Intimate partner violence (IPV) is a pervasive problem associated with numerous detrimental physical and mental health outcomes [1, 2]. IPV may include sexual, psychological, or physical abuse; threats of abuse; stalking; or other types of abusive control committed during or after romantic partnerships [1]. An estimated 6.6 million women and 5.8 million men in the United States experience some form of unwanted sexual contact, stalking, and/or physical IPV each year. Furthermore, an estimated 43.6 million women and 37.3 million men will experience IPV at some point in their lives [3].

Intimate partner homicide (IPH), when a person is killed by a current or former intimate partner, may be the culmination of an abusive intimate relationship. Although the overall rate of IPH has decreased in the United States in recent decades, most of which can be attributed to a reduction among male victims [4, 5], these fatalities continue to represent a considerable proportion of all homicides, particularly among women.

Studies using death certificates indicate that 40%-54% of female homicide victims were killed by a former or current intimate partner [6-8]. A study of homicides that occurred from 2003 to 2014 in 18 states found that over half (55.3%) of all female homicide victims were killed by a current or former intimate partner [9]. In contrast, the most recent national estimate available for men indicates that 5% of male homicide victims are killed by a current or former intimate partner [10].

Extant research also indicates that IPHs vary by victim race and ethnicity and victim-suspect relationship status [9-11]. Significant differences have been found in the proportions of IPHs by race and ethnicity among female homicide victims for whom the circumstances preceding death were known [9]. Among female victims, a significantly higher proportion of non-Hispanic (NH) white and Hispanic victims than NH Black victims were killed by a current or former intimate partner [12]. Another study found that Black female IPH victims were twice as likely to be murdered by a spouse and four times more likely than white female IPH victims to be killed by a girlfriend or boyfriend [10]. To the best of our knowledge, comparable analyses have not been conducted for male IPH victims.

IPH research in North Carolina is limited [13, 14], which impedes our ability to assess the magnitude of the problem, describe the contexts of IPHs, and identify potential strategies for prevention. In this study, we address this knowledge gap by presenting and comparing overall rates of IPH and non-IPH and rates of IPH by age and sex from 2011 to 2015. Accordingly, we investigated the overall prevalence and rate...
of IPH among all North Carolina homicides within the study period, as well as whether the prevalence and rates varied by sex and race and ethnicity. We sought to learn about the characteristics and context of IPH by investigating the victim-suspect relationship, history of prior IPV, type of homicide (i.e., single, multiple, homicides followed by suicide), and weapon used.

Methods

Data Source

We used data from the North Carolina Violent Death Reporting System (NC-VDRS) to assess the characteristics of North Carolina resident IPHs that occurred between 2011 and 2015. The NC-VDRS is a population-based surveillance system that compiles information on violent deaths that occur in North Carolina. Data are collected from multiple data sources, including death certificates, medical examiner investigations, and law enforcement reports. NC-VDRS abstractors review information from each source and determine an overall manner of death, including homicide, suicide, legal intervention (a subtype of homicide where the victim is killed by law enforcement acting in the line of duty), and unintentional firearm deaths [15]. The system captures detailed information about the event, including circumstances surrounding the event (i.e., context) when the information is reported, relationships between victims and suspects, weapons used, and IPV-related information. NC-VDRS abstractors review primary data sources for circumstance information. Circumstances are considered present if they are documented in either the medical examiner or law enforcement records. The absence of a circumstance in NC-VDRS does not definitively indicate that the circumstance did not occur.

In NC-VDRS, an intimate partner is defined as a current or former girlfriend or boyfriend, dating partner, ongoing sexual partner, or spouse, including same-sex partners. The definition does not require sexual intimacy and excludes instances of sex or intimacy in exchange for goods or money [15].

Variables

Homicides were classified as IPH using the IPV-related field available in NC-VDRS, which indicates if the death is related to immediate or ongoing conflict or violence between current or former intimate partners. For the purpose of this analysis, the relationship of the victim to the suspect was categorized into two groups, current and former intimate partner, according to relationship status at the time of death. Homicides among victims killed during an IPV-related incident but who were not the suspect’s partner, such as family or friends, were excluded. Current intimate partner included current girlfriend, boyfriend, or spouse of the suspect. Former intimate partner included ex-girlfriend, ex-boyfriend, or ex-spouse of the suspect. Because multiple suspects can be identified for each victim, the victim-suspect relationship was limited to the first identified suspect.

