IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
AT CHARLESTON

THE WEST VIRGINIA COALITION AGAINST DOMESTIC VIOLENCE, INC.,
Plaintiff,

v.

PATRICK J. MORRISEY, in his official capacity as Attorney General for the State of West Virginia,
Defendant.

Civil Action No: 2:19-cv-00434

DECLARATION OF TONIA THOMAS

1. I am one of two Team Coordinators of the West Virginia Coalition Against Domestic Violence (the Coalition), a position I have held since 2004. Before that I worked for the West Virginia Division of Justice and Community Services for ten years as the grant manager for Victims of Crimes Act (VOCA) and Violence Against Women Act funding. During that time, I was also appointed to the West Virginia Family Protection Services Board (FPSB), which is the state's licensing board for domestic violence programs. I served on the FPSB for three years, including time spent as chairperson. I attest to the following matters from personal knowledge and based on more than 26 years of experience in domestic violence program administration and development. If called as a witness, I could competently testify to the matters set forth herein.

2. The Coalition has 14 member programs, each of which is an independent non-profit domestic-violence program that runs one or more licensed shelters where victims and survivors of domestic violence can reside on a temporary basis. Member programs also run outreach offices that provide services that include case management, advocacy services, crisis intervention,

referrals, a 24-hour hotline, safety planning, and sexual-assault services, among others. Six member programs operate visitation and exchange centers where estranged parents can have supervised visitation with their minor children.

3. The Coalition helps member programs serve victims and survivors of domestic violence by acting as a statewide hub and clearinghouse for resources and information for domestic violence programs and the professionals, organizations, and communities that they work with. We provide training and technical assistance, raise awareness and educate the public and government stakeholders, and advocate for strengthening public policy on behalf of 14 licensed domestic violence programs and the victims and survivors they serve. The Coalition was founded on the vision that every person has the right to be safe, empowered, and free from violence and the fear of violence, and a key aspect of our mission is to end personal and institutional violence in the lives of people of all genders and ages. A true and correct copy of the Coalition's mission statement and principles of unity are attached as Exhibit 1.

4. As a team coordinator, I am involved in every facet of the Coalition's work. My duties include raising public awareness about the prevalence and prevention of abuse and violence in intimate relationships, training professionals in their response to domestic violence, providing technical assistance to licensed domestic violence programs, and expanding leadership capacity within the statewide coalition. I am contacted regularly by member programs to assist them in dealing with situations that arise in their programs that could potentially endanger the safety of their residents, children, and staff.

5. Firearms pose a particular danger to the safety of victims and survivors of domestic-violence, and the programs that shelter and serve them. The Coalition compiles an annual report of domestic-violence-related deaths in West Virginia that highlights this danger: there were at

least 19 domestic-violence deaths in the year leading up to September 2020, and a firearm was used in more than 60% of these deaths. The year before (ending September 2019) saw at least 31 domestic-violence-related deaths, with 80% involving firearms as the means of death. True and correct copies of West Virginia Domestic Violence Related Deaths Reports for 2016 through 2020 are attached as Exhibits 2, 3, 4, and 5.

6. Perpetrators use firearms not only to kill and injure their victims, but also to threaten, intimidate, and control them. Research shows that a perpetrator's access to a firearm increases the risk of homicide for his female intimate partner by at least five-fold. True and correct copies of this research is attached as Exhibit 6. Because of this, the Coalition and its member programs treat a perpetrator's access to firearms as one of the leading risk factors for lethal violence.

7. This risk of lethal violence increases further when a victim or survivor tries to leave their perpetrator and seek shelter or advocacy services at a domestic-violence program. This is one of the reasons why guns pose a greater danger for domestic violence shelters than coffee shops and other businesses: people come to shelters as a last-ditch effort to escape violence and abuse that makes them scared for their lives. And unlike coffee or other things you buy at a store, the shelters' services help victims and survivors escape the perpetrator's control—something that perpetrators see as undermining and threatening. Perpetrators often escalate their violence when their partner leaves in order to coerce a reconciliation or to retaliate for perceived rejection. Research has consistently shown that separation or threatened separation are a significant risk factor for intimate partner violence, including intimate partner homicide. An example of this research, collecting and synthesizing prior studies, is attached as Exhibit 7.

8. For a fleeing victim or survivor, parking lots pose a particular danger because perpetrators will often exploit their victim's travel patterns to stalk, terrorize, or confront their victim at locations he or she frequents. In West Virginia, this problem is particularly acute because the widespread lack of public transportation means that a car—often one shared with a perpetrator—is many victim's or survivor's only means of escape. In a 2012 study of workplace violence co-authored by the National Institute for Occupational Safety and Health and West Virginia University, researchers found that nearly three in ten intimate partner workplace homicides nationwide occur in parking lots or garages, with another quarter occurring in schools, offices, or other public buildings. A true and correct copy of this research is attached as Exhibit 8.

9. To mitigate the risk of lethal violence, member programs undertake individualized safety planning with each new client during intake. Safety planning includes a research-based lethality assessment to identify risks of violence and develop strategies to reduce a victim's or survivor's exposure. Among other things, advocates are trained to ask about a perpetrator's history of violence and access to firearms, as these are primary risk factors.

10. The Parking Lot Amendments interfere with safety planning by prohibiting member programs from asking clients important questions concerning firearms access. While each Coalition member program has their own intake procedures for their shelter(s), all of them have policies that prohibit weapons (including firearms) on shelter premises and all of them review these policies with new residents at intake in accordance with FPSB requirements. It is relatively common for abuse victims to remove firearms from their perpetrator's home and take them when they leave. Before the Parking Lot Amendments, advocates encountering this scenario during safety planning would be expected to ask follow-up questions like where the guns are currently,

whether the victim is storing them in her car on shelter property, if so how they are secured, and whether anyone else (like a child or the perpetrator) has a key and could access them. Before the Parking Lot Amendments, some member programs prohibited weapons on shelter property outright for safety reasons, and would require that they be removed from any car parked in the shelter's lot. Now, these programs are forced to choose between compliance with the law and asking the questions necessary to adequately protect their clients and staff.

11. The Parking Lot Amendments also prevent member programs from investigating and addressing other firearms risks on their property. Member programs regularly encounter perpetrators who attempt to access shelter property under false pretenses by posing, for example, as a delivery person or as a family member of a victim or survivor. These perpetrators' status as trespassers is often unclear, and the Parking Lot Amendments curtail member programs' discretion to investigate whether these individuals are armed, or to impose a blanket policy prohibiting firearms as a backstop.

12. In addition, six member programs serve estranged parents at their visitation and exchange centers, meaning that the Parking Lot Amendments now require these programs to permit estranged parents to bring firearms into close proximity with minor children and custodial parents against whom they may have a significant history of abuse.

13. The Parking Lot Amendments also harm member programs by interfering with their ability to deliver advocacy services and other assistance to survivors of abuse in an environment that is free from violence, including the threat of firearm violence. Many victims and survivors in West Virginia have fled perpetrators who use firearms as a means to threaten and terrorize them, if not worse. In accordance with their overlapping missions to provide a haven from violence, the Coalition and its member programs strive to offer survivors an environment where they will not

be re-traumatized by the presence of weapons, including firearms. Victims and survivors fleeing abuse are at an intensely vulnerable moment in their lives, and they arrive with an expectation of safety—indeed, many seek shelter for precisely this purpose. The Parking Lot Amendments prevent member programs from creating this environment, by prohibiting them from removing firearms from areas proximate to where survivors live and receive services.

14. For the above reasons, the Parking Lot Amendments interfere with Coalition members' efforts to provide a safe environment to victims of domestic violence, and to protect their clients and staff from the threat of gun violence while they are on shelter property.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on March 4, 2021.

Tonia Thomas

Team Coordinator
West Virginia Coalition Against
Domestic Violence

west virginia
Coalition Against
Domestic Violence
for a safer state of family

Mission Statement

The mission of the West Virginia Coalition Against Domestic Violence (WVCADV) is to end personal and institutional violence in the lives of people of all genders and ages.

The WVCADV works to transform social, cultural, and political attitudes through public awareness, policy development, community organizing, education and advocacy in ways that promote values of respect, mutuality, accountability and non-violence in local, statewide, national and global communities.

Vision Statement:

WVCADV is founded on the vision and belief that every person has the right to be safe, empowered, and free from violence and the fear of violence. Central to this belief, WVCADV seeks to eliminate domestic violence, sexual assault, stalking, dating violence and human trafficking. Additionally, the agency aims to reduce related social problems, such as child abuse, substance abuse, sexism, racism, and other forms of oppression.

Principles of Unity

We believe that violence is a societal configuration and not an individual psychological dysfunction.

We concur that oppressions such as racism, sexism, heterosexism, and classism contribute to the perpetuation of violence.

We commit ourselves to the work of building a non-profit coalition among domestic violence service providers by promoting communication, support, and networking that will ensure the availability of comprehensive quality services.

We advocate for social change at all levels.

We encourage the development of model programs within the member programs.

We support implementation of projects with regional focus.

We agree that a priority of resources shall be to ensure that victims of domestic violence,

both within and without shelters, shall have access to adequate direct and preventive services.

We recommend that abusive partners be referred to adequate and appropriate programs.

We recognize the autonomy of local programs.

We agree that WVCADV and its member programs shall not discriminate against any person on the basis of race, color, gender, religion, sexual identity, national origin, handicap, age, marital status, or any other basis prohibited by law.

We agree that WVCADV will participate in national and regional organizations committed to the prevention of violence against women.

We agree that WVCADV is committed to eliminating racism, homophobia, transphobia, sexism, ableism and all other forms of oppression. We understand that this is a limitless process, which requires ongoing openness, diligence and work. We believe that any form of oppression enables domestic violence, sexual assault, stalking, dating violence and human trafficking, and therefore efforts to end these victimizations must include an anti-oppression agenda.

Corporate Positions

- WVCADV adheres to the Civil Rights Acts Amendments and supports public policy that assures the basic human rights of all individuals regardless of gender, race, religion, sexual orientation, ethnicity, physical disability as included in the ADA and that protects them from crime motivated by hate.

- Because WVCADV believes in the empowerment of women and their right to make informed choices, WVCADV supports policy that allows women to make decisions regarding all aspects of their live free from government intervention.

- WVCADV opposes the death penalty and affirms more civilized sentencing options of accountability and justice.

WV Domestic Violence Related Deaths
October 1, 2019—September 30, 2020

WEST VIRGINIA COALITION AGAINST DOMESTIC VIOLENCE

2020 WV Domestic Violence Related Deaths

An estimated 19 Domestic Violence related deaths occurred in West Virginia for the period of October 1, 2019 – September 30, 2020.

