided visibility of the extent to which my research study findings correlate with established CDC YRBSS codes. Further, through this process, coding themes can be authenticated across the different sources of information.

Dependability to ensure replicability of this study was achieved through thick description relative to the identification and selection of participants, as well as articulation of the process that was used to reduce any potential researcher bias for this qualitative study. First, the snowball sampling process of identifying participants assisted with removing any potential bias in the selection of contributors for the study. As

previously indicated all initial participants were asked to identify another individual capable of meeting the selection criteria for subsequent interview. Upon receipt of the potential participant's contact information, I reached out to them and confirmed both their willingness and ability to join in the study. The second approach that was taken to ensure dependability was achieved through the coding process. Upon completion of an interview and development of codes, the initial interview was recoded to discern whether new codes evolved or if the initial result was reconfirmed.

According to Ravitch and Carl (2015, p. 189) it is important for research findings to be confirmable. To achieve verifiable data, an approach I took consisted of maintaining a strict audit trail of all raw data relative to the study. This information was maintained in a secure location, such as a safe within my residence. Ravitch and Carl (p.189) suggest confirmability also requires guarding against any means by which researcher biases and prejudices are mapped with the interpretation of collected data. Taking protective measures such as ensuring replicability throughout the research process are offered as an appropriate strategy to achieve confirmability.

### **Ethical Procedures**

I previously served as NOBLE National Recording Secretary (1994 – 2006), National Vice President (2007 – 2008), National President (2008 – 2009), Immediate Past President (2009 – 2010) and Special Assistant to the National President (2012 -2014). NOBLE is a non-profit organization comprised of approximately 2,500 Chief Executive Officers and command level officials from municipal, state, and federal law enforcement organizations. Through this engagement, I have developed a professional relationship

with several of the research study potential interview participants. Further, I currently serve on the International Association of Chiefs of Police Juvenile Justice and Child Protection Committee. Additionally, in 2018 I retired as a senior executive from a federal law enforcement organization. However, in no case do I have supervisory or instructor relationship over the participants of this study.

Human participants supporting this research effort were asked to provide informed consent prior to their interviews. There were no institutional review board (IRB) restrictions relative to the treatment of human participants. Additionally, there were no ethical concerns relative to data collection in that only semi structured interviews were used for this research study. All interview recordings were encrypted, and names were appropriately redacted so as not to disclose either the identity or agency of the participants. Further, no financial remuneration, incentives, or gifts were provided to any participants.

### **Summary and Reflections**

The significance of this study is grounded in the ability to identify and understand barriers to and facilitators of using a combined epidemiological and criminology approach to identify youth gun violence behavioral risk factors in urban areas. Given the impact of gun violence in various urban communities, policymakers are often confronted with challenges associated with identifying appropriate strategies to combat a difficult dilemma. By identifying the potential drivers or impediments of using a combined epidemiological and criminology approach, policymakers at the local, state, and federal levels may better be equipped to develop potential intervention and preventive strategies.

While violence has been defined as a public health issue, combined epidemiological criminology approaches have not been used to address gun violence dilemmas associated with youth involved with such crimes in urban areas. By advancing the concept of melding combined epidemiological and criminology methodologies, this strategy leverages two disciplines with their unique perspectives and capabilities to target the dilemma. This research contributes to positive social change by identifying potential intervention strategies for communities at the local, state, county, and national levels.

Throughout this research I conducted semi structured interviews focused on the barriers to and/or the facilitators of using a combined epidemiological and criminology approach to identify risk behavior factors associated with youth gun violence homicides in urban areas. I believe this approach is best to identify relevant themes and codes for comparison purposes with CDC YRBSS themes and codes. Throughout the study, I ensured strict compliance with IRB requirements.

## Chapter 4: Results

### **Introduction**

The purpose of this qualitative study was to understand whether Akers and Lanier's (2009) EpiCrim approach can be used to reduce gun homicides by youth in U.S. urban areas. The research study and design are grounded in Benet's (2006, 2012, 2013) polarities of democracy theoretical framework with specific emphasis on the application of the human rights and communal obligations polarity pair. Johnson's (1996) polarity management along with Akers and Lanier's (2009) conceptual frameworks were used to examine issues relative to understanding the barriers to and/or facilitators of using a combined EpiCrim approach toward youth violence in urban areas. In this chapter, I will discuss how themes were identified from participant interviews, as well as the data collection and data analysis aspects of the study. Additionally, I will discuss the setting, demographics, and themes identified in the study.

### **Research Question**

I engaged with participants in the study to understand the following: 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? The 12 semi structured interview questions (Appendix A) were designed to answer the research question.

### **Setting**

The literature review identified law enforcement officials and individuals performing a variety of public health functions as the most appropriate participants for the study. I used a snowball purposeful sampling strategy (Patton, 2015) to interview 16

law enforcement personnel, criminal justice practitioners, and medical professionals. Participating law enforcement personnel represented urban policing jurisdictions. Each participant was an active or retired senior policing, criminal justice practitioner, or public health official with experience working in their discipline and collaborating on juvenile violence issues.

A cadre of both law enforcement and public health officials were identified for the initial selection of interview participants. From this approach, I used the snowball purposeful sampling strategy (Patton, 2015), which resulted in a total of 16 participants being identified and ultimately interviewed. A total of eight participants were directly identified by me and provided with information relative to the study. A total of four participants were identified through the snowball data collection approach. Finally, a total of four participants were identified through an e-mail, using a public-facing LinkedIn account soliciting volunteers. A total of five participants were interviewed in private locations. The remaining participant was interviewed via telephone. The responses I received from the participants centered on their various experiences relative to both the law enforcement and public health spectrum of dealing with youth violence in urban areas.

### **Demographics**

A total of 16 participants were interviewed for this study. The law enforcement participants' professional experience ranged from 30-47 years of policing experience. Positions held by the policing participants ranged from chief of police, superintendent,

deputy chief of police, and assistant superintendent. The gender distribution of these participants included seven men and one woman.

The public health participants ranged from 10-36 years of professional experience. Positions held by the public health participants ranged from medical directors, directors of public health, medical physicians, forensic pathologists, and trauma surgeons. The gender distribution across these participants was five men and three women. All participants were assigned pseudonyms for this study.