A history of IPV perpetration is defined as the perpetration of IPV by the victim within the month prior to the incident that resulted in the victim’s death. Notably, IPV history must have been a distinct event that occurred before the violence that killed the victim [15]. Abuse history is defined as the history of abuse of the victim by the suspect and can include physical, psychological, sexual, or other forms of abuse. The type of incident is the overall description of whether the incident involved a single or multiple victims and the manner of all victims’ deaths [15]. Type of incident was classified into four categories for IPHs: single homicide, multiple homicide, homicide(s) followed by suicide, and other.

We categorized age into five-year age groups from 15 through 84, and those 85 and older. We combined race and ethnicity information and created six mutually exclusive categories: NH white, NH Black, NH American Indian, NH Asian, Hispanic, or other/unknown race/ethnicity. The type of weapon used was categorized as firearm, sharp instrument, blunt instrument, strangulation, or other.

Statistical Analysis

We restricted analyses to North Carolina residents aged 15 and older and used National Center for Health Statistics population estimates for each year in the study period to obtain denominators for rate calculations [16]. First, we determined the proportion of violent deaths with at least one documented circumstance. Next, we determined the manner of death and calculated the proportion of deaths that were IPHs and non-IPHs. Further, we calculated rates of IPH and non-IPH deaths among North Carolina residents over the five-year period (2011-2015) by age, sex, race and ethnicity, and marital status. We compared the proportions and rates of IPH and non-IPH by sex and age. We also conducted descriptive comparisons of male and female IPH victims by victim-suspect relationship, history of experiencing or perpetrating IPV, type of incident, weapon used, and manner of IPHs.

All analyses were conducted in SAS v9.4 (Cary, NC). The study was determined to be non-human subjects research by the Institutional Review Board at the University of North Carolina at Chapel Hill.

Results

Of the 9,446 violent deaths that occurred among North Carolina residents aged 15 and older between 2011 and 2015, 2,584 were homicides, of which 2,299 (89.0%) contained circumstance information in one or both primary data sources. The 11.0% (n = 285) of homicides with missing circumstance information were excluded from the analysis. Of the homicides with available circumstance information (488 female and 1,811 male victims), 90.0% had suspect information available. Fifteen percent of all North Carolina resident homicides (N = 350; 253 female and 97 male victims) were IPHs, while the remaining 1,949 were considered non-IPHs. Among all female homicide victims, almost half
(48.2%) were victims of IPH while only 5.4% of all male homicide victims were victims of IPH (Figure 1).

The overall IPH rate from 2011 to 2015 was 0.9 per 100,000 person-years. The IPH rate among females was 1.2 per 100,000 person-years, compared to 0.5 per 100,000 person-years among males (Table 1). In comparison, the non-IPH rates among females and males were 1.1 and 9.0 per 100,000 person-years respectively. Nearly two-thirds (72%, n = 253) of IPH victims were female and 28% (n = 97) were male. IPH rates were higher for females across all age groups (Figure 2; Table 2). For female victims, rates were highest among women aged 20-44 (2.1 per 100,000 person-years), while for male victims, the rate peaked for men aged 45-54 (0.9 per 100,000 person-years).

The comparison between IPH and non-IPH characteristics is presented in Table 1. Most IPH victims were NH white (54.0%, n = 189). However, the IPH rate for NH American Indians was 1.9 times that among NH whites (1.3 vs 0.7 per 100,000 person-years, respectively). Similarly, the IPH rate among NH Blacks (1.4 per 100,000 person-years) was 2.0 times that among NH whites. A higher percentage of IPH victims were married (43.1%) than victims who were never married (31.4%). Approximately 21% of IPH victims were divorced or separated and 3.7% were widowed. Suspect information was complete for all IPHs, and the relationship of the IPH victim to the suspect was similar for female and male victims. Most were current partners of the suspect (82.6% and 86.6% for females and males, respectively) followed by the suspect’s former partner (16.6% and 11.3% for females and males, respectively).

Among male victims of IPH, 7.2% had a documented history of IPV perpetration against the homicide suspect, while no female victims had a documented history of IPV perpetra-
tion. However, 28.9% (n = 73) of female victims experienced a documented history of abuse at the hands of the suspect, compared to 10.3% (n = 10) of male victims. Although the majority of IPHs (66.0%) were single homicides (n = 231), 27.4% (n = 96) were homicides followed by suicide; 6.0% (n = 21) were multiple homicides. The incident type also differed by the sex of the victim. Nearly all 91.8% (n = 89) of IPHs with male victims were single homicides compared to 56.1% of IPHs with female victims. A larger proportion of IPHs among female victims were homicides followed by suicides (n = 89, 35.2%) and multiple homicides (n = 20, 7.9%) compared to male victims (n = 7, 7.2% and n = 1, 1.0% respectively).