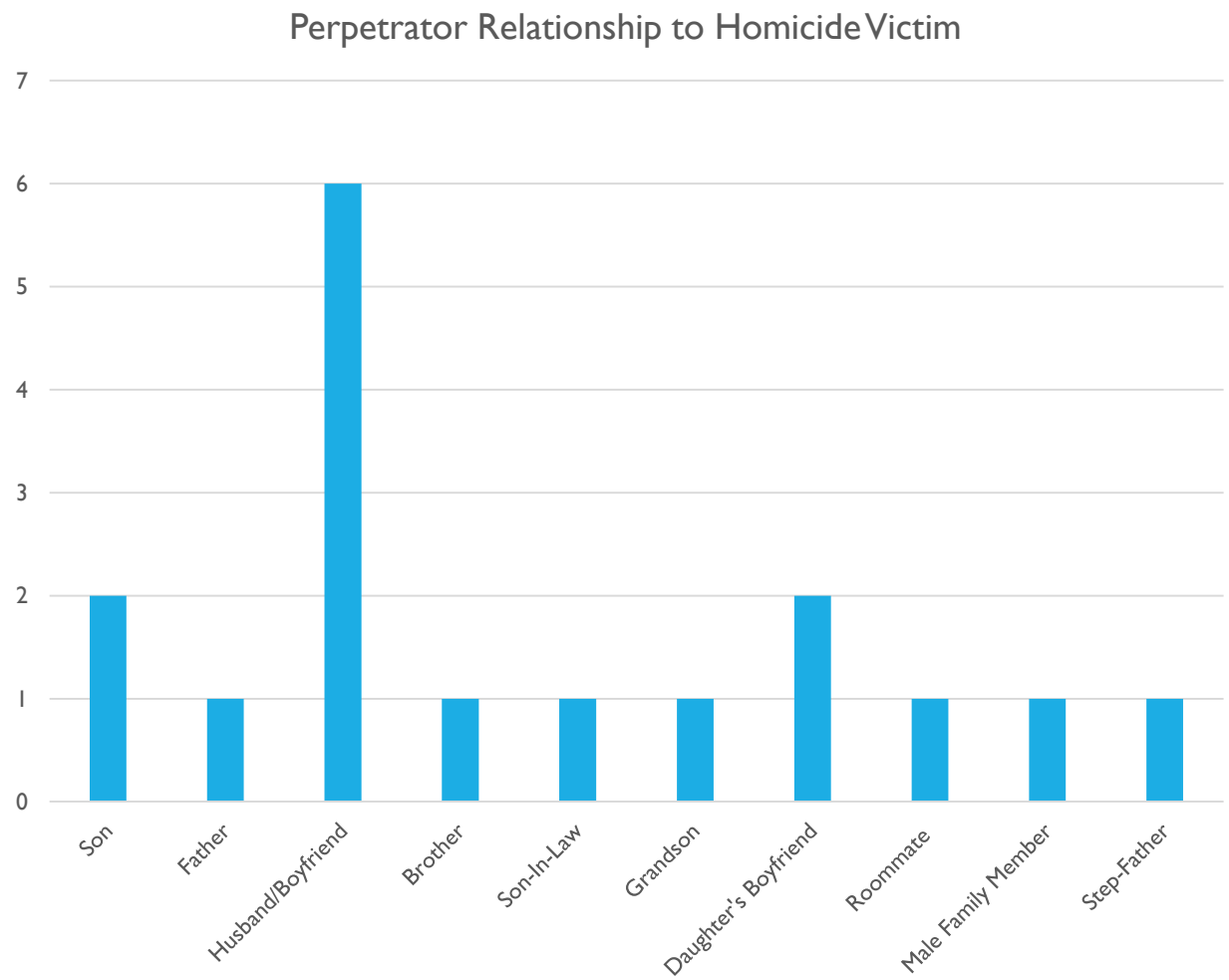
The worst result of domestic violence is the loss of life. This report provides information related to domestic violence related homicides, suicides, and deaths by legal interventions for the period of October 1, 2019 – September 30, 2020.

This brief accounting in no way represents the total number of domestic violence related deaths in West Virginia and accounts for adults (18 years or older). Data gathered came from media outlets and information provided by licensed domestic violence programs.

The risk of lethality increases with several risk factors, including separation or an attempt to end the relationship, threats to kill, access to weapons, stalking, forced sex, strangulation during an assault, controlling, possessive, jealous behavior, and escalation of violence. Children not in common in the household, substance abuse, and unemployment are also factors in the risk of lethality.

2020 WV Domestic Violence Related Deaths

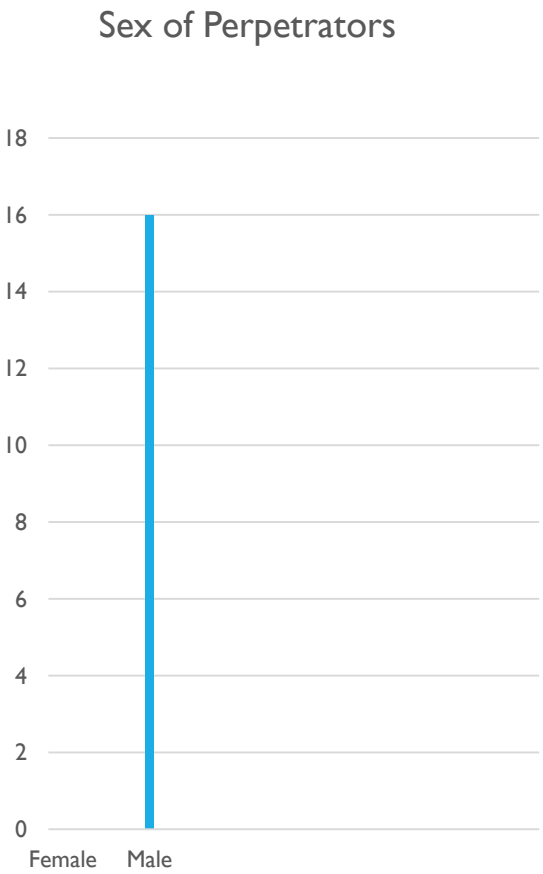
This report depicts the type of relationship that the perpetrator had with the homicide victim(s). The diagram below does not include domestic violence suicides and legal intervention from law enforcement officers.

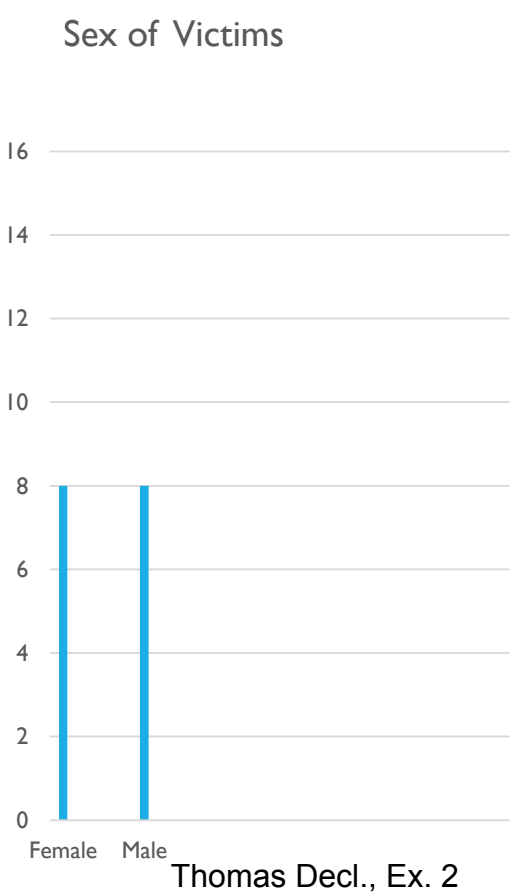


Thomas Decl., Ex. 2

2020 WV Domestic Violence Related Deaths

This report reviews the sex of the perpetrators and victims. Male perpetrators were responsible for 16 (100%) domestic violence homicides. The diagrams below do not include domestic violence suicides and legal intervention from law enforcement officers.

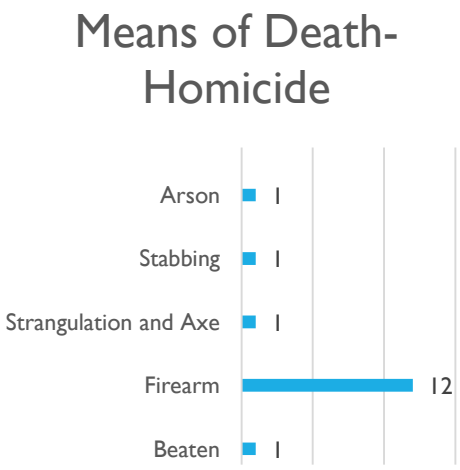




Thomas Decl., Ex. 2

2020 WV Domestic Violence Related Deaths

Firearm deaths (12) accounted for 75% of all of the domestic violence homicides. The diagram below does not include domestic violence suicides and legal intervention from law enforcement officers.



Means of Death by Suicide

Of the 19 domestic violence related deaths, 3 were perpetrator suicides.

Means of Death by Legal Intervention

Of the 19 domestic violence related deaths, zero perpetrators died by law enforcement officer intervention.

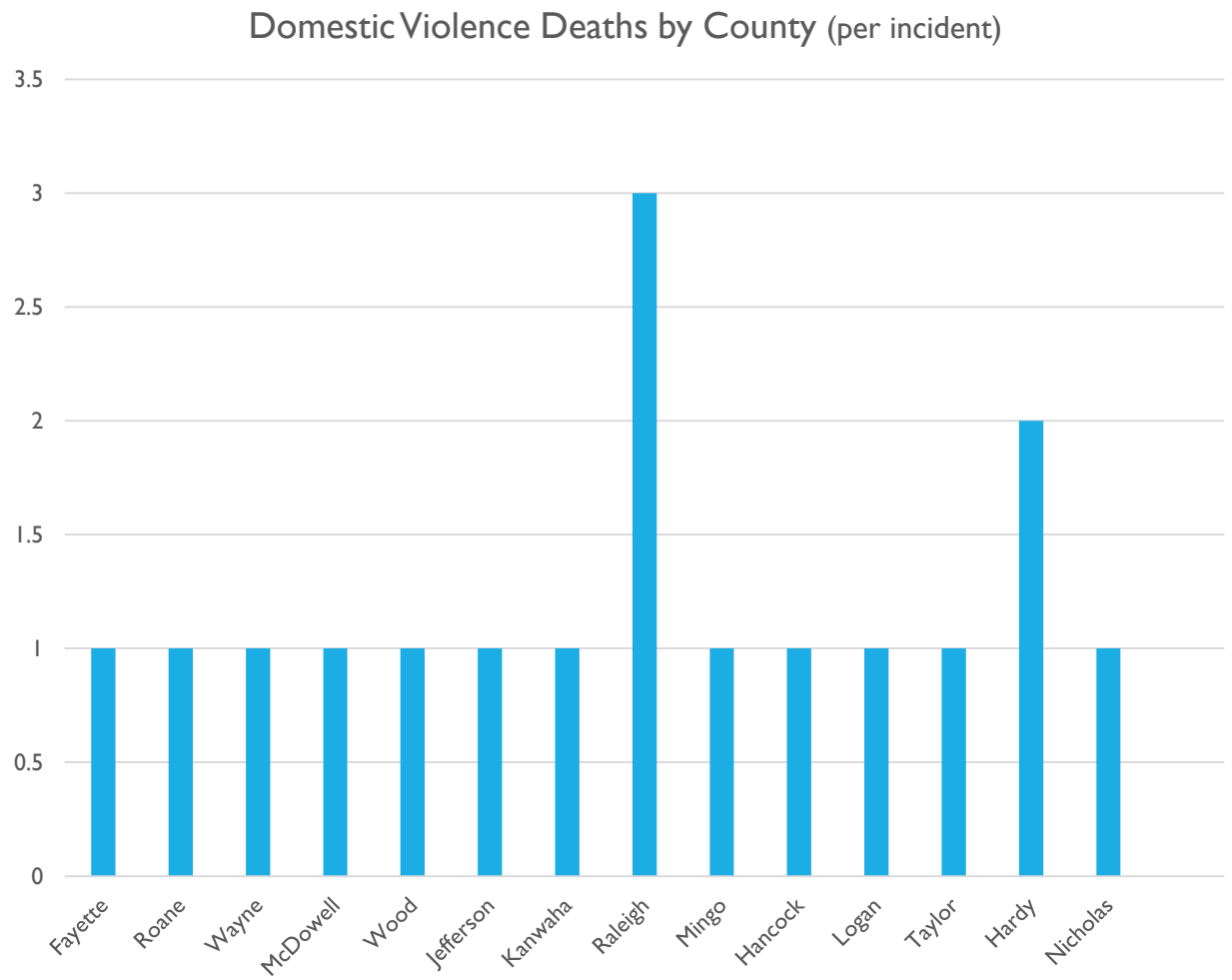
Age of Victim

46 years old was the average age of victims.