### **Data Collection**

Participant interviews for the study occurred from August 6, 2019, through September 25, 2019. Initially I contacted three individuals and provided them with an IRB approved e-mail solicitation. Each identified individual agreed to be interviewed, and a time was established for face-to-face interviews of participants (LE-001, LE-002, and LE-003). LE-001's interview resulted in the identification of three potential participants in the public health sector through the snowball data collection process. An additional public health sector interview was identified from an interview with PH-002. Once identified snowball participants responded to my e-mail solicitation, I forwarded them copies of the IRB approved consent form and interview questions. Data saturation was achieved over a period of 49 days when no new themes emerged from participant interviews.

### **Interviews**

Participants approved all interview venues and methods. I used a Sony ICD-PX440 Stereo IC digital tape recorder to record the audio of the interviews and

subsequent transcription and notes were taken on a note pad. A pseudonym was used for all selected participants of the study. Selected participant information was redacted from all transcript interviews and only their pseudonyms were used for transcription purposes. All interviews were transcribed using NVivo machine language transcription service in addition to hand coding. The total amount of time recorded for interviews of all participants totaled 403 minutes (6 hours).

During the initial contact with all participants, I was able to briefly explain the purpose of the study and follow the interview guide (Appendix A) to obtain oral and written consent pursuant to the IRB approved consent form. When interviewing occurred over the telephone, I asked that participants scan and e-mail a copy of the consent form back to me prior to the interview.

The data collected from the interview participants were gathered through semi structured, open-ended questions. I audio recorded each interview separately and afforded each participant privacy and confidentiality. The data collection was implemented consistent with the plan stated in Chapter 3 with no demonstrable change.

All participants were provided with copies of their interviews electronically for validation and to determine if there were additional themes or codes that were not captured but that should be included. Interview notes relative to the physical setting and environment for all interviews were kept for all participants. For the most part, all interviews were uneventful—apart from PH-005. During the interview, PH-005 had to temporarily suspend the interview due to an issue that necessitated their attention. The interview was suspended for 2 minutes, at which point it reconvened.



All transcripts, interview notes, and informed consent form data will be kept for a period of at least 5 years, as required by the university, and then destroyed. Data will be kept secure in a safe on an encrypted thumb drive for 5 years at a location only known to the researcher. All collected data will be destroyed upon reaching the 5-year mark when the information on the thumb drive will be cleared/removed and entirely deleted, and the thumb drive will be destroyed.

### **Participants**

Based on the criteria established in Chapter 3, there were a total of 25 participants selected for this study. While a total of 25 individuals received either e-mail or direct solicitations for this study, ultimately, I collected data through interviews with 16 participants.

During my initial contact with all participants, I informed them of the purpose and provided them with an opportunity to determine whether they met the criteria for the study. Except for LE-001, LE-002, LE-003, PH-001, and PH-003, all other participants selected to be interviewed via telephone. All participants were informed of their rights as provided by the IRB and were informed that they could cease the interview at any time. Additionally, all participants were provided and concurred with the informed consent.

The most significant challenges encountered consisted of the snowball data collection process. Recruiting for participants commenced upon receipt of IRB approval (07-31-19-0732873) that authorized me to start recruiting and sharing the IRB approved e-mail solicitation. This aspect proved time-consuming in solidifying interview appointments given the busy schedules of several identified participants. My

communications with participants consisted of e-mails, phone calls, and text messages. Several potential participants had to drop out of consideration due to professional obligations that precluded them from being able to devote the necessary time for the interview. A final additional challenge consisted of elongated member check reviews of completed transcripts. On several occasions, reminder telephone calls and e-mails were sent to participants requesting they review and return distributed transcripts.

## **Data Analysis**

### **Coding Process**

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 an initial edit was conducted 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 e-mail was sent to the participant.

Codes were developed manually from my 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, a review was conducted to ensure no duplication.

An additional review was then conducted across the data to formulate themes (Braun & Clarke, 2013).

### **Evidence of Trustworthiness**

According to Lincoln and Guba (as cited by Amankwaa, 2016) trustworthiness involves establishing credibility, transferability, dependability, and confirmability. Each of which entail the use of different, and in some cases similar strategies to achieve their identified objectives. This research study utilized several strategies to minimize concerns of validity and potential bias. Specifically, the researcher engaged in thick description and member checking to establish trustworthiness consistent with identified appropriate strategies (Burkholder, Cox, & Crawford, 2016).

### **Credibility (Internal Validity)**

To achieve credibility for this study all participants were provided with copies of their interviews for validation of its accuracy, as well as to determine if there were additional themes or codes, which did not get captured that should be included. Additionally, the member checks were conducted to reduce any potential researcher bias and to buttress ultimate findings. Table 1 reflects the member check results.

Table 1

*Interview-Checking Results*

Participant	Interview held	Transcript set	Transcript returned	Revisions needed
LE-001	8/6/19	8/8/19	8/19/19	Yes
LE-002	8/12/19	8/19/19	8/20/19	Yes
LE-003	8/12/19	8/19/19	8/19/19	No
PH-001	8/16/19	8/20/19	8/26/19	No
PH-002	8/16/19	8/20/19	8/21/19	No
LE-004	8/22/19	8/22/19	8/28/19	No
PH-003	8/26/19	8/27/19	[No response]	[No response]
LE-005	8/28/19	8/30/19	9/05/19	No
PH-004	8/28/19	9/1/19	9/16/19	No
LE-006	8/28/19	9/2/19	9/10/19	Yes
LE-007	9/4/19	9/4/19	9/5/19	Yes
PH-005	9/9/19	9/11/19	9/11/19	No
PH-006	9/13/19	9/14/19	10/8/19	No
PH-007	9/18/19	9/21/19	10/11/19	No
LE-008	9/25/19	9/26/19	10/15/19	No
PH-008	9/25/19	9/28/19	10/17/19	No

**Transferability**

To ensure transferability of this study was achieved, I conducted thick description relative to the identification and varied selection of participants, as well as articulation of the process used to reduce any potential researcher bias. First, the snowball sampling process of identifying potential participants assisted with removing any potential bias in the selection of contributors for the study. As previously indicated, all initial participants were requested to identify another individual capable of meeting the selection criteria for subsequent interview. This occurred with the identification of four participants in the public health sector. Upon receipt of the potential participant's contact information, I reached out to each participant and confirmed both their willingness and

ability to participate in the study. Given challenges in identifying and solidifying public health sector participants, the snowball data collection approach was used in conjunction with an IRB approved e-mail solicitation to public facing LinkedIn accounts. This approach resulted in the identification of enough participants from the public health sector for this study.

### **Dependability**

According to Burkholder, Cox, and Crawford (2016) a strict audit trail of all data collected and derived, as well as identification as to how decisions were made, supports the dependability of a study. During this study, reflexive entries were maintained in a journal of contact with all participants. Through this documentation, appropriate reflections were maintained for integration as appropriate within the study.