Firearms were the most common weapon used in IPHs, accounting for 62.6% of IPH cases. The second most common weapon among IPHs was a sharp instrument (19.4%), followed by hanging, strangulation, or suffocation (8.9%), or another weapon (7.7%). Weapon type also differed by victim sex. Firearms and strangulation were the used in a higher proportion of IPHs with female victims (65.6% and 12.3%, respectively) compared to male victims (53.6% and 1.0%, respectively). Sharp instruments were used in 35.1% of IPHs with male victims compared to only 13.5% of female victims (Table 2).

Discussion

For this study, we investigated the prevalence and rate of IPH among various populations and sought to learn about the characteristics and context of IPH in North Carolina. The results showed that one in seven homicides in North Carolina are IPHs, and almost half of female homicide victims are killed by a current or former intimate partner. In contrast, only 5.4% of male homicides in North Carolina were IPHs.
These results are similar to data observed nationally, where over half of female homicides are IPHs [6-9].

Further, we found though the majority of observed IPH deaths were among NH white Americans; IPH rates among NH Black and Native Americans were 2.0 and 1.9 times that of white Americans, respectively. This finding could be related to higher rates of IPV victimization among Black and Native American populations [1, 17], as well as inadequate or negative responses to nonfatal IPV experienced by women of color from both formal networks such as law enforcement, social service agencies, and domestic violence service providers, and informal social networks.

Previous research has found that interactions with both service providers and social networks influence female IPV victims' subsequent help-seeking behaviors and their ability to leave abusive relationships. A qualitative study with 102 IPV survivors found that 90% of women who had previously interacted with either the court system or police officers for IPV-related concerns did not consistently contact authorities for subsequent help because of previous unhelpful or harmful encounters [18]. Recent studies indicate that women are being arrested during IPV-related police calls even as the IPV victims, making them hesitant to call for help due to fears of being arrested [19].

| TABLE 1. North Carolina Intimate Partner Homicide (IPH) Victims Compared to Non-IPH Victims, North Carolina-Violent Death Reporting System, 2010-2015 |
|-----------------------------------------------|
| **Sex**                                      |
| **Number** | **Percent** | **Rate per 100,000** | **Number** | **Percent** | **Rate per 100,000** |
| Female    | 253         | 72.3 | 1.2 | 235 | 12.1 | 1.1 |
| Male      | 97          | 27.7 | 0.5 | 1,714 | 87.9 | 9.0 |
| **Race/Ethnicity**                          |
| White*   | 189         | 54.0 | 0.7 | 578 | 29.7 | 2.2 |
| Black*    | 120         | 34.3 | 1.4 | 1,149 | 59.0 | 13.6 |
| American Indian* | 6 | 1.7 | 1.3 | 62 | 3.2 | 13.3 |
| Asian*    | 6           | 1.7 | 0.6 | 29 | 1.5 | 2.8 |
| Hispanic | 28          | 8.0 | 1.0 | 129 | 6.6 | 4.5 |
| Other/Unknown* | 1 | 0.3 | * | 2 | 0.1 | * |
| **Age** |
| 15-19    | 10          | 2.9 | 0.3 | 171 | 8.8 | 5.3 |
| 20-24    | 41          | 11.7 | 1.2 | 357 | 18.4 | 10.2 |
| 25-34    | 88          | 25.1 | 1.4 | 563 | 28.9 | 8.8 |
| 35-44    | 87          | 24.9 | 1.3 | 327 | 16.7 | 5.0 |
| 45-54    | 68          | 19.4 | 1.0 | 250 | 12.9 | 3.7 |
| 55-64    | 33          | 9.4 | 0.5 | 151 | 7.6 | 2.4 |
| 65-74    | 18          | 5.1 | 0.4 | 73 | 3.8 | 1.8 |
| 75-84    | 3           | 0.9 | * | 39 | 2.0 | 1.9 |
| ≥85      | 2           | 0.6 | * | 16 | 0.8 | 1.9 |
| **Marital Status**                          |
| Married  | 151         | 43.1 | - | 385 | 19.8 | - |
| Never Married | 110 | 31.4 | - | 1,225 | 62.9 | - |
| Divorced or Separated | 75 | 21.4 | - | 253 | 13.0 | - |
| Widowed  | 13          | 3.7 | - | 73 | 3.7 | - |
| Unknown  | 1           | 0.3 | - | 13 | 0.7 | - |
| **Weapon Type**                             |
| Firearm | 219         | 62.6 | - | 1,478 | 75.8 | - |
| Sharp Instrument | 68 | 19.4 | - | 222 | 11.4 | - |
| Blunt Instrument | 10 | 2.9 | - | 112 | 5.7 | - |
| Strangulation | 31 | 8.9 | - | 40 | 2.1 | - |
| Other/Unknown | 22 | 6.3 | - | 97 | 5.0 | - |
| **Total** | 350         | 100 | 0.9 | 1,949 | 100.0 | 4.9 |