2020 WV Domestic Violence Related Deaths

Domestic Violence Related Deaths by County

Of the 55 counties in West Virginia, 14 counties reported domestic violence related deaths.



Thomas Decl., Ex. 2

2020 WV Domestic Violence Related Deaths

- Fayette County – Hayden Dixon killed his girlfriend, Trinity McCallister, by bludgeoning her with an axe and strangling her to death.
- Raleigh County - Ronnie Cochran shot and killed his son, Mathew Cochran.
- Raleigh County - Samuel Taylor shot and killed himself after shooting his girlfriend. His girlfriend survived the shooting.
- McDowell County - Douglas Hawkins shot and killed his mother, Patty Hawkins.
- Monongalia County - Donald Davis shot and killed his step-daughter, Tamatha Pillo.
- Kanawha County - Unnamed son-in-law shot and killed his father-in-law Jacob Smith.
- Wood County - William Nutter and shot and killed his brother, Charles Cottle.
- Mingo County - David Manns shot and killed his grandfather, Homer Manns.
- Taylor County - Nicholas Padron beat his girlfriend's father, Michael Blackburn, to death.
- Raleigh County - Joseph Davis killed his roommate, Margaret Ann Lilly, then set the house on fire.
- Hardy County - Quentin Strawerman, shot and killed his pregnant girlfriend, Ashely McDonald then shot and killed himself.
- Nicholas County - David Allen Stover, Jr. shot and killed his father, David Allen Stover, Sr.
- Logan County - Joshua Gwinn stabbed his girlfriend's father, Roger Endicott, to death.
- Jefferson County - Jeremy Newkirk shot and kill John Wilson. John Wilson was helping the ex-girlfriend of Jeremy Newkirk move out of their residence.
- Hancock County - A juvenile family member shot and killed Melissa Rowland. The juvenile family member also shot and killed Madison Crowe, the daughter of Melissa.
- Roane County - Daniel Payne shot and killed himself during a domestic violence incident.
- Wayne County - Gary Dameron shot and killed his ex-girl friend, Keilee Sparks.
- Monongalia County - Travis Anderson shot and killed his fiancé, Jane Sharak.

WV Domestic Violence Related Deaths
October 1, 2018—September 30, 2019

WEST VIRGINIA COALITION AGAINST DOMESTIC VIOLENCE

2019 WV Domestic Violence Related Deaths

An estimated 31 Domestic Violence related deaths occurred in West Virginia for the period of October 1, 2018 – September 30, 2019.

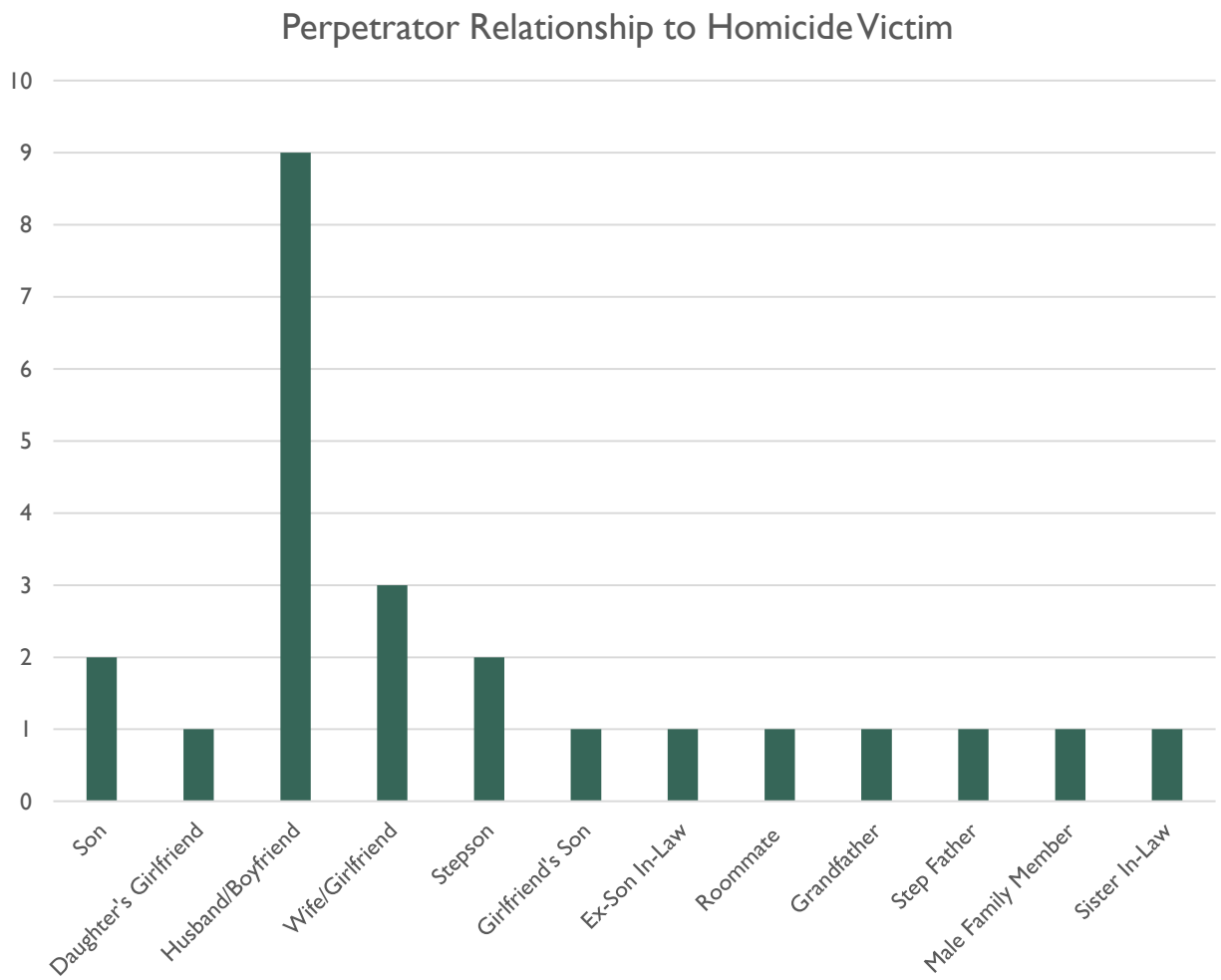
The worst result of domestic violence is the loss of life. This report provides information related to domestic violence related homicides, suicides, and deaths by legal interventions for the period of October 1, 2018 – September 30, 2019.

This brief accounting in no way represents the total number of domestic violence related deaths in West Virginia and accounts for adults (18 years or older). Data gathered came from media outlets and information provided by licensed domestic violence programs.

The risk of lethality increases with several risk factors, including separation or an attempt to end the relationship, threats to kill, access to weapons, stalking, forced sex, strangulation during an assault, controlling, possessive, jealous behavior, and escalation of violence. Children not in common in the household, substance abuse, and unemployment are also factors in the risk of lethality.

2019 WV Domestic Violence Related Deaths

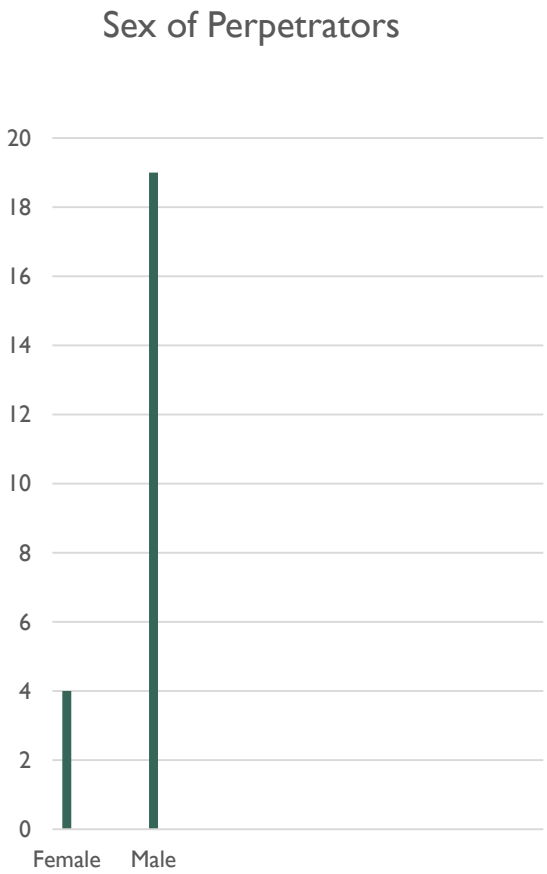
This report depicts the type of relationship that the perpetrator had with the homicide victim(s). The diagram below does not include domestic violence suicides and legal intervention from law enforcement officers.

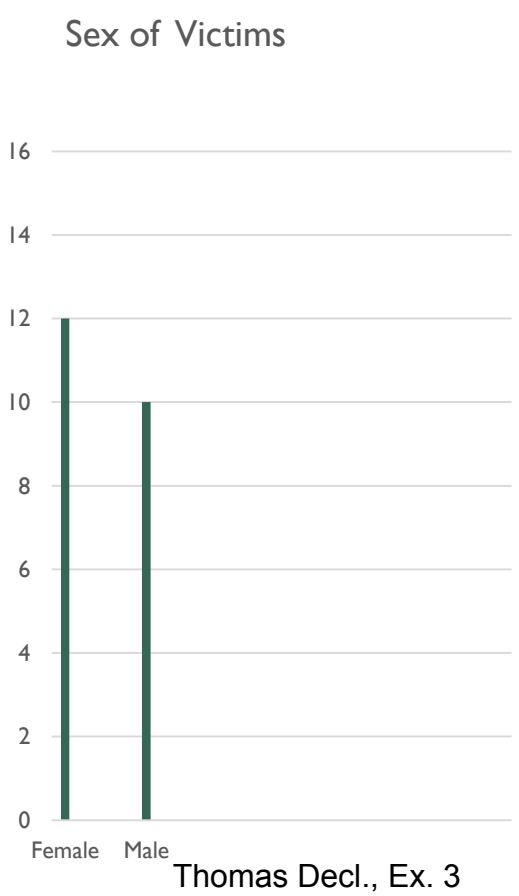


Thomas Decl., Ex. 3

2019 WV Domestic Violence Related Deaths

This report reviews the sex of the perpetrators and victims. Male perpetrators were responsible for 19 (76%) domestic violence homicides. The diagrams below do not include domestic violence suicides and legal intervention from law enforcement officers.