### **Confirmability**

According to Ravitch and Carl (2015, p. 189) it is important for research findings to be confirmable. Previously I identified my professional background and actions that I took to guard against any preconceived ideas. Taking protective measures of ensuring replicability throughout the research has been identified as an appropriate strategy to achieve confirmability. To achieve verifiable data, I maintained a strict audit trail of all raw data relative to the study. Further, I guarded against researcher biases and prejudices in the interpretation of collected data by verifying that emerging themes were from the data and not through any preconceived researcher bias. This approach was achieved by comparing hand coded developed themes against NVIVO auto code derived themes and

field notes. Additionally, field notes obtained during participant interviews were compared against transcribed data to validate accuracy.

### **Results of the Study**

After an extensive review of all transcripts, a Thematic Analysis (TA) approach was applied to the data. According to Braun and Clarke (2013) a TA approach consists of several stages of coding and analysis of data ranging from familiarization with the data, generating initial codes, searching for themes, reviewing potential themes, defining and naming themes, and finally writing the final analysis. It is also important to understand that a TA approach affords the ability to conduct an inductive or deductive approach to coding of data. For purposes of this study, an inductive coding approach was conducted.

According to Braun and Clarke (2013) it is important for all initial codes to be relevant to answering the research question. It is from this perspective that refinement in coding occurred. While there were no maximum number of codes that could be derived, Braun and Clarke (2013) suggests the developed codes should “appear across more than one data item.”

The recorded conversations obtained from each interview were uploaded to NVIVO transcription service whereby a transcript was produced for each interview. Each transcript was then reviewed, and an initial edit was conducted whereby I would listen to the individual tape recording and compared it to the NVIVO produced transcript and my field notes. No specific discrepant data was identified through this process. The transcript was then re-edited and subsequently forwarded to participants for their review. As part of the initial editing process of the initial transcriptions, participant cutoff in speech, long

pauses, and full stops were noted. Three full stops in a row (...) were demonstrative of verbiage contained either before or after an identified passage of verbiage. Each participant was given a minimum of five business days for the member check review. In most cases, participants returned their transcripts within the requested period. Whenever a participant did not return the transcript, a reminder e-mail was sent to the participant.

Codes were developed from my initial review of all transcripts and subsequently revised as necessary when participants returned their edited transcripts. After reviewing transcripts and interview notes for all participants, several themes emerged from the various codes. Braun and Clarke (2013) suggests it is important to distinguish the uniqueness and distinction of themes. Through this process and application of the TA approach, the following several themes emanated from the various participants: (a) Gun violence is dynamic and involves complex issues; (b) Revisions are needed to gun violence funding research authorization, Health Insurance Portability and Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA) laws; (c) Barriers are manufactured and not necessarily because of specific laws and/or policies; (d) EpiCrim affords a better ability to share information across disciplines and study the root cause of gun violence; (e) The public health approach provides early detection capabilities through epidemiological diagnosis of issues; and (f) While not necessarily in school, guns are available near school environments.

For purposes of this study Benet's (2006, 2012, 2013) polarities of democracy was used as the theoretical framework for this study. Further, Johnson's (1996) polarity management, along with Akers and Lanier 's (2009) EpiCrim conceptual frameworks

were used to examine this issue. While I used the entire polarity of democracy theory, my focus on the human rights and communal obligations polarity pair for this study was appropriate, given their potential capability of understanding both barriers and facilitators of the EpiCrim approach. As previously stated, Life is espoused as an inalienable right by our Bill of Rights. With communal obligations to provide for societal protections against violence, questions were asked through the study to determine if appropriate measures are being provided to meet this obligation. As such, several interview questions were selected to assess participants' responses relative to the research question and alignment with the human rights and communal obligations polarity pair.

NVivo 12 computer software assisted in analyzing participant responses. For purposes of analysis, a word cloud was conducted of participant answers by category (law enforcement, public health, and a combination of both disciplines) to identify the 25 most commonly used words in the participant interviews. The results of the word cloud format and the word tree for law enforcement participants are contained in Appendix B. The common words relative to the developed themes for law enforcement personnel were as follows: *gun, youth, think, know, school, violence, public, health, guns, approach, problem, criminal, justice, urban, homicides, number, criminology, justice, speaker, epidemiological, urban, young, need, pervasive, and just*. The results of the word cloud format and the word tree for public health participants is contained in Appendix C. The common words relative to the developed themes for public health personnel were as follows: *gun, think, know, health, public, people, youth, guns, approach, violence, school, problem, number, urban, just, community, question, criminal, homicides,*



*epidemiological, criminology, research, look, justice, and one.* The combined results of the word cloud format and the word tree for both disciplines (law enforcement and public health) is contained in Appendix D. The common words relative to the developed themes for both disciplines were as follows: *gun, think, youth, know, public, health, guns, approach, violence, school, people, problem, criminal, justice, urban, homicide, criminology, system, epidemiological, number, laws, one, students, community, and areas.* As a result of this process analysis was conducted across the entire data set of participant interviews for purposes of identifying the core themes. This review identified the following themes as the primary positions presented by both law enforcement and public health personnel: (a) Theme 1, gun violence is dynamic and involves complex issues; (b) Theme 2, revisions are needed to gun violence funding research authorization, HIPAA, and FERPA laws; (c) Theme 3, barriers are manufactured and not necessarily because of specific laws and/or policies; (d) Theme 4, EpiCrim affords a better ability to share information across disciplines and study the root cause of gun violence; (e) Theme 5, the public health approach provides early detection capabilities through epidemiological diagnosis of issues; and (f) Theme 6, while not necessarily in schools, guns are available near school environments.

### **Thematic Analysis**

The central research question seeks to determine the following: In what ways can a combined epidemiological criminology approach contribute to or detract from the reduction of gun homicides by youth in United States urban areas? This section includes

an analysis of each thematic category against specific participant statements. According Braun and Clarke (2013) it is important for TA to be conducted across the dataset.

In reviewing participants' responses to the semi structured open-ended questions several themes resonated. As identified in this study, nine of the 16 participants' responses (56%) suggest gun violence is a dynamic and complex issue. It was suggested 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 United States urban areas. As suggested by the participants, there is the necessity to bring as many disciplines to the table and a wide systems approach to a complex problem.