*Non-Hispanic
*Data suppressed due to cell count of less than 5
- Rate not calculated
Legacies of structural racism and oppression and experiences with police violence may make Black and Native American women reluctant to engage with the criminal justice system and other institutional resources [20-25]. Native American women may also face cultural barriers to reporting abuse, as well as limitations of tribal authorities to prosecute non-Native perpetrators [26]. Negative encounters that discourage IPV victims from engaging the criminal justice and court systems are especially troubling given that law enforcement and medical care have been identified as the most commonly used formal services for IPV survivors [27].

Women experiencing IPV often turn to their social networks for help. Support provided by social networks has been shown to mitigate the negative consequences of IPV and can be protective against IPV revictimization by current or new partners [28, 29]. Research indicates that IPV survivors with more social support are less likely to report poor mental and physical health, anxiety, depression, PTSD symptoms, and suicide attempts [30]. Research has also found that some IPV survivors report experiencing mixed and harmful reactions from people within their social networks [31]. Like negative interactions with formal service providers, having negative experiences when disclosing abuse or seeking informal support can impede a survivor's future help-seeking attempts. Black women experiencing IPV may encounter unique barriers to engaging their social networks. In a qualitative study of Black IPV survivors, participants indicated that their concerns about Black men's social marginalization, Black women's perceived role in safeguarding Black men, and gendered scripts about resistance influenced their perspectives on the causes of and their responses to abuse, including disclosure to their families, friends, and community members [24]. Further research is needed to identify what community, environmental, and structural factors might make Black and Native American populations especially vulnerable to IPH and to investigate and identify interventions to reduce the elevated risk of IPH that is evident among these populations in North Carolina.

Our findings echo those of previous research indicating that women’s experience of IPH, both as victims and suspects, is different from that of men. Women are more likely to be killed by their partners after a known history of IPV, while male IPH victims are more likely to have perpetrated IPV against the suspects prior to their deaths [5]. Previous research has identified IPV as the primary risk factor for IPH, and, compared to male IPH suspects, female IPH suspects are more likely to kill their male partners when the male partner attacked them first (i.e., victim precipitation of the homicide) [32-35], or after a history of male-partner-perpetrated IPV. Thus, male-perpetrated IPV is a common theme among all IPHs, regardless of the sex of the homicide victim. In addition, we found that more IPHs involving male suspects include multiple victims. These findings suggest that primary and secondary prevention of IPV could decrease IPH of both men and women.

Our findings underscore the importance of resources devoted to advocacy and services for IPV survivors, which have been shown to be helpful in ameliorating revictimization, particularly when such services are offered for at least 10 weeks or more [36]. Overall, there are relatively few rigorous studies using a randomized research design focused on preventing IPV. Two research reviews both found low to mixed quality of the studies' rigor and urged caution when interpreting findings regarding the effectiveness of these prevention strategies [37, 38]. In addition, few interventions and studies have been replicated in other settings, thus it is uncertain whether positive results could be repeated in a different environment [38]. Rigorous evaluation of existing and new interventions and policies designed to prevent and respond to IPV are urgently needed. Our findings also underscore the need for innovation and research in the areas of

**FIGURE 2.**
Rate of North Carolina Intimate Partner Homicides by Sex and Age of the Victim, North Carolina-Violent Death Reporting System 2011-2015, N = 350

| Age Group (Years) | Males | Females |
|-------------------|-------|---------|
| 15-19             | 2.5   | 2.0     |
| 20-24             | 2.0   | 1.5     |
| 25-34             | 1.5   | 1.0     |
| 35-44             | 1.0   | 0.5     |
| 45-54             | 0.5   | 0.0     |
| 55-64             |       |         |
| 65-74             |       |         |
| 75-84             |       |         |
| >84               |       |         |

N = 97 N = 253
IPV prevention and interventions for people who have perpetrated IPV. The current standard for addressing IPV perpetration and abuser treatment programs also have mixed to no effectiveness in lowering the risk of IPV perpetration and recidivism [39, 40].