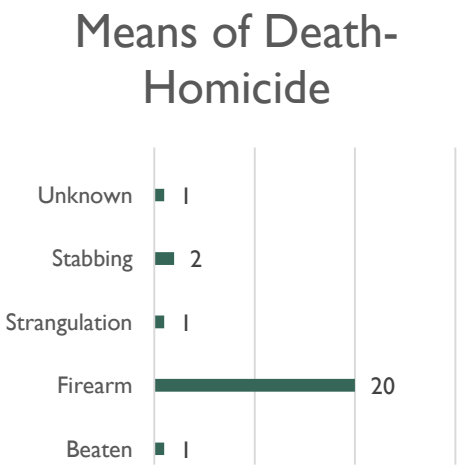




Thomas Decl., Ex. 3

2019 WV Domestic Violence Related Deaths

Firearm deaths (20) accounted for 80% of all of the domestic violence homicides. The diagram below does not include domestic violence suicides and legal intervention from law enforcement officers.



Means of Death by Suicide

Of the 31 domestic violence related deaths, 4 were perpetrator suicides.

Means of Death by Legal Intervention

Of the 31 domestic violence related deaths, two perpetrators died by law enforcement officer intervention.

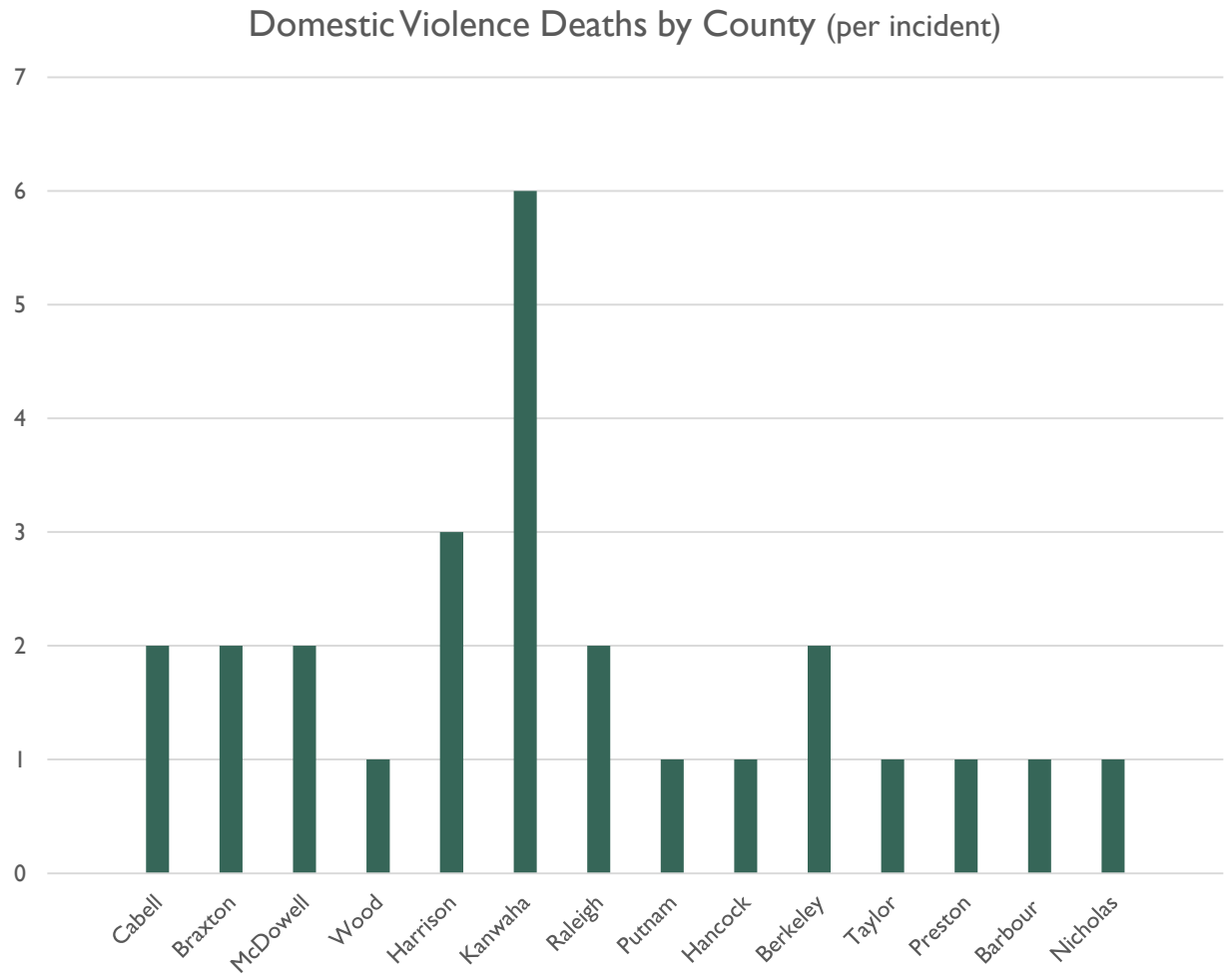
Age of Victim

48 years old was the average age of victims.

2019 WV Domestic Violence Related Deaths

Domestic Violence Related Deaths by County

Of the 55 counties in West Virginia, 14 counties reported domestic violence related deaths.



Thomas Decl., Ex. 3

2019 WV Domestic Violence Related Deaths

- Cabell County – Armel Stulter shot and killed his mother's boyfriend, Phillip Boggs.
- Braxton County - Fred Blanks shot and killed his wife, Patricia Blanks, then killed himself as a part of a suicide pact.
- McDowell County - Johnathan Mounts shot and killed his wife, April Mounts.
- Kanawha County - Law enforcement officers shot and killed Andrew Moore after he held a knife to his pregnant fiancée and threatened to kill her.
- Braxton County - John Carroll shot and killed his wife, Donna Carroll.
- McDowell County - Ricky Hagerman shot and killed his ex father-in-law, McKinley Addair.
- Wood County - Jared Kessler stabbed his mother, Carol Kessler, to death.
- Kanawha County - Courtney Wallace stabbed her girlfriend's mother, Cherri Simpson, to death.
- Harrison County - Mason Lynch shot and killed his roommate Brantley Langford.
- Harrison County - Law enforcement officers shot and killed Robert Matz while trying to serve a protective order. Robert Matz threatened the officers with a knife and a firearm.
- Cabell County - Cathy Elder shot and killed her husband, David Elder.
- Raleigh County - Darrell Shrewsbury shot and killed his estranged wife, Lisa Shrewsbury, then shot and killed himself.
- Taylor County - Angela Bittinger shot and killed her boyfriend, Kenneth Cottrell, then shot and killed herself.
- Raleigh County - Rodney Bailey beat his mother, Betsy Aldridge, to death.
- Nicholas County - Roger Blakenship shot and killed his estranged wife, Irene Blankenship and her boyfriend, Doug Hypes.
- Kanawha County - Richard Lipscomb shot and killed his grandson, Griffin Lipscomb.
- Berkeley County - Richard Austin shot and killed his step-father, John Henderson.
- Harrison County - An unidentified man shot and killed himself following an assault on his estranged wife and police standoff.
- Kanawha County - Frank Cantley strangled his wife, Stephanie Cantley, to death.
- Hancock County - Michael McClanahan shot and killed his significant other, Sandra Brown.
- Putnam County - Newton Blevins shot and killed his wife, Kim Blevins. Newton Blevins then attempted suicide but failed.
- Harrison County - Richard Booth shot and killed his step-daughter's boyfriend, Joseph Frye.
- Kanawha County - James Kiser killed his wife, Crystal Kisner, and buried her in a shallow grave in Kentucky. Exact cause of death is unknown at this time.
- Berkeley County - Richard Austin shot and killed his step-father John Henderson.
- Kanawha County - Serenity Metz shot and killed her brother in-law, Thomas Parish, while Parish was allegedly strangling her sister.
- Preston County - An unidentified man shot and killed his family member, William French.
- Barbour County - Carli Reed shot and killed her husband, Marcus Fagons.

WV Domestic Violence Related Deaths
October 1, 2017—September 30, 2018

WEST VIRGINIA COALITION AGAINST DOMESTIC VIOLENCE

2018 WV Domestic Violence Related Deaths

An estimated 34 Domestic Violence related deaths occurred in West Virginia for the period of October 1, 2017 – September 30, 2018.

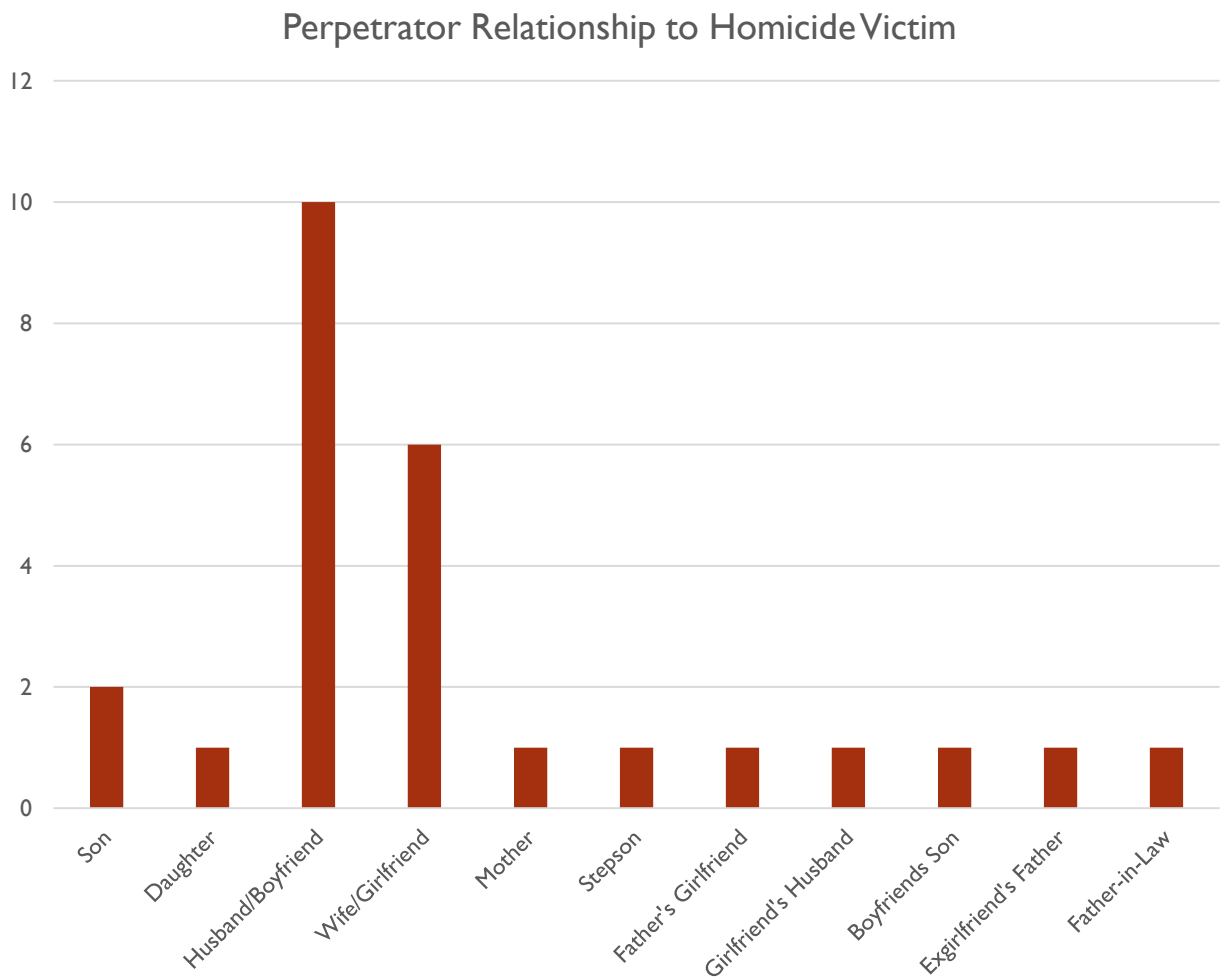
The worst result of domestic violence is the loss of life. This report provides information related to domestic violence related homicides, suicides, and deaths by legal interventions for the period of October 1, 2017 – September 30, 2018.