When reviewing specific comments in alignment with the research question, participants suggested the necessity to use comprehensive research strategies for what is considered an intractable complex issue. Further, it was believed that the ability to engage in multidisciplinary research supports value to EpiCrim's ability to contribute to the reduction of gun violence.

Given that participants identified a myriad of factors responsible for gun violence in communities, participants supported the necessity for an EpiCrim approach to aide 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 communities would benefit from the deconstruction of data to understand what was occurring in neighborhoods

instead of only using aggregate data as currently used. As such, an EpiCrim approach was believed to complement complex systems research.

According to Miller and Page (2007) “tools and ideas emerging from complex systems research complement existing approaches.” Participants suggest the development of preventive strategies to reduce gun homicides by youth in United States urban areas can only be achieved if research approaches such as EpiCrim are employed to address the complex issue.

Within the second theme, nine of 16 participants’ (56%) responses, identified the impact of insufficient research funding by the federal government, coupled with the necessity for a better understanding of laws related to HIPAA and FERPA by both public health and law enforcement officials as contributing to gun violence issues. Central to these concerns were competing interest and the reluctance to share information in situations even when the laws would not preclude such disclosure. Further, participants suggested current perceived moratoriums by the Centers for Disease Control (CDC) to engage 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 United States 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. 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. Participants advocated for an approach such as EpiCrim that had not been traditionally used as a research approach to harness the rigor of the public health discipline for a complex issue such as youth gun violence. It was 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 identify 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, it was postulated the public health approach provides a platform that is accustomed to targeting specific causal factors that would be beneficial toward researching gun violence issues.

The final theme focused on annual questions asked of students through the CDC YRBSS. Participants suggested 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 administratively handle any incidents of guns being carried into schools by students and not involve law enforcement officials. The participant who identified this issue also suggested 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 represents the composite data responses of all 16 participant interviews when analyzed across each specific theme.

Table 2

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

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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 you know reduce what happens.”

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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.”

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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.”

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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.”

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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.”

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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.”

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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.”

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PH-007: “Well I think the value of public health approach is the value of public health approach 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.”

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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.”

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Table 3

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

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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.

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LE-004: “I see a lot of the systems as being disjointed there's not enough sharing of information 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.”

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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”

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

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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.”

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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.”

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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.”

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

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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 you know 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.”

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Table 4

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

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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 is a 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 are 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.”

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Table 5

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

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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. Symptoms 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 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.”

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Table 6

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

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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.”

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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.”

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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.”

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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.”

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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”

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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.”

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Table 7

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

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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.”

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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.”

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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.”

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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.”

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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.”

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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.”

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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.”

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## Summary

Chapter 4 provides the process used to obtain, manage, and document data collected and analyzed in support of this study. During my research, I sought to remain free of bias and ensure the study was conducted consistent with instructions from the IRB. Throughout data collection and analysis, I recognized participants' responses for the most part, were aligned with their disciplines. The responses received from participants were significant and support the value in using an EpiCrim approach to contribute to the reduction of gun homicides by youth in United States urban areas.

During the interview process I began to see how the participant responses contained certain codes and themes that were congruent. According to Braun and Clarke (2013) saturation drives the amount of data that must be collected in qualitative studies, and the point by which additional interviews would not result in the identification of additional new themes. As a result, saturation was achieved over the course of 49 days from commencement of the study. NVivo 12 computer software contributed to my analysis of codes and subsequent themes.

The results of this study are based on 12 questions asked through semi structured interviews. I used the thematic analysis approach suggested by Braun and Clarke (2013) that consists of several stages of coding and analysis of data. Consistent with this approach, I immersed myself in the data and developed initial codes that were refined.

Through an inductive process consisting of coding and the synthesis of participant interviews, the following themes were developed: (a) Gun violence is dynamic and involves complex issues; (b) Revisions are needed to gun violence funding research authorization, HIPAA and FERPA laws; (c) Barriers are manufactured and not necessarily because of specific laws and/or policies; (d) EpiCrim affords a better ability to share information across disciplines and study the root cause of gun violence; (e) The public health approach provides early detection capabilities through an epidemiological diagnosis of issues; and (f) While not necessarily accessible in schools, guns are available near school environments. Additionally, I provided a comprehensive description of the setting, demographics, data collection and the analysis process used during this study. In Chapter 5, I will interpret the findings, discuss the limitations of the study, identify potential recommendations for future research, discuss the implications for positive social change and conclusions through the lens of the polarities of democracy theoretical framework.

## Chapter 5: Discussion, Conclusions, and Recommendations

### **Introduction**

The purpose of this qualitative study is to understand whether the EpiCrim approach suggested by Akers and Lanier (2009) can be used to reduce gun homicides by youth in U.S. urban areas. The participants selected for this study consisted of criminal justice and public health practitioners with experience in juvenile justice policies. The criminal justice practitioners consisted of active and retired chiefs of police, deputy chiefs of police, commissioners, and an assistant superintendent. The public health professionals consisted of public health directors, forensic pathologists, medical examiners, a trauma surgeon, a neurosurgeon, and medical physicians. The boundaries established for this research delineated that it would not include any interviews with youth involved in homicides, and all personal identifying information of participants was redacted.

My review of the literature through numerous sources revealed minimal research advancing the EpiCrim approach (Akers & Lanier, 2009; Bhui, Hicks, Lashley, & Jones, 2012; DeLisi et al., 2018; Lanier et al., 2010; Luty, 2009; Potter & Akers, 2010; Shetgiri, Boots 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 using an EpiCrim approach to specifically research homicides by youth in urban areas.

In this chapter, I address the key findings that emerged from the data. Further, I discuss the interpretations of the findings, limitations of the study, recommendations for

future studies, and the implications for positive social change. Finally, I comment on personal reflections experienced during and after the study and my conclusion.

### **Interpretations of the Findings**

#### **Interpretation of Findings Related to the Value of the Research Question**

The research question sought to determine the following: In what ways can a combined EpiCrim approach contribute to or detract from the reduction of gun homicides by youth in U.S. urban areas? This study also focused on understanding the barriers to and/or facilitators of using a combined EpiCrim approach toward youth violence in urban areas.

As an approach, EpiCrim was identified as beneficial to addressing both actual and manufactured barriers through its multidisciplinary approach. Participants identified lack of funding for EpiCrim studies as a major impediment, despite the benefits possible from such research. Participants suggested that when properly implemented, EpiCrim can provide an approach that contributes toward identifying the root cause of youth gun violence. Further, EpiCrim was identified as providing a better approach toward information-sharing and the ability to determine and develop effective intervention strategies.