The health care system is a promising avenue for IPV prevention and response. A health care visit may be an opportunity to identify patients experiencing IPV and to connect IPV survivors to services. Through routine screening for IPV, health care providers could identify abuse and potentially reduce morbidity and mortality associated with IPV by connecting survivors with needed services in the community. Health care providers can thus be an important “portal of entry” for connecting survivors with services and ensure that appropriate health care services are provided [41]. Identifying and referring IPV survivors is consistent with the United States Preventive Services Task Force recommendation to screen women of childbearing age for IPV and refer those who screen positive to local services [42]. As part of their federally funded Healthcare IPV Response project, the North Carolina Coalition Against Domestic Violence recently released a Healthcare Provider IPV Toolkit (https://ncipvhealth.org/) that contains resources for implementing comprehensive IPV screening and referral protocols in health care settings. Evaluation data from a pilot study of the recommended protocol found that IPV screening rates increased significantly after the introduction of the protocol in project sites and that between 4% and 6% of the women screened were identified as experiencing IPV.

### TABLE 2.
North Carolina Intimate Partner Homicides by Victim Sex, North Carolina-Violent Death Reporting System, 2010-2015

| Race/Ethnicity | Female | | Male | |
|----------------|--------|--------|--------|--------|
| | Number | Percent | Rate per 100,000 | Number | Percent | Rate per 100,000 |
| White* | 144 | 56.9 | 1.0 | 45 | 46.4 | 0.3 |
| Black* | 78 | 30.8 | 1.7 | 42 | 43.3 | 1.1 |
| American Indian* | 3 | 1.2 | * | 3 | 3.1 | * |
| Asian* | 5 | 0.9 | 0.9 | 1 | 1.0 | * |
| Hispanic | 23 | 9.1 | 1.7 | 1 | 1.0 | * |
| Other/Unknown* | 0 | 0.0 | 0.0 | 5 | 5.2 | 0.0 |
| Age | | | | | | |
| 15-19 | 9 | 3.6 | 0.6 | 1 | 1.0 | * |
| 20-24 | 34 | 13.4 | 2.0 | 7 | 7.2 | 0.4 |
| 25-34 | 68 | 26.9 | 2.1 | 20 | 20.6 | 0.6 |
| 35-44 | 70 | 27.7 | 2.1 | 16 | 16.5 | 0.5 |
| 45-54 | 37 | 14.6 | 1.1 | 31 | 32.0 | 0.9 |
| 55-64 | 21 | 8.3 | 0.7 | 13 | 13.4 | 0.4 |
| 65-74 | 11 | 4.3 | 0.5 | 7 | 7.2 | 0.4 |
| 75-84 | 2 | 0.8 | * | 1 | 1.0 | * |
| ≥85 | 1 | 0.4 | * | 1 | 1.0 | * |
| Marital Status | | | | | | |
| Married | 108 | 42.7 | - | 44 | 45.4 | - |
| Never Married | 75 | 29.6 | - | 35 | 36.1 | - |
| Divorced or Separated | 60 | 23.7 | - | 15 | 15.5 | - |
| Widowed | 10 | 4.0 | - | 2 | 2.1 | - |
| Unknown | 0 | 0.0 | - | 1 | 1.0 | - |
| Weapon Type | | | | | | |
| Firearm | 166 | 65.6 | - | 52 | 53.6 | - |
| Sharp Instrument | 34 | 13.4 | - | 34 | 35.1 | - |
| Blunt Instrument | 6 | 2.4 | - | 4 | 4.1 | - |
| Strangulation | 31 | 12.3 | - | 1 | 1.0 | - |
| Other/Unknown | 16 | 6.3 | - | 6 | 6.2 | - |
| Total | 350 | 100 | 0.9 | 1,949 | 100.0 | 4.9 |

*Non-Hispanic
*Data suppressed due to cell count of less than 5
- Rate not calculated
As with non-IPH, firearms are the predominant weapon used in IPH. This finding suggests that access to firearms in the context of current or previous IPV elevates the risk of IPH, and that restrictions on access to firearms by individuals convicted of an IPV-related criminal offense and/or subject to a qualifying domestic violence protective order (DVPO) may prevent IPV-related deaths when implemented and enforced consistently [43, 44]. Federal law currently prohibits the purchase and possession of firearms and ammunition by persons convicted of certain IPV-related misdemeanors, and those subject to qualifying DVPOs, and revokes their concealed carry permits for handguns [45]. Many states, including North Carolina, have enacted complementary legislation further restricting access to firearms by domestic abusers [46]. However, little is known regarding how sheriffs’ offices implement these restrictions and whether they effectively prevent firearm-related IPV. Further research is needed to identify gaps in implementation and enforcement of these restrictions, and their effectiveness in reducing IPH.