This brief accounting in no way represents the total number of domestic violence related deaths in West Virginia and accounts for adults (18 years or older). Data gathered came from media outlets and information provided by licensed domestic violence programs.

The risk of lethality increases with several risk factors, including separation or an attempt to end the relationship, threats to kill, access to weapons, stalking, forced sex, strangulation during an assault, controlling, possessive, jealous behavior, and escalation of violence. Children not in common in the household, substance abuse, and unemployment are also factors in the risk of lethality.

2018 WV Domestic Violence Related Deaths

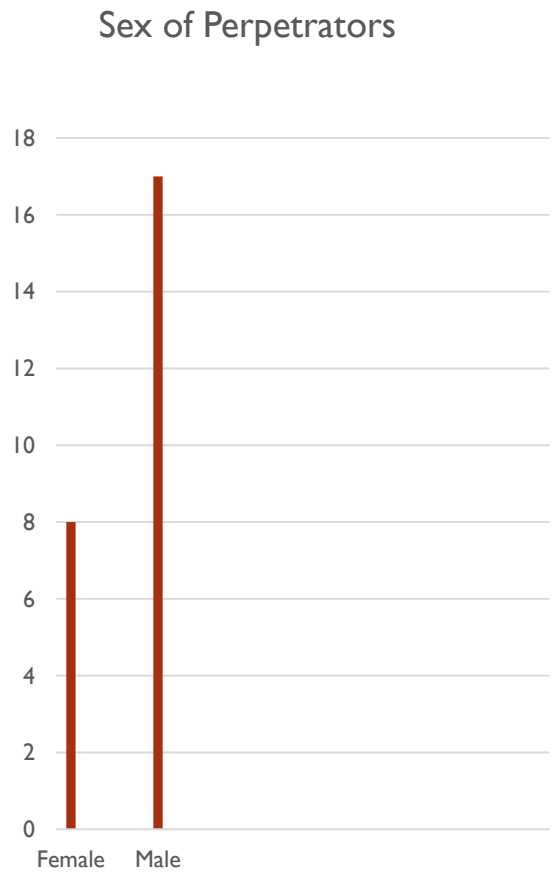
This report depicts the type of relationship that the perpetrator had with the homicide victim(s). The diagram below does not include domestic violence suicides and legal intervention from law enforcement officers.

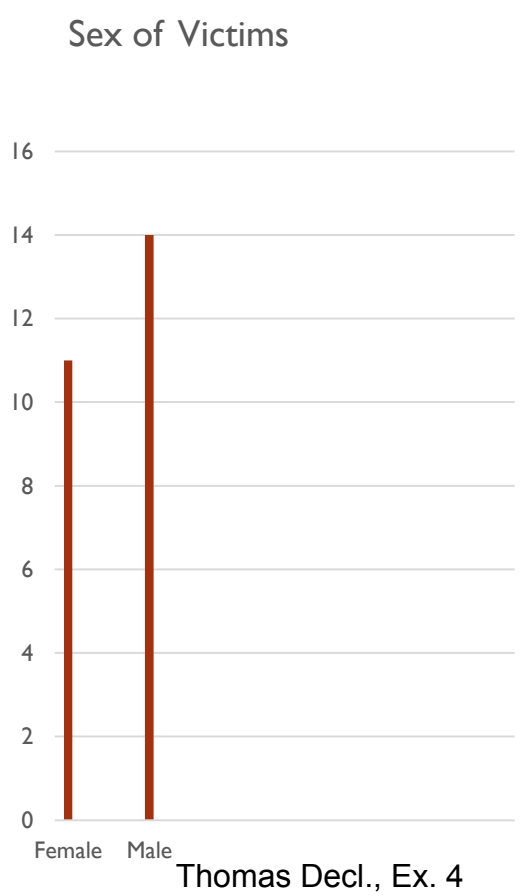


Thomas Decl., Ex. 4

2018 WV Domestic Violence Related Deaths

This report reviews the sex of the perpetrators and victims. Male perpetrators were responsible for 17 (65%) domestic violence homicides.

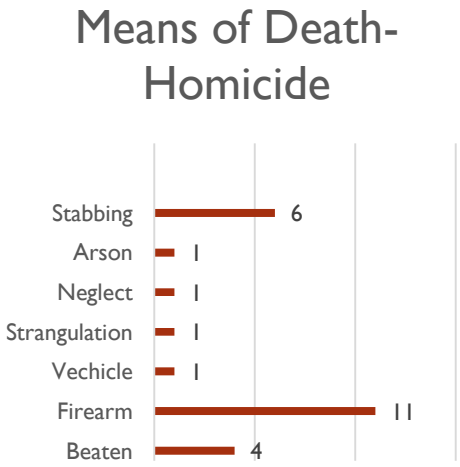




Thomas Decl., Ex. 4

2018 WV Domestic Violence Related Deaths

Firearm deaths (11) accounted for 42% of all of the domestic violence homicides.



Means of Death by Suicide

Of the 34 domestic violence related deaths, 6 were perpetrator suicides.

Means of Death by Legal Intervention

Of the 34 domestic violence related deaths, two perpetrators died by law enforcement officer intervention.

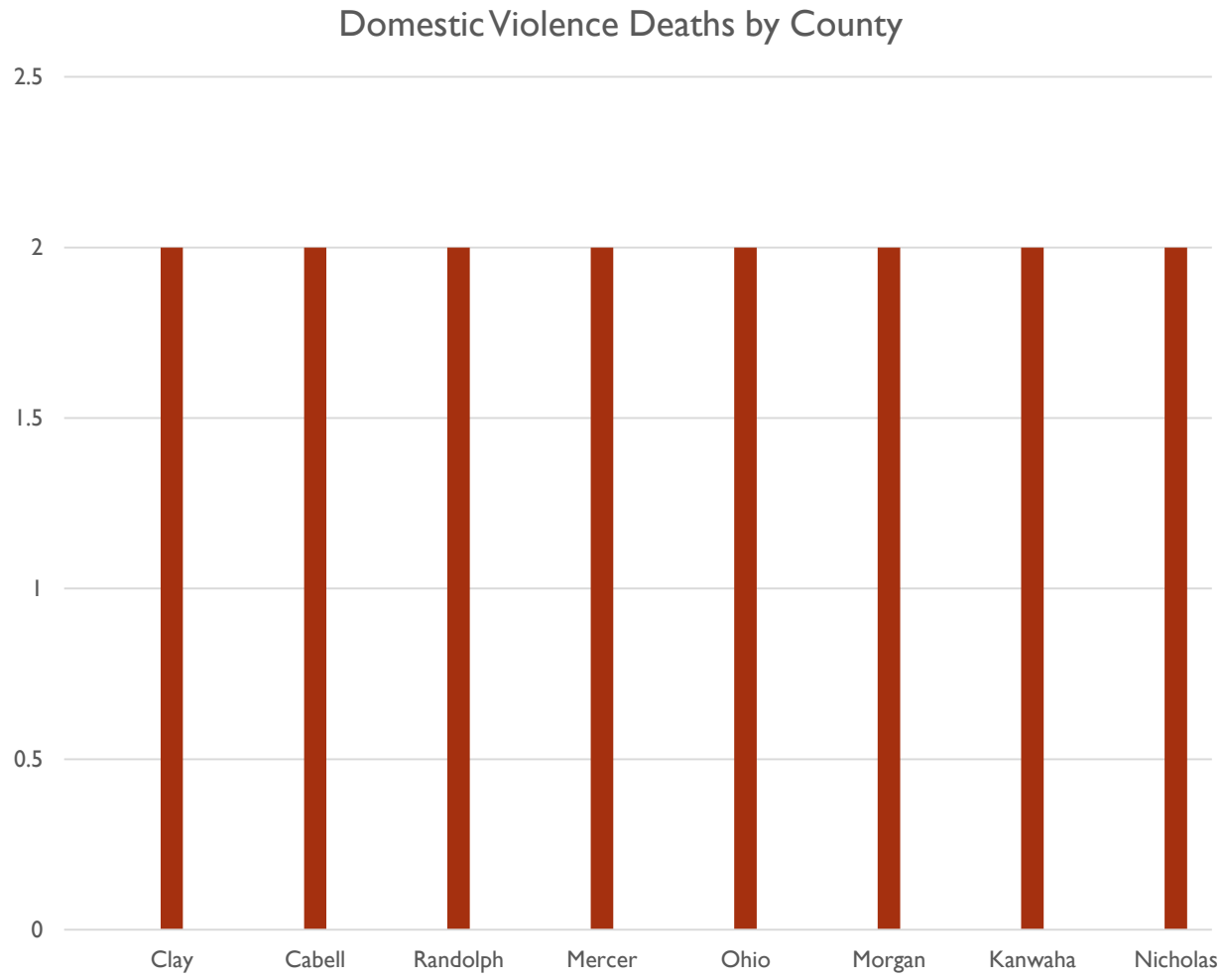
Age of Victim

31 years old was the average age of victims.

2018 WV Domestic Violence Related Deaths

Domestic Violence Related Deaths by County

Of the 55 counties in West Virginia, 21 counties reported domestic violence related deaths. The counties below had a highest rates (2 per county).



Thomas Decl., Ex. 4

2018 WV Domestic Violence Related Deaths

- Clay County - Samuel Lanham shot and killed his father's girlfriend, Jody Thomas. Law enforcement officers then shot and killed Samuel Lanham after he threatened them a gun at them.
- Monroe County – Michael White shot and killed his girlfriend, Leslie McFall.
- Cabell County - Jessica Gordon shot and killed her husband, Christopher Gordon.
- Cabell County - Jennifer Via stabbed her husband, Thomas Via, to death.
- Lincoln County - Edward Jeffers stabbed his wife, Stephanie Jeffers, to death.
- Randolph County - Law enforcement officials shot and killed Spencer Crumbley after he threatened to kill multiple family members then threatened to have a shootout with the police.
- Mercer County - Roger Lemons, Jr. strangled his girlfriend, Angela Seal to death.
- McDowell County - Charles Kennedy shot and killed his girlfriend, Emily Hatfield.
- Marion County - Donald Carpenter shot and killed his wife, Trina Carpenter.
- Randolph County - Ricky Cooper shot and killed his girlfriend, Savanah Bays, then shot and killed himself.
- Harrison County - Melissa McAtee shot and killed her boyfriend, David Cottrill.
- Wood County - James C. Hendershot beat his father, James T. Hendershot, to death.
- Ohio County - Brian Calabrese shot and killed his ex-girlfriend's father, Kenneth Bernier. Brian Calabrese then shot and killed himself.
- Morgan County - Patricia Brooks burned down her home killing her husband, Carroll Brooks, and son, Carl Brooks, inside. Patricia then committed suicide.
- Ritchie County - Alan Ross stabbed his stepfather, James Thompson, to death.
- Mercer County - Roena Mills beat and decapitated her boyfriend's son, Bo White.
- Preston County - Joseph Harrison stabbed his estranged wife, Kimberly Harrison, to death.
- Clay County - Joshua Robertson shot and stabbed his father, Milton Robertson, to death.
- Doddridge County - Richard Bernard shot and killed his wife, Lisa Barnard then shot and killed himself.
- Kanawha County - Lisa Dunlap neglected her mother, Norma Dunlap, which caused her death.
- Kanawha County - Amanda Belcher stabbed her husband, James Belcher, to death.
- Ohio County - Branden Ensminger beat his girlfriend, Rayna Vaughan, to death.
- Mason County - Bunky Cline ran over her boyfriend, Carl Hooton, with her vehicle multiple times kiling him.
- Berkeley County - William Franklin Jr. stabbed his girlfriend, Melissa Lindamood to death.
- Grant County - Steven Smith shot himself to death during a police pursuit after abducting his estranged wife.
- Putnam County - Russel Lewis and his minor son beat Timothy Pierson to death.
- Nicholas County - Vonly York shot and killed his son-in-law. Vonly then shot and killed himself.