Some participants identified the significance of an EpiCrim approach's integrated multidisciplinary approach as a means to focus on youth gun violence in a concerted manner. Participants identified that pertinent information that should be shared across disciplines often is not. Some participants suggested that while epidemiological data might be captured in anecdotal form, a more formal process would allow it to be shared

with other disciplines to make a difference. Additionally, participants identified that EpiCrim provides a different perspective to addressing an underlying root cause to a problem. Failure to use an EpiCrim approach risks missing key determinants of problems to properly address issues.

A theme identified through the research was that youth gun violence is dynamic and involves a myriad of complex issues. Given the impact of youth gun violence in various urban communities, policymakers are often confronted with challenges of identifying appropriate strategies to combat this difficult dilemma. By identifying the potential drivers or impediments of using an EpiCrim approach, policymakers at the local, state, and federal levels would be better equipped to develop potential intervention and preventive strategies for the myriad of complex problems at the root cause of youth gun violence in urban areas.

Participant interviews suggested several complex issues associated with youth gun violence in urban areas. Concerns ranged from the correlation of lead poisoning and its relationship to violent behavior, impoverishment, mental health challenges, the impact of growing up in toxic stress neighborhoods, and chronic disadvantages that impact brain activity for executive function. Further, research participants suggested that developing preventive strategies to reduce gun homicides by youth in U.S. urban areas can only happen if research approaches such as EpiCrim are used to address these complex issues. This perspective aligned with Payne's (2016) suggestion that many complex issues could benefit from interdisciplinary approaches and recognition of the value in scientific research to solve societal problems. This finding also supported DeLisi (2016), who

identified approximately 10.7% of the surveyed population in his study were criminals with violence and substance use comorbidity.

Given these challenges, this research study identified that traditional siloed approaches are ineffective, and a need exists for multidisciplinary and transdisciplinary approaches to address complex issues. Participants' suggestions that youth gun violence is the result of complexities manifested in communities and is dependent on a myriad of factors support using complex adaptive modeling tools like those suggested by Miller and Page (2007). Miller and Page (2007) stated, "tools and ideas emerging from complex systems research complement existing approaches" (p. 6). As suggested by participants, siloed approaches are ineffective in addressing youth gun violence in urban areas.

These research findings support the use of multidisciplinary approaches like EpiCrim, which better allow information-sharing across disciplines and determining the root cause of gun violence. Lanier et al. (2015) suggested EpiCrim as affording the ability to research areas that affect not only the health of a society—such as crime, terrorism, or HIV/AIDS—but other areas that have both public health and criminal justice policy implications.

Ten of 16 (62%) research participants supported the necessity for revisions to gun violence funding research authorization. Additionally, several participants suggested the need for modifications to specific privacy laws, such as HIPAA and FERPA, to allow for increased collaboration among public health and public safety practitioners. Both funding and privacy restrictions were identified in the literature review as areas in need of attention (Brezenski, 2018; Fowler et al., 2017; HIPAA, 2002; Jamieson, 2013;

McCarthy, 2013; Weiner et al., 2007; Wintermute, 2015). The impact of barriers and the interdisciplinary aspects of public health and criminal justice practitioners in the literature (Levine et al., 2012; Prothrow-Stith, 2004) aligns with the findings here that suggested that FERPA and other privacy rules prohibited law enforcement partners from disclosing certain information for fear of violating privacy rules. As a result, potential strategies designed to understand the root cause of youth firearm violence in urban areas have been thwarted for perceived privacy restrictions. Additionally, terminology barriers and other issues could prove more problematic, necessitating enhanced alignment between public health and criminology disciplines. Participants suggested that some barriers were manufactured and not necessarily a result of specific laws and/or policies.

Research findings here identified that EpiCrim affords an increased ability to share information across disciplines and study the root cause of gun violence. Participants suggested that the public health approach provides early detection capabilities through the epidemiological diagnosis of issues. Dahlberg and Mercy (2009) identified that it was not until the 1990s that the public health approach to violence shifted from not simply describing the problem to understanding what could be done to prevent it. This approach was supported by participants who suggested proper epidemiological approaches can aid in identifying root causes for youth gun violence and developing community-specific strategies for stakeholders and victims.

Finally, the last finding suggests that while firearms are not necessarily possessed by students in school buildings, access to firearms was prevalent near school



environments. The importance of this finding is relative to determining the availability of firearms in schools and the techniques used by public officials to assess threat levels.

Statistics from the Centers for Disease Control Youth Risk Behavior Surveillance System (YRBSS) are formulated from surveys conducted of public and private school students in grades 9–12 within the United States, to include tribal and territorial areas (CDC YRBSS, n.d.). The importance of YRBSS data resonate through the perspectives offered in the literature review relative to the need to understand risk behavioral factors (Abrams & Terry, 2014; Ahonen et al., 2016; Beardslee et al., 2018; Fowler et al., 2017; Loeber et al., 2011; Hammond & Ioannou, 2015; Ruggles & Rajan, 2014; Watts, 2018). As identified in the literature review, the YRBSS contains data of several behavioral factors contributing to violence. Specifically, students who carried a weapon and/or gun both on and off school property (CDC YRBSS, n.d.) was a targeted question for participants.

The pertinency of YRBSS questions related to behaviors that contribute to unintentional injuries or violence data formulation are germane to the research findings. As currently designed, the YRBSS does not address gun abatement measures. This was identified as a result of the study by participants that addressed questions related to gun possession by youth in school environments.

Research participants highlighted several concerns relative to firearm possession proximity near school environments. There was a total of seven out of 16 (43%) research participants who suggested that despite various firearm abatement efforts, youth in urban areas devised methods to hide guns near their schools. Specifically, in shrubbery or in

areas along various passageway to schools. As stated, the importance of this finding identifies an area not currently covered by YRBSS and worthy of consideration for potential revision.

### Interpretation of the Theoretical Alignment

**Polarity management.** As identified in the literature, Johnson (1996) determined the necessity to differentiate between a problem which can be solved and a dilemma (polarity) that needed to be managed. Given current debates relative to gun rights and gun control, specific findings in this research supports EpiCrim as a multidisciplinary integrated research approach that leverages the public health model to address the complexities and polarities associated with youth gun violence in urban areas (Figure 1).