As with all research, our findings should be viewed within the context of the study’s limitations. Our data were from a population-based surveillance system in a single state and are not representative of all IPHs in the United States. NC-VDRS data are compiled from multiple sources and are therefore more complete than a single data source. However, some types of information was limited. Detailed contextual information was sometimes lacking and the coding categories somewhat reductionist. For example, although abstractors might establish that an IPH occurred in the context of an argument, the topic of the argument might be unknown. Also, NC-VDRS may slightly underestimate the magnitude of IPHS and the presence of other circumstances, as this information may go unreported in all primary data sources that populate NC-VDRS.

Despite these limitations, the study findings help to address gaps in current research by analyzing data across multiple years from a statewide dataset. In addition, the study highlights the prevalence and circumstances of IPH among various populations. We hope that these study results will galvanize researchers, practitioners, and policymakers to redouble their efforts to conduct IPV prevention research that develops and tests interventions aimed at preventing IPH.

Acknowledgments

We thank the NC State Center for Health Statistics, Office of the Chief Medical Examiner, and local law enforcement for their collaboration and assistance. In addition, thanks to the NC-VDRS program staff, Tammy Norwood, Devon Weaver, and Susan Autry, for data collection and data quality.

The authors acknowledge the funding sources that allowed the work to be completed. For Shana Geary this study was supported in part by an appointment to the Applied Epidemiology Fellowship Program administered by the Council of State and Territorial Epidemiologists (CSTE) and funded by the Centers for Disease Control and Prevention (CDC) Cooperative Agreement Number 1U38OT000143-04. We would like to thank the Caroline H. and Thomas S. Royster Fellowship awarded by the University of North Carolina at Chapel Hill which supported, in part, Laurie Graham’s time and effort. Kathryn E. Moracco and Shabbar I. Ranapurwala were funded through the UNC Injury Prevention Research Center which is funded by a CDC grant #R49 CE002479. Scott K. Proescholdbell is funded through the NC Violent Death Reporting System, a CDC funded program, CE14-14024CONT18.

Potential conflicts of interest. The authors report no relevant conflicts of interest.

References

1. Black MC, Basile KC, Breiding MJ, et al. The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 summary report. http://www.cdc.gov/violenceprevention/pdf/nisvs_report2010-a.pdf. Accessed February 25, 2019.
2. Wong J, Mellor D. Intimate partner violence and women’s health and wellbeing: Impacts, risk factors and responses. Contemporary Nurse. 2014;46(2):170-179. doi:10.5177/contonurse.2014.46.2.1770
3. Smith SG, Zhang X, Basile KC, et al. National Intimate Partner and Sexual Violence Survey: 2015 data brief. https://www.cdc.gov/viole
4. Campbell JC, Glass N, Sharp PS, Laughon K, Bloom T. Intimate partner homicide: Review and implications of research and policy. Trauma, Violence, & Abuse. 2007;8(3):246-269. doi:10.1177/1524838007303505
5. Caman S, Kristiansson M, Granath S, Sturup J. Trends in rates and characteristics of intimate partner homicides between 1990 and 2013. 2017;49:14-21. doi:10.106/j/jcrimjus.2017.01.002
6. Violence Policy Center. When men murder women: An analysis of 2012 intimate homicide data. http://www.vpc.org/studies/wmmw2014.pdf. Accessed February 25, 2019.
7. Campbell JC, Webster D, Koziol-McCain, et al. Assessing risk factors for intimate partner homicide. Nati Inst Justice J. 2003;250:14-19. https://www.fcadv.org/sites/default/files/Campbell%2020032.pdf. Accessed January 8, 2020.
8. Moracco KE, Runyan CW, Buttis JD. Femicide in North Carolina. Homicide Stud. 1998;2:422-446. doi:10.1177/1088769980020001005
9. Petrosky E, Blair JM, Betz CJ, Fowler KA, Jack SP, Lyons BH. Racial and ethnic differences in homicides of adult women and the role of intimate partner violence: United States, 2003–2014. MMWR Morb Mortal Wkly Rep. 2017;66:741-746. doi:10.15585/mmwr.mm6628a1
10. Catalano S, Smith E, Snyder H, Rand M. US Department of Justice. Female victims of violence. https://bjs.gov/content/pub/pdf/fvvp.pdf. Accessed February 25, 2019.
11. Cooper A, Smith EL; US Department of Justice. Homicide trends in the United States, 1980–2008. US Department of Justice. https://www.bjs.gov/content/pub/pdf/hus8008.pdf. Accessed February 25, 2019.
12. Sabina C, Swatt M (2015). Summary report: Latino intimate partner homicide. (NCJ 248887). Washington, DC: NIJ. https://www.ncjrs.gov/pdfs1/nij/grants/248887.pdf. Published 2015. Accessed December 6, 2019.
13. Gillespie LK, Reckendwald A. Gender equality, place, and female-victim intimate partner homicide: A county-level analysis in North Carolina. Fem Criminol. 2017;12(2):171-191. doi: 10.1177/1557085115620479
14. Madkour AS, Martin SL, Halpern CT, Schoenbach VJ. Area disadvantage and intimate partner homicide: An ecological analysis of North Carolina counties, 2004-2006. Violence Vict. 2010;25(3):363. doi:10.1891/0886-6708.25.3.363

15. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. National Violent Death Reporting System (NVDRS) Coding Manual Revised. https://www.cdc.gov/violenceprevention/pdf/nvdrs/NVDRS-WebCodingManual.pdf. Accessed February 25, 2019.

16. National Center for Health Statistics. Vintage 2017 postcensal estimates of the resident population of the United States: April 1, 2010, July 1, 2010-July 1, 2017. https://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#Vintage2017. Accessed January 8, 2020.

17. Breiding MJ. Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization—National Intimate Partner and Sexual Violence Survey, United States, 2011. MMWR Surveill Summ. 2014;63(8):1-18. https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6308a1.htm. Accessed January 8, 2020.

18. Gover AR, Welton-Mitchell C, Belknap J, Deprince AP. When abuse happens again: Women’s reasons for not reporting new incidents of intimate partner abuse to law enforcement. Women Crim Justice. 2013;23(2),99-120. doi:10.1080/08974454.2013.759069

19. Dichter ME. “They arrested me—And I was the victim”: Women’s experiences with getting arrested in the context of domestic violence. Women Crim Justice. 2013;23(2),81-98. doi:10.1080/08974454.2013.759068

20. Campbell J, Campbell DW, Gary F, Nedd D, Price-Lea P, Sharps PW. African American women’s responses to intimate partner violence: An examination of cultural context. Journal of Aggression, Maltreatment, and Trauma. 2008;16(3):277-295. doi:10.1080/10926770801925684

21. Coker D. Race, poverty, and the crime-centered response to domestic violence. J Fam Viol. 2016;31:877. doi:10.1007/s10896-016-9819-x

22. Nash ST. Through Black eyes: African American women’s constructions of their experiences with intimate male partner violence. Violence Against Women. 2005;11(11):1420-40. doi:10.1177/1077801205280272

23. Al’Uqdaah SN, Maxwell C, Hill N. Intimate partner violence in the African American community: Risk, theory, and interventions. J Fam Viol. 2016;31:877. doi:10.1007/s10896-016-9819-x

24. Ansara DL, Hindin JH. Exploring gender differences in the patterns of intimate partner violence in Canada: A latent class approach. Journal of Epidemiology and Community Health. 2010;64(10). doi:10.1136/jech.2009.095208

25. Kuijpers KF, van der Knaap LM, Winkel FW. Risk of revictimization of intimate partner violence: The role of attachment, anger and violent behavior of the victim. J Fam Viol. 2012;27(1),33-44. doi:10.1007/s10896-011-9399-8

26. Sapra KJ, Jubinski SM, Tanaka MF, Gershon RR. Family and partner interpersonal violence among American Indians/Alaska Natives. In: Journal of epidemiology. 2014;1(1),7. doi:10.1186/2197-1714-1-7

27. Ansanl DL, Hindin JH. Exploring gender differences in the patterns of intimate partner violence in Canada: A latent class approach. Journal of Epidemiology and Community Health. 2010;64(10). doi:10.1136/jech.2009.095208