WV Domestic Violence Related Deaths
October 1, 2016—September 30, 2017

WEST VIRGINIA COALITION AGAINST DOMESTIC VIOLENCE

2017 WV Domestic Violence Related Deaths

27 Domestic Violence related deaths occurred in West Virginia for the period of October 1, 2016 – September 30, 2017.

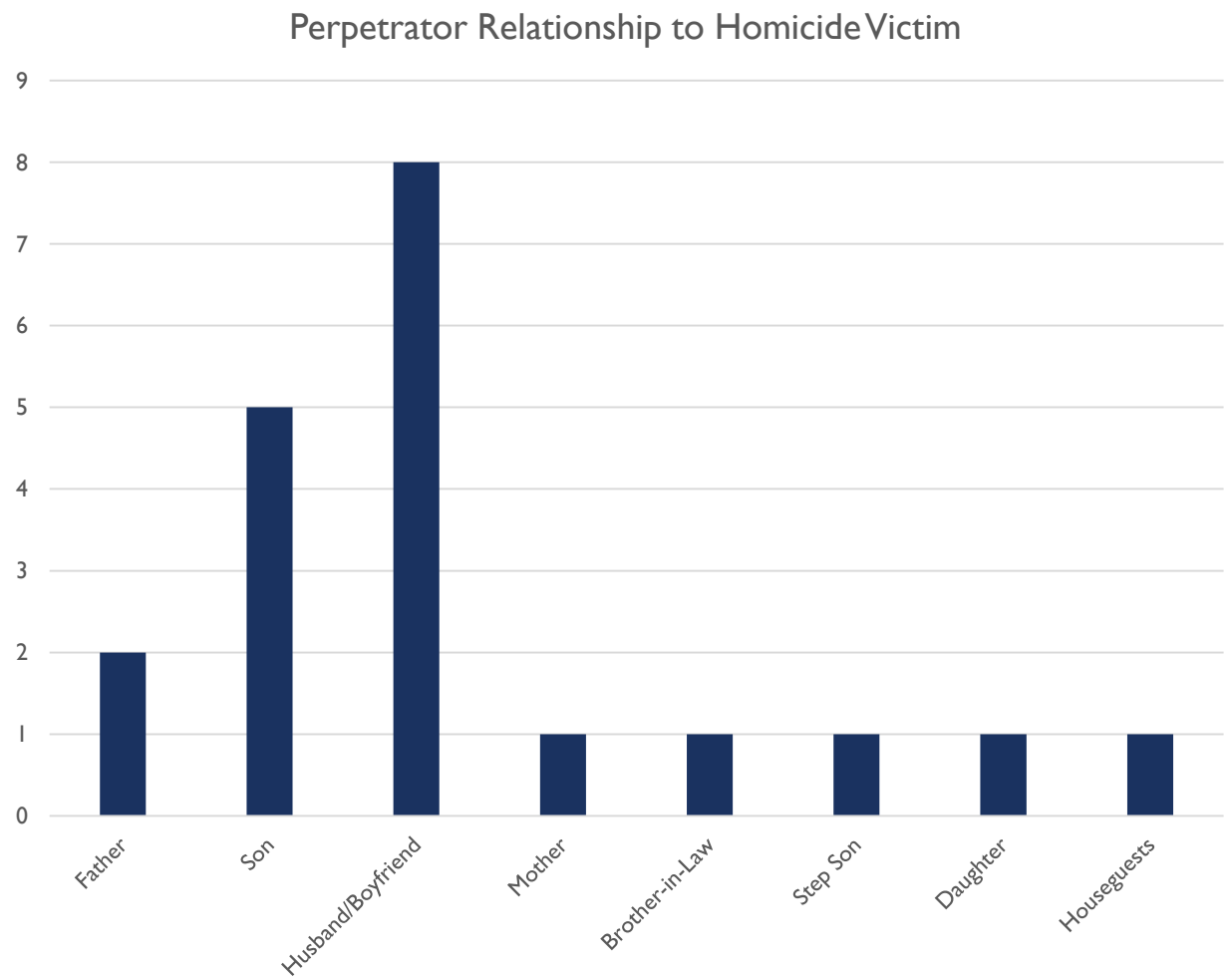
The worst result of domestic violence is the loss of life. This report provides information related to domestic violence related homicides, suicides, and deaths by legal interventions for the period of October 1, 2016 – September 30, 2017.

This brief accounting in no way represents the total number of domestic violence related deaths in West Virginia and accounts for adults (18 years or older). Data gathered came from media outlets and information provided by licensed domestic violence programs.

The risk of lethality increases with several risk factors, including separation or an attempt to end the relationship, threats to kill, access to weapons, stalking, forced sex, strangulation during an assault, controlling, possessive, jealous behavior, and escalation of violence. Children not in common in the household, substance abuse, and unemployment are also factors in the risk of lethality.

2017 WV Domestic Violence Related Deaths

This report depicts the type of relationship that the perpetrator had with the homicide victim(s). The diagram below does not include domestic violence suicides and legal intervention from law enforcement officers.

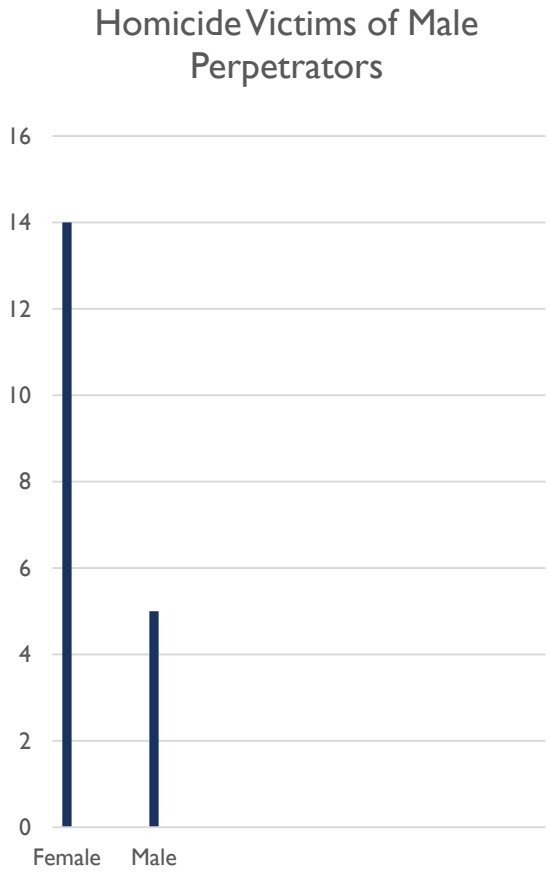


Thomas Decl., Ex. 5

2017 WV Domestic Violence Related Deaths

This report reviews the sex of the perpetrators. Male perpetrators were responsible for 18 (90%) domestic violence homicides. Of those homicides, 14 were female victims. The remaining 5 victims killed by male perpetrators were male.

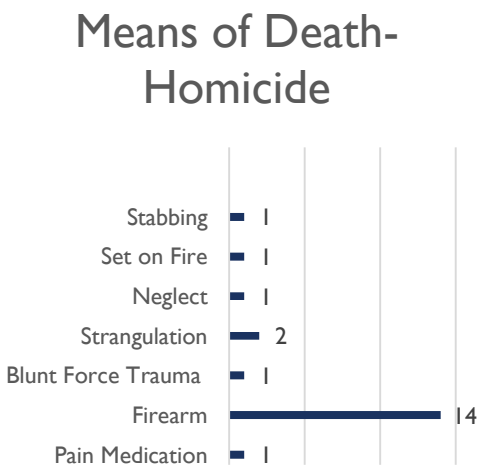
Of the two homicides committed by female perpetrators, one victim was male and one was a female.



Thomas Decl., Ex. 5

2017 WV Domestic Violence Related Deaths

Firearm deaths (14) accounted for 67% of all of the domestic violence homicides.



Means of Death by Suicide

Of the 27 domestic violence related deaths, 5 were suicides.

Means of Death by Legal Intervention

Of the 27 domestic violence related death, one perpetrator died by law enforcement officer intervention.

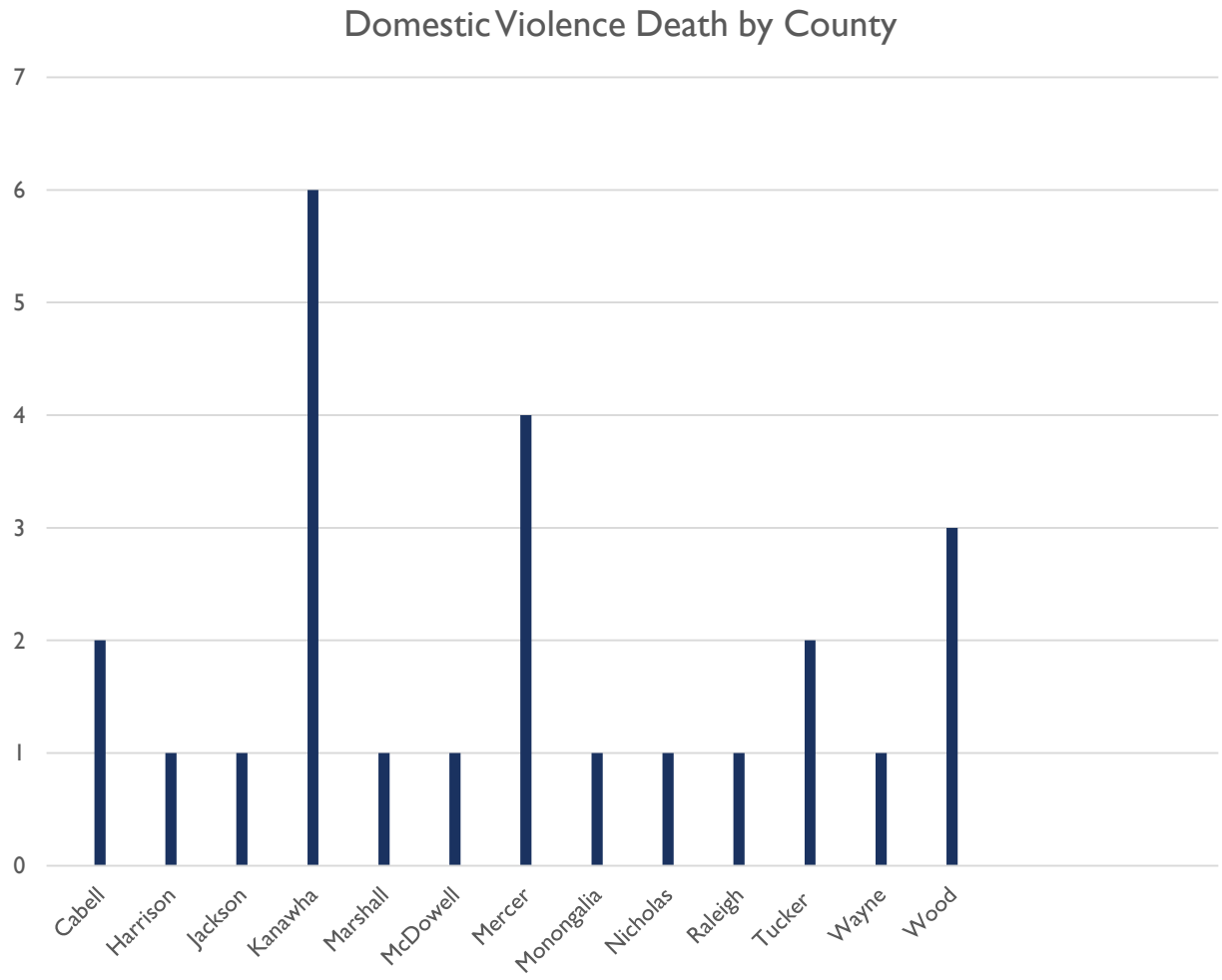
Age of Victim

52 years old was the average age of victims.