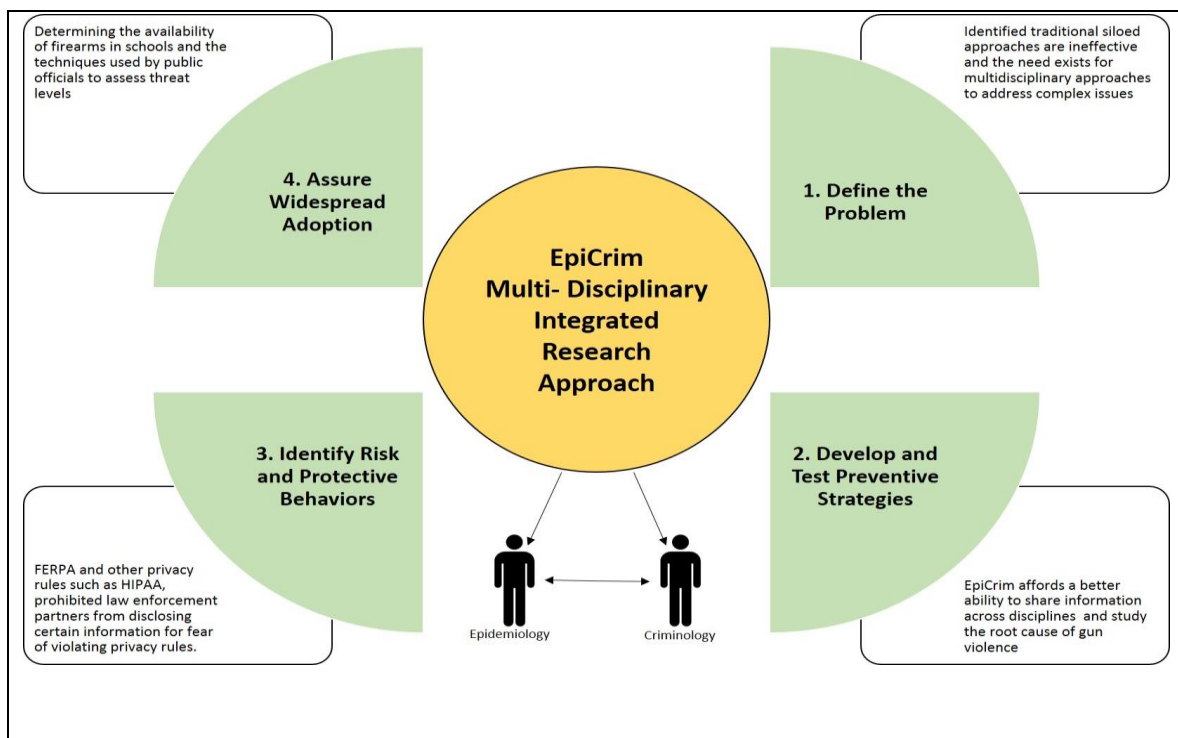


Figure 1. EpiCrim multidisciplinary integrated research approach.

As identified in the literature reviews, a polarity identified relates to the sharing of information between the two disciplines. Participants identified EpiCrim's unique ability to share information across disciplines that supports examining the root cause of youth gun violence in urban areas. Additionally, where privacy laws such as HIPAA and FERPA are invoked preventing such sharing of information, participants identified the necessity for legislative changes to enhance capabilities to enhance the identification of risk and protective factors associated with youth gun violence in urban areas.

**Polarities of democracy.** Benet's (2006, 2012, 2013) polarities of democracy was selected as the theoretical framework for this study with specific emphasis placed on application of the human rights and communal obligations polarity pair. Johnson's (1996) polarity management along with Akers and Lanier's (2009) conceptual frameworks were also used to examine issues relative to understanding the barriers to and/or facilitators of using a combined epidemiological criminology approach toward youth violence in urban areas.

Data collection identified five themes from the research that inform the research question and a separate theme that suggests the necessity for modification to an existing annual survey. The findings from these themes suggest the following relative to EpiCrim research approaches: (a) 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; (b) The necessity for legislative revisions supporting gun violence research and the reduction of privacy issues that pose barriers to EpiCrim

research; and (c) An EpiCrim research approach has the ability to provide data that helps identify the root cause of youth gun violence in urban areas.

Benet's (2006, 2012, 2013) polarities of democracy human rights and communal obligations polarity pair lens provided insight of EpiCrim's capacity as envisioned by Akers and Lanier (2009) through findings from this research. The positive aspects of human rights in the context of this study aligned with constitutional rights afforded to United States citizens. Guarantees are provided through these rights and are endowed as inalienable rights under the U.S. Constitution.

As suggested by participants, EpiCrim research contributes to the development of strategies to reduce youth gun violence in urban areas. When an EpiCrim research approach is aligned with current gun control and gun rights debates, the polarity of human rights and communal obligations is illuminated. Additionally, research participants suggested the necessity for legislative revisions supporting gun violence research and the reduction of privacy issues that pose barriers to EpiCrim's ability to be used as an approach to reduce barriers associated with gun violence research and the development of intervention strategies.

The negative aspects of human rights correlate with public and private efforts to thwart the implementation of approaches such as EpiCrim for undefined reasons and restrict multidisciplinary research efforts from targeting gun violence by youth in urban areas. In such environments, conditions supportive of firearms trafficking and gun violence increase.

Communal obligations as the opposite pole of human rights aligns with societal responsibilities toward comprehensive research against violence through application of an EpiCrim research approach. Much like the human rights pole, the communal obligations pole has positive aspects that tend to protect the citizenry from violence.

An example identified by a public health participant relates to current debates regarding the necessity for firearm background checks and red flag laws. Where some consider such actions an encroachment and a violation of their rights, others consider the measures appropriate for public safety of the community where warranted.

**Epidemiology criminology approach.** Participants' suggestion of the potential for EpiCrim's research approach ability to provide data that helps identify the root cause of youth gun violence in urban areas, supports the positive aspects of communal obligations. Participants identified public health officials are positioned to work collaboratively with law enforcement officials and identify better approaches for problems and diseases in communities. Additionally, research participants suggested an EpiCrim approach affords public health officials the ability to vocalize their concerns, raise awareness and educate the public relative to issues associated with gun violence.

Akers and Lanier (2009) described EpiCrim as a bridging framework to understand the role of public health and criminal justice and "...anything affecting the health of society" (p. 68). Interestingly Akers and Lanier (2009) identified "...Black on Black homicides..." as being the leading cause of death for those in the age range of 15 – 34 (p. 88). As depicted in this research, 14 of 16 participants (87.5%) described youth carrying guns in communities as being a prevalent or significant problem. While the age

range varied, most participants suggested youths in their teens through 24 were especially problematic for carrying firearms in communities.