28. Sonis J, Langer M. Risk and protective factors for recurrent intimate partner violence in a cohort of low-income inner-city women. J Fam Viol. 23(7),2008;529-538. doi:10.1007/s10896-008-9158-7

29. Coker AL, Smith PH, Thompson MP, McKeown RE, Bethia L, Davis KE. Social support protects against the negative effects of partner violence on mental health. J Womens Health Gend Based Med. 2002;11(5),465-476. doi:10.1089/15246909260137644

30. Troter JT, Allen NE. The good, the bad, and the ugly: Domestic violence survivors’ experiences with their informal social networks. American Journal of Community Psychology. 2009;43(3-4), 221-231. doi:10.1007/s10464-009-9232-8

31. Campbell JC. "If I can’t have you, no one can": Power and control in homicide of female partners. In: Radford, J, Russell, D. eds. Femicide: The politics of women killing. New York: Twayne. 1992:99-113.

32. Daly M, Wilson M. Homicide. Hawthorne, NY: Aldine; 1988.

33. Jurik NC, Winn R. Gender and homicide: A comparison of men and women who kill. Violence Vict. 1990;5:227-242. https://www.ncbi.nlm.nih.gov/pubmed/2098088. Accessed January 8, 2020.

34. Mann CR. Black female homicide in the United States. J Interpers Violence. 1990;5:176-201. doi:10.1088/088662609000502004

35. Trabold N, McMahon J, Alsobrooks S, Whitney S, Mittal M. A systematic review of intimate partner violence interventions: State of the field and implications for practitioners. Trauma, Violence, & Abuse. 2018. doi:10.1177/1524838017679373

36. De Koker P, Mathews C, Zuch M, Bastien S, Mason-Jones AJ. A systematic review of interventions for preventing adolescent intimate partner violence. J Adolesc Health. 2014;54(1),13-13. doi:10.1016/j.jadohealth.2013.08.008

37. Whikater DJ, Murphy CM, Eckhardt CJ, Hodges AE, Cowart M. Effectiveness of primary prevention efforts for intimate partner violence. Partner abuse. 2013;4(2):175-195. doi:10.1891/1946-6560.4.2.175

38. Arias E, Arce R, Vilariño M. Batterer intervention programmes: A meta-analytic review of effectiveness. Psychosocial Intervention. 2013;22(2):153-160. doi:10.5093/in2013a18

39. Eckhardt CJ, Murphy CM, Whikater DJ, Sprunger J, Dykstra R, Woodard K. The effectiveness of intervention programs for suspects and victims of intimate partner violence. Partner abuse. 2013;4(2):196-231. doi:10.1891/1946-6560.4.2.196

40. Hamberger CK, Rhodes K, Brown J. Screening and intervention for intimate partner violence in healthcare settings: Creating sustainable system-level programs. J Womens Health. 2015;(24):1. doi:10.1089/jwh.2014.4861

41. Feltner C, Wallace I, Berkman N, et al. Screening for intimate partner violence, elder abuse, and abuse of vulnerable adults: An evidence review for the U.S. Preventive Services Task Force. JAMA. 2018;320(16):1688-1701. doi:10.1001/jama.2018.13212

42. Savaram JJ, Ranapurwala SI, Moracco KE, Marshall SW. Assessment of intimate partner violence in healthcare settings: Creating sustainable system-level programs. J Womens Health. 1990;5:176-201. doi:10.1177/088626090000502004

43. Sivaraman JJ, Ranapurwala SI, Moracco KE, Marshall SW. Assessment of intimate partner violence in healthcare settings: Creating sustainable system-level programs. J Womens Health. 1990;5:176-201. doi:10.1177/088626090000502004

44. Vigdar ED, Mercy JA. Do laws restricting access to firearms by domestic violence offenders prevent intimate partner homicide? Evaluation Review. 2006;30(3):315-346. doi:10.1177/0193841X06287307

45. United States Department of Justice. 1117. Restriction on the possession of firearms by individuals convicted of a misdemeanor crime of domestic violence. Criminal Resource Manual 1101-1199. https://www.justice.gov/jm/criminal-resource-manual-1117-restrictions-possession-firearms-individuals-convicted. Accessed January 8, 2020.

46. Diez C, Kurland RP, Rothman EF, et al. State intimate partner violence-related firearm laws and intimate partner homicide rates in the United States, 1991 to 2015. 2017;167(8):536-543. doi:10.7326/M16-2849