2017 WV Domestic Violence Related Deaths

Domestic Violence Related Deaths by County

There are 55 counties in West Virginia, but only 13 counties reported domestic violence related deaths. Kanawha County had the most deaths, totaling 6.



Thomas Decl., Ex. 5

2017 WV Domestic Violence Related Deaths

- Kanawha County - William Stuck shot and killed his daughter, Sandra Nichols.
- Kanawha County - Jose Roman-Capdeville shot and killed himself during a police confrontation after a domestic violence incident.
- Kanawha County - Jason Blount shot and killed his mother Kathy Blount then shot and killed himself.
- Cabell County - Cory Chapman strangled to death his girlfriend, Kayla Adkins and left her body partially submerged in water behind an abandoned barn.
- McDowell County - Michael Kennedy shot and killed his estranged wife, Jessica Daughtery. He also shot and killed his 16-year old step-son during the same incident.
- Cabell County - The mother of Christopher Adkins shot and killed her son while trying the wrestle the gun away from him.
- Wood County - Jeff Sampson shot and killed his ex-wife's house guests, Brandy Hardman and Michael Harman.
- Mercer County - Law enforcement officers shot and killed Daniel Giberson after a domestic violence incident in which Daniel Goberson threatened the officers wielded a knife at the officers.
- Mercer County - Bradford Spencer forced his mother, Virginia Spencer, to overdose on pain pills.
- Jackson County - Darrell Williams Jr. shot and killed his former brother-in-law Bruce Deal.
- Tucker County – Thomas Jones killed himself after leaning his wife had obtained a domestic violence protective order.
- Tucker County - Jason White shot and killed his girlfriend, Nakeia Moore.
- Wayne County - Johnnie Walls shot and killed his stepfather, Walter Toppins.
- Nicholas County - David Geier strangled to death his girlfriend, Teresa Gwinn and hid her body in a refrigerator.
- Mercer County - Amanda Proffitt shot and killed her mother, Connie Proffitt.
- Marshall County - Paul Wilson withheld medication and severely neglected his mother, Susanna Wilson which resulted in her death.
- Kanawha County - Craig Homcomb shot and killed himself during a police pursuit after a domestic violence incident.
- Kanawha County - Larry White shot and killed his son, Corey White.
- Harrison County - Michael Griffith shot and killed his father, Clifford Powers.
- Mercer County - Larry Dillon shot and killed his wife, Sandra Dillon.
- Tucker County - Randy Shull assaulted and killed his girlfriend, Katherine Lillie.
- Monongalia County - Steven Marlarkey shot and killed his wife Linda Malarkey set their house on fire then killed himself.
- Kanawha County - Randall Chapman shot and killed his wife, Shirlene Chapman.
- Raleigh County – Dwayne Lane doused his fiancé, Belinda Cox, with gasoline and lit her on fire. He then tried to burn down the home with two children inside.
- Wood County - Mathew Wilson killed his mother's boyfriend with a machete.

Risk Factors for Femicide in Abusive Relationships: Results From a Multisite Case Control Study

Jacquelyn C. Campbell, PhD, RN, Daniel Webster, ScD, MPH, Jane Koziol-McLain, PhD, RN, Carolyn Block, PhD, Doris Campbell, PhD, RN, Mary Ann Curry, PhD, RN, Faye Gary, PhD, RN, Nancy Glass, PhD, MPH, RN, Judith McFarlane, PhD, RN, Carolyn Sachs, MD, MPH, Phyllis Sharps, PhD, RN, Yvonne Ulrich, PhD, RN, Susan A. Wilt, DrPH, Jennifer Manganello, PhD, MPH, Xiao Xu, PhD, RN, Janet Schollenberger, MHS, Victoria Frye, MPH, and Kathryn Laughon, MPH

Objectives. This 11-city study sought to identify risk factors for femicide in abusive relationships.

Methods. Proxies of 220 intimate partner femicide victims identified from police or medical examiner records were interviewed, along with 343 abused control women.

Results. Preincident risk factors associated in multivariate analyses with increased risk of intimate partner femicide included perpetrator's access to a gun and previous threat with a weapon, perpetrator's stepchild in the home, and estrangement, especially from a controlling partner. Never living together and prior domestic violence arrest were associated with lowered risks. Significant incident factors included the victim having left for another partner and the perpetrator's use of a gun. Other significant bivariate-level risks included stalking, forced sex, and abuse during pregnancy.

Conclusions. There are identifiable risk factors for intimate partner femicides. (*Am J Public Health.* 2003;93:1089–1097)

Femicide, the homicide of women, is the leading cause of death in the United States among young African American women aged 15 to 45 years and the seventh leading cause of premature death among women overall.[1] American women are killed by intimate partners (husbands, lovers, ex-husbands, or ex-lovers) more often than by any other type of perpetrator.[2–4] Intimate partner homicide accounts for approximately 40% to 50% of US femicides but a relatively small proportion of male homicides (5.9%).[1,5–10] The percentage of intimate partner homicides involving male victims decreased between 1976 and 1996, whereas the percentage of female victims increased, from 54% to 72%.[4]

The majority (67%–80%) of intimate partner homicides involve physical abuse of the female by the male before the murder, no matter which partner is killed.[1,2,6,11–13] Therefore, one of the major ways to decrease intimate partner homicide is to identify and intervene with battered women at risk. The objective of this study was to specify the risk factors for intimate partner femicide among women in violent relationships with the aim of preventing this form of mortality.

METHODS

An 11-city case–control design was used; femicide victims were cases (n=220), and randomly identified abused women residing in the same metropolitan area were control women (n=343). Co-investigators at each site collaborated with domestic violence advocacy, law enforcement, and medical examiner offices in implementing the study. Sampling quotas for cases and control women in each city were proportionately calculated so that the cities with the highest annual femicide rates included the largest number of cases and control women.

Femicide Cases

All consecutive femicide police or medical examiner records from 1994 through 2000 at each site were examined to assess victim–perpetrator relationships. Cases were eligible if the perpetrator was a current or former intimate partner and the case was designated as "closed" by the police (suicide by the perpetrator, arrest, or adjudication, depending on the jurisdiction). Records were abstracted for data specific to the homicide.

At least 2 potential proxy informants, individuals knowledgeable about the victim's relationship with the perpetrator, were identified from the records. The proxy who, in the investigator's judgment, was the most knowledgeable source was then sent a letter explaining the study and including researcher contact information. If no communication was initiated by the proxy, study personnel attempted telephone or (in the few cases in which no telephone contact was possible) personal contact.

If the first proxy was not knowledgeable about details of the relationship, she or he was asked to identify another willing potential proxy informant. When a knowledgeable proxy was found, informed consent was obtained. In 373 of the 545 (68%) total femicide cases abstracted, a knowledgeable proxy was identified and located. In 82% (307/373) of these cases, proxies agreed to participate. Two exclusion criteria, age (18–50 years) and no previous abuse by the femicide perpetrator, resulted in the elimination of 87 additional cases (28.3% of 307 cases), with 59 (19.2% of 307 cases) eliminated solely as a result of the latter criterion.

Researchers and doctoral students experienced in working with victims of domestic violence conducted telephone or in-person interviews in English or Spanish; interviews were 60 to 90 minutes in duration. Both proxies and abused control women were excluded if they could speak neither English nor Spanish.

Abused Control Women

Stratified random-digit dialing (up to 6 attempts per number) was used to select women aged 18 to 50 years who had been involved "romantically or sexually" in a relationship at some time in the past 2 years in the same cities in which the femicides occurred. A woman was considered "abused" if she had been physically assaulted or threatened with a weapon by a current or former intimate partner during the past 2 years; we

identified episodes of abuse with a modified version of the Conflict Tactics Scale with stalking items added.[11,14]

English- and Spanish-speaking telephone interviewers employed by an experienced telephone survey firm completed sensitivity and safety protocol training.[15] A total of 4746 women met the age and relationship criteria and were read the consent statement. Among these women, 3637 (76.6%) agreed to participate, 356 (9.8%) of whom had been physically abused or threatened with a weapon by a current or recent intimate partner. Thirteen abused control women were excluded from the analysis because they reported that the injuries from their most severe incident of abuse were so severe that they thought they could have died.

Risk Factor Survey Instrument

The interview included previously tested instruments, such as the Danger Assessment,[16,17] and gathered information on demographic and relationship characteristics, including type, frequency, and severity of violence, psychological abuse, and harassment; alcohol and drug use; and weapon availability. The Danger Assessment had been translated to and validated in Spanish in earlier research; the remainder of the survey was translated and back-translated by our Spanish-speaking interviewers and by project staff in Houston, Los Angeles, and New York. A factor analysis of the risk items was used in constructing scales measuring partners' controlling and stalking behaviors. Each scale was internally consistent (α=.83 and .75, respectively).

Data Analysis

Logistic regression was used to estimate the independent associations between each of the hypothesized risk factors and the risk of intimate partner femicide. Because the importance of certain risk factors may not be detected when their effects are mediated by more proximal risk factors, we sequentially added blocks of conceptually similar explanatory variables along a risk factor continuum ranging from most distal (demographic characteristics of perpetrators and victims) to most proximal (e.g., weapon used in the femicide or most serious abuse incident). Variables not significantly associated with femicide risk were dropped from subsequent models. Model coefficients were exponentiated so that they could be interpreted as adjusted odds ratios (ORs).

RESULTS

Demographic, background, and relationship variables that differentiated case women from control women in bivariate analyses are presented in Tables 1 and 2. Table 3 displays findings from the series of logistic regression models. The strongest sociodemographic risk factor (model 1) for intimate partner femicide was the abuser's lack of employment (adjusted OR=5.09; 95% confidence interval [CI]=2.74, 9.45). Instances in which the abuser had a college education (vs a high school education) were protective against femicide (adjusted OR=0.31; 95% CI=0.12, 0.80), as were instances in which the abuser had a college degree and was unemployed but looking for work. Race/ethnicity of abusers and victims was not independently associated with intimate partner femicide risk after control for other demographic factors.