### **Limitations of the Study**

I found the selection of participants using the snowball data collection approach challenging. Recruiting for participants commenced upon receipt of IRB approval (07-31-19-0732873). This approach was time consuming and difficult in setting interview appointments with several participants. Additionally, several potential participants could not devote the necessary time for the interview. As a result, their perspectives were not captured during the study. 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.

A final additional challenge consisted of elongated member check reviews of completed transcripts. While responses were received from all participants, with one exception, this created a situation necessitating waiting a significant period to enter data into the NV analytical system. Another challenge was the necessity to conduct telephonic interviews of most participants. While an acceptable data collection method, in person interviews for participants geographically dispersed across the country would have been expensive and time consuming.

## **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 United States urban areas. Based on participant interviews of both law enforcement and public health professionals, several recommendations for future studies were identified.

First, it was suggested that a need exists to broaden the conversation and understand issues relative to youth having access to guns in rural areas and not to simply focus on urban environments. While existent studies address urban areas, a 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. While rural areas were not discussed in Akers and Lanier (2009), suicides were mentioned in relationship 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 a need exists for mental health and

comprehensive multitiered research that has prevention and response elements as part of the study.

### **Implications for Positive Social Change**

Developing concrete strategies to reduce gun violence consummated by youth in urban areas has perplexed both public health and criminology practitioners. The implications for positive social change include the ability to research complex issues and identification of EpiCrim strategies to address youth gun violence in urban areas. Specifically, findings of this study provided opportunities to increase awareness to an approach that heretofore was not leveraged in a sustained manner by policy makers at various levels of government.

For positive social change, policy makers at the local, state, and federal levels could consider the value of supporting EpiCrim research initiatives. By using EpiCrim approaches, it affords the use of an integrated multi-disciplinary methodology that can be executed through a public health model approach to target youth gun violence in urban areas. As identified in this study application of EpiCrim through a public model application brings together the various components of the model to identify both the root causes and appropriate intervention strategies for this complex issue. Policy makers at the local, state, and federal levels could consider the benefit of funding EpiCrim approaches through a variety of community-based participatory research (CBPR) initiatives. Such engagements could involve representatives of not only the public safety and public health communities, but stakeholders from communities plagued by youth gun homicides in urban areas.



As identified in this study, information developed through an EpiCrim approach affords capacity for the development of potential strategies to target youth gun violence in urban areas. Research has demonstrated that through CBPR engagements, local, state, and federal policy makers benefit from the direct engagement of not only professional practitioners but community stakeholders working collaboratively toward solutions to perplexing problems. According to Hausman and Becker (2000) CBPR provides a platform for the community to be involved in a systemic process to identify sustainable improvements in the health of a community. Spears-Johnson, Kraemer-Diaz and Arcury (2016) identified in their research that CBPR engages with underserved communities in all phases of research and can have a positive effect on social change. It is from this perspective in conjunction with EpiCrim strategies whereby positive social change can be obtained in communities plagued by youth gun homicides. Such efforts could provide demonstrable benefit in targeting youth gun homicides from a strategy that heretofore has not been leveraged to a significant degree.

Another way this research contributes to positive social change is by bringing two distinct disciplines together, to better understand the root cause of youth gun violence consummated by youth in urban areas. EpiCrim harnesses capabilities to address numerous challenges associated with youth gun violence in urban areas, by leveraging public safety and public health disciplines' independent capabilities in a combined integrated manner.

Benet (2006) adeptly identified that human rights not only exists in the U.S. Bill of Rights but are enshrined in the United Nations Universal Declaration of Human Rights

(1948). Benet (2006) recognized such human rights “...are subject to alienation through the power of those who control the workplace, and therefore should be protected...” (p.212). Benet (2006) approach also supports United Nations Sustainable Development Goals (SDGs) that were codified and adopted with commensurate strategies and targets (UN SDG, 2015). As identified in the literature SDG 16 was specifically developed to focus attention on reducing violence and death rates in nations. Recognition of EpiCrim’s value as a methodology worthy of consideration supports the overarching goal of SDG 16 toward reducing violence in both nations and individual communities. This is another way whereby policy makers at the local, state, and federal levels can support EpiCrim research initiatives in communities that focus on youth gun homicides in urban areas with a goal toward reducing violence as suggested by SDG 16.

Participants’ identification of gaps associated with the current YRBSS provides another example of potential positive social change. As stated, the current YRBSS is implemented across the United States to both high school and middle school students to capture information on a variety of topics to include violence. However, as identified in this research study it is devoid of questions relative to the impact of gun abatement measures in schools. An EpiCrim approach to evaluating the survey could provide information that better targets how students hide guns prior to entering school environments.

Finally, from an individual level, using an EpiCrim approach affords policy makers the ability to focus research efforts on complex issues that are drivers for behavioral risk factors associated with youth gun violence in urban areas. From a macro

level, EpiCrim provides a platform for policy makers to delve into areas with a multidisciplinary approach to target youth gun violence in urban areas.

### **Conclusion**

Violence is considered a public health problem in America and little is known about the benefit of using a combined epidemiology and criminology (EpiCrim) approach to focus on urban youth gun violence. Using Benet's polarities of democracy theoretical framework, the purpose of this research was to understand 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 United States urban areas.

The specific research question for this study sought to determine in what ways can a combined epidemiological criminology approach contribute to or detract from the reduction of gun homicides by youth in United States 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 policy makers to appropriately fund gun violence research. Without appropriate funding the ability to identify potential strategies to curb youth gun homicides is diminished. Other suggestions by research participants identified the necessity for policy makers to abandon traditional approaches and engage in EpiCrim centric approaches. As demonstrated through this study, utilization of an EpiCrim

methodology provides significant benefit for local, state, and federal policy makers 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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## Appendix A: Interview Guide

RQ: In what ways can a combined epidemiological criminology approach contribute to or detract from the reduction of gun homicides by youth in United States urban areas?

**Date of Interview:**

**Time of Interview:**

**Participant Code:** \_\_\_\_\_

Good morning/evening. Thanks for agreeing to meet with me. As I informed you, my name is Joseph A. McMillan and I am a Ph.D. Criminal Justice candidate at Walden University. I appreciate your willingness to participate in this discussion and assure you, we will be completed within the 1 hour, which you have allotted. If for whatever reason we do not finish and you are willing, we will continue. If we can't continue, with your permission we will reschedule the uncompleted portion of the interview for a later time.

At this point I would like to provide you with copy of the informed consent form for your reviews. The form and your identity will be safeguarded and secured. You can cease the interview at any time. Also, with your concurrence an audio recording of this interview will be conducted and ultimately transcribed. I will provide you a copy of the transcription so that you can review it for accuracy. Do you agree with me to record this interview?

Now that we have covered these important aspects, I would like to briefly explain the purpose of this interview again so that you have the appropriate situational awareness in answering the questions. According to research definitions "...the purpose of epidemiology is to identify factors that cause health problems and control diseases in populations" Forrest (2013). For purposes of this study, the following additional definitions are being used:

- Criminology - "[t]he systematic study of the nature, extent, cause and control of law-breaking behavior." (Lanier, 2009).
- Criminal Justice – "...the crime control practices, philosophies, and policies used by police, courts and corrections." (Lanier, 2009).
- Epidemiology – "[o]ne of the five branches of public health [that] is the study of variables, vectors and factors that affect disease spread." (Lanier, 2009).

As you may be aware, the purpose of this qualitative research study is to understand in what ways a combined epidemiological criminology approach can contribute to a reduction of gun homicides by youth in United States urban areas. My literature review has identified research that suggests the necessity from a research perspective in using epidemiology modeling and criminology in tandem to address issues. Understanding how the individual disciplines approach sharing of information or a reluctance to share, provides significant benefit to understanding their ability to leverage the epidemiological criminology model of approach.

You have been identified as an active or retired senior policing, criminal justice practitioner or public health officials with experience working and collaborating on juvenile violence issues. As you may be aware, violence has been deemed a public health problem by Congress and the Centers for Disease Control. My research question seeks to determine in what ways can a combined epidemiological criminology approach contribute to or detract from the reduction of gun homicides by youth in United States urban areas?

Before we get started, I would also like to go over a few rules:

1. This session is being recorded to ensure accuracy, so please speak clearly.
2. I have assigned you a pseudonym to prevent any linkage in my final report. Please do not use your name or any descriptors that would tend to identify you, your department or location.
3. I would like to reiterate that you may terminate this interview at any time without any reprisal.
4. Please silence all phones during the interview.
5. Finally, there are no right or wrong answers to any of the questions.

So, let's begin. Please generically tell me a little bit about your professional background such as length of time working within your particular discipline and without naming any particular location. Are you currently active or retired? Thank you for sharing that with me.

#### Interview Questions

1. To start with how pervasive is the gun violence problem of youth carrying guns in communities?
2. How pervasive is the gun violence problem of youth carrying guns on school property?
3. How pervasive is the gun violence problem of students not attending school because of guns being brought to school by other students?
4. How pervasive is the gun violence problem of students being threatened by other students with guns on school property?

5. Are there laws that need to be changed to support the use of an epidemiological criminology approach to reduce gun homicides by youth in United States urban areas?
6. Are there policies that need to be changed to support the use of an epidemiological criminology approach to reduce gun homicides by youth in United States urban areas?
7. Are there barriers that exist in using an epidemiological criminology approach to reduce gun homicides by youth in United States urban areas?
8. How would an epidemiological criminology approach impact the reduction of gun homicides by youth in United States urban areas?
9. From your perspective, what is the value of using a public health approach to identify potential solutions to criminal justice problems?
10. From your perspective how can public health officials help define the root cause of youth gun homicides in urban communities?
11. How capable is the criminal justice system in identifying youth in the community that illegally possess guns?
12. How capable is the public health system in identifying youth in the community that illegally possess guns?

I am truly appreciative of your willingness to participate in this interview. Is there anything you would like to add or any final thoughts that I might not have covered that you feel are pertinent to the topics we covered, before we conclude?

With that, I will conclude the recording at this time: \_\_\_\_\_

## Appendix B: Word Cloud and Word Tree for Law Enforcement Participants

## Word Frequency Query Results

Word	Length	Count	Weighted Percentage (%) ▾
think	5	166	1.58
know	4	164	1.56
gun	3	157	1.50
youth	5	122	1.16
school	6	105	1.00
violence	8	103	0.98
guns	4	102	0.97
health	6	99	0.94
people	6	95	0.91
approach	8	90	0.86
public	6	86	0.82
problem	7	82	0.78
like	4	77	0.73
criminal	8	69	0.66
homicides	9	66	0.63
number	6	66	0.63
criminology	11	65	0.62
justice	7	65	0.62
speaker	7	65	0.62
epidemiological	15	64	0.61
urban	5	64	0.61
young	5	59	0.56
areas	5	55	0.52
pervasive	9	54	0.52
just	4	53	0.51

think	know	gun	youth	violence	health	approach	problem	homicides	criminolog	speaker	urban	need	areas
			school	guns	people	public	criminal	number	justice	epidemiolo	young	pervasiv	just



## Appendix C: Word Cloud and Word Tree for Public Health Participants

## Word Frequency Query Results

Word	Length	Count	Weighted Percentage (%) ▾
gun	3	210	1.60
think	5	167	1.28
know	4	163	1.24
health	6	138	1.05
public	6	135	1.03
people	6	132	1.01
youth	5	130	0.99
guns	4	128	0.98
approach	8	122	0.93
violence	8	116	0.89
school	6	107	0.82
problem	7	93	0.71
number	6	85	0.65
criminology	11	82	0.63
urban	5	81	0.62
just	4	74	0.57
one	3	74	0.57
community	9	73	0.56
question	8	73	0.56
research	8	72	0.55
criminal	8	66	0.50
homicides	9	66	0.50
epidemiological	15	64	0.49
look	4	64	0.49
justice	7	61	0.47

## Appendix D: Word Cloud and Word Tree Combined Results for Law Enforcement

## Participants and Public Health Participants

## Word Frequency Query Results

Word	Length	Count	Weighted Percentage (%) <sup>▽</sup>
gun	3	1379	1.81
think	5	970	1.28
youth	5	964	1.27
know	4	878	1.15
public	6	858	1.13
health	6	845	1.11
guns	4	829	1.09
approach	8	803	1.06
violence	8	797	1.05
school	6	791	1.04
people	6	766	1.01
problem	7	708	0.93
criminal	8	556	0.73
justice	7	521	0.68
urban	5	507	0.67
homicides	9	501	0.66
criminology	11	463	0.61
system	6	442	0.58
epidemiological	15	419	0.55
number	6	379	0.50
community	9	374	0.49
areas	5	373	0.49
laws	4	369	0.49
one	3	358	0.47
students	8	352	0.46

gun	think	know	health	approach	school	problem	justice	homicides	system	number	community
										areas	one
	youth	public	guns	violence	people	criminal	urban	criminolog	epidemi	laws	students