When additional individual-level risk factors for homicide were added to the model (model 2), both abuser's access to a firearm (adjusted OR=7.59; 95% CI=3.85, 14.99) and abuser's use of illicit drugs (adjusted OR=4.76; 95% CI=2.19, 10.34) were strongly associated with intimate partner femicide, although the abuser's excessive use of alcohol was not. Although the abuser's access to a firearm increased femicide risk, victims' risk of being killed by their intimate partner was lower when they lived apart from the abuser and had sole access to a firearm (adjusted OR=0.22). Neither alcohol abuse nor drug use by the victim was independently associated with her risk of being killed.

Relationship variables were added in model 3. Never having lived with the abusive partner significantly lowered women's risk of femicide (OR=0.39; 95% CI=0.16, 0.97). Having been separated from an abusive partner after living together was associated with a higher risk of femicide (adjusted OR=3.64; 95% CI=1.71, 7.78), as was having ever left or having asked the partner to leave (adjusted OR=3.19; 95% CI=1.70, 6.02). Having a child living in the home who was not the abusive partner's biological child more than doubled the risk of femicide (adjusted OR=2.23; 95% CI=1.13, 4.39). Addition of the relationship variables resulted in victims' sole access to a firearm no longer being statistically significant and substantially reduced the effects of abuser's drug use.

Variables related to abusive partners' controlling behaviors and verbal aggression were added in model 4. The effects of a highly controlling abuser were modified by whether the abuser and victim separated after living together. The risk of intimate partner femicide was increased 9-fold by the combination of a highly controlling abuser and the couple's separation after living together (adjusted OR=8.98; 95% CI=3.25, 24.83). Femicide risk was increased to a lesser degree when the abuser was highly controlling but the couple had not separated (adjusted OR=2.90; 95% CI=1.41, 5.97) and when the couple had separated after living together but the abuser was not highly controlling (adjusted OR=3.10; 95% CI=1.20, 8.05).

Threatening behaviors and stalking were added in model 5. Abusers' previous threats with a weapon (adjusted OR=4.08; 95% CI=1.91, 8.72) and threats to kill (adjusted OR=2.60; 95% CI=1.24, 5.42) were associated with substantially higher risks for femicide. After control for threatening behaviors, there were no significant independent effects of abusers' drug use (OR=1.64; 95% CI=0.88, 3.04). The effects of high control with separation (adjusted OR=4.07; 95% CI=1.33, 12.4) and access to guns (adjusted OR=5.44; 95% CI=2.89, 10.22), although substantially reduced, remained strong.

Stalking and threats to harm children and other family members were not independently associated with intimate partner femicide risk after variables had been entered in the first models. When variables related to previous physical abuse were included in model 6, previous arrest of the abuser for domestic violence was associated with a decreased risk of intimate partner femicide (adjusted OR=0.34; 95% CI=0.16, 0.73). The association between abusers' use of forced sex on victims and increased intimate partner femicide risks approached statistical significance (adjusted OR=1.87; 95% CI=0.97, 3.63; $P<.07$).

TABLE 1—Sociodemographic Characteristics of Victims and Perpetrators and General Risk Factors for Homicide, by Group

	Victims			Perpetrators		
	Nonfatal Physical Abuse (n = 343)	Homicide (n = 220)	*P*	Nonfatal Physical Abuse (n = 343)	Homicide (n = 220)	*P*
Sociodemographic variables						
Age, y, mean ± SD	30.1 ± 8.6	31.4 ± 7.7	.081	31.2 ± 9.2	34.2 ± 8.7	<.001
Don't know/refused/missing	0	0		4	22	
Race/ethnicity, No. (%)			<.001			<.001
Black/African American	70 (20.6)	104 (47.3)		83 (24.3)	107 (48.9)	
White	157 (46.3)	53 (24.1)		153 (44.7)	49 (22.4)	
Latino/Hispanic	82 (24.2)	53 (24.1)		80 (23.4)	58 (26.5)	
Other	30 (8.9)	10 (4.5)		26 (7.6)	5 (2.3)	
Don't know/refused/missing	4	0		1	1	
Education, No. (%)			<.001			<.001
Less than high school	61 (17.9)	71 (33.2)		92 (28.0)	70 (48.9)	
High school	73 (21.5)	59 (27.5)		91 (27.7)	47 (32.9)	
Some college/trade school	109 (32.1)	68 (31.8)		58 (17.7)	17 (11.9)	
College/trade school	97 (28.5)	16 (7.5)		87 (26.5)	9 (6.3)	
Don't know/refused/missing	3	6		15	77	
Employment, No. (%)			<.001			<.001
Full-time	179 (52.2)	114 (51.8)		229 (68.2)	84 (39.6)	
Part-time	70 (20.4)	31 (14.1)		39 (11.6)	20 (9.5)	
Unemployed, seeking job	40 (11.7)	12 (5.5)		25 (7.4)	13 (6.1)	
Unemployed, not seeking job	54 (15.7)	63 (28.6)		43 (12.8)	95 (44.8)	
Don't know/refused/missing	0	0		7	8	
Income (annual household), $, No. (%)			.005			
Less than 10 000	67 (21.7)	25 (18.8)				
10 000–19 999	49 (15.9)	32 (24.1)				
20 000–29 999	43 (13.9)	20 (15.0)				
30 000–39 999	41 (13.3)	29 (21.8)				
40 000 or more	109 (35.3)	27 (20.3)				
Don't know/refused/missing	34	87				
General violence/homicide risk variables						
Threatened/attempted suicide			.091			.149
Yes	33 (9.6)	12 (5.6)		68 (20.1)	45 (25.0)	
Don't know/refused/missing	0	6		4	40	
Problem alcohol drinker, No. (%)			<.001			<.001
Yes	27 (7.9)	36 (19.1)		106 (30.9)	105 (52.0)	
Don't know/refused/missing	0	32		0	18	
Illicit drug use, No. (%)			.002			<.001
Yes	49 (14.3)	48 (25.3)		101 (30.4)	123 (65.4)	
Don't know/refused/missing	1	30		11	32	
Access to a firearm,[a] No. (%)			.996			<.001
Yes	17 (5.0)	10 (5.0)		82 (23.9)	143(65.0)	
Don't know/refused/missing	2	19		0	0	

Continued

Incident-level variables were added in model 7. Abuser's use of a gun in the worst incident of abuse was associated with a 41-fold increase in risk of femicide after control for other risk factors, this effect apparently mediating the effects of abuser's access to a gun, which was no longer significant. However, previous threats with a weapon continued to be associated with increased femicide risks (OR=4.41; 95% CI=1.76, 11.06).

When the worst incident of abuse was triggered by the victim's having left the abuser for another partner or by the abuser's jealousy, there was a nearly 5-fold increase in femicide risk (adjusted OR=4.91; 95% CI=2.42, 9.96). When the incident was triggered by the victim's having left the abuser for any other reason, femicide risks were also significantly increased (adjusted OR=4.04; 95% CI=1.80, 9.06). These incident-level effects appear to mediate those related to highly controlling abusers and separation after cohabitation.

Each of the models included in Table 3 demonstrated an adequate fit according to Hosmer–Lemeshow[18] goodness-of-fit tests. Model 6 correctly predicted the case status of 73% of the cases and 93% of the control women. Model 7 correctly predicted the case status of 81% of the cases and 95% of the control women.

DISCUSSION

Seventy-nine percent (220/279) of the femicide victims aged 18 to 50 years and 70% of the 307 total femicide cases were physically abused before their deaths by the same intimate partner who killed them, in comparison with 10% of the pool of eligible control women. Thus, our first premise, that physical violence against the victim is the primary risk factor for intimate partner femicide, was upheld. The purpose of this study, however, was to determine the risk factors that, over and above previous intimate partner violence, are associated with femicide within a sample of battered women. Our analysis demonstrated that a combination of the most commonly identified risk factors for homicide, in conjunction with characteristics specific to violent intimate relationships, predicted intimate partner femicide risks.

TABLE 1—*Continued*

Arrest for violent crime, No. (%)			<.001
Yes	38 (11.5)	43 (21.8)	
Don't know/refused/missing	12	23	

Note. The referent time periods for all risk variables were the year previous to the most abusive event for abused control women and the year previous to the femicide for femicide victims.
[a]For abused women, gun access was defined as a woman's sole access to a firearm on the basis of her living apart from her partner and reporting having a gun in the home; gun access for partner was based on reports of his personal ownership of a firearm or living in a household with a firearm.

The model-building strategy we used allowed for consideration of different levels of prevention and the degree to which intimate partner femicides could be prevented by strategies directed at risk factors for homicide in general. For example, our analysis and those of others suggest that increasing employment opportunities, preventing substance abuse, and restricting abusers' access to guns can potentially reduce both overall rates of homicide and rates of intimate partner femicide.

In comparing our femicide perpetrators with other abusive men, we found that unemployment was the most important demographic risk factor for acts of intimate partner femicide. In fact, abuser's lack of employment was the only demographic risk factor that significantly predicted femicide risks after we controlled for a comprehensive list of more proximate risk factors, increasing risks 4-fold relative to the case of employed abusers (model 6). Unemployment appears to underlie increased risks often attributed to race/ethnicity, as has been found and reported in other analyses related to violence.[19,20]

The present results revealed that traits of perpetrators thought to be characteristic of violent criminals in general[21] tended to be no more characteristic of femicide perpetrators than of other batterers. For instance, in contrast to results of previous research comparing abusers and nonabusers,[22] our regression analyses showed that arrests for other crimes did not differentiate femicide perpetrators from perpetrators of intimate partner violence. After controlling for other risk factors, prior arrest for domestic violence actually decreased the risk for femicide, suggesting that arrest of abusers protects against future intimate partner femicide risks. Perpetrator drug abuse significantly increased the risk of intimate partner femicide, but only before the effects of previous threats and abuse were added. Drug abuse, therefore, was associated with patterns of intimate partner abuse that increase femicide risks.

Our iterative model-building strategy also allowed us to observe whether the effects of more proximate risk factors mediate the effects of more distal factors in a manner consistent with theory. For example, the 8-fold increase in intimate partner femicide risk associated with abusers' access to firearms attenuated to a 5-fold increase when characteristics of the abuse were considered, including previous threats with a weapon on the part of the abuser. This suggests that abusers who possess guns tend to inflict the most severe abuse.

However, consistent with other research,[3,23,15,24,25] gun availability still had substantial independent effects that increased homicide risks. As expected, these effects were due to gun-owning abusers' much greater likelihood of using a gun in the worst incident of abuse, in some cases, the actual femicide. The substantial increase in lethality associated with using a firearm was consistent with the findings of other research assessing weapon lethality. A victim's access to a gun could plausibly reduce her risk of being killed, at least if she does not live with the abuser. A small percentage (5%) of both case and control women lived apart from the abuser and owned a gun, however, and there was no clear evidence of protective effects.

Previous arrests for domestic violence was protective against intimate partner femicide in both of the final models. In most of the cities where data were collected, there is a coordinated community response to domestic violence. Under optimal conditions, such responses include adequate and swift adjudication, close supervision of parole outcomes through periodic court reviews or specialized probation programs, ongoing risk management for arrested perpetrators and ongoing safety planning for victims, and close supervision involving sanctions for batterers who drop out of mandated intervention programs.[26] Under these kinds of conditions, arrest can indeed be protective against domestic violence escalating to lethality.

Two relationship variables remained significant throughout the models. Consistent with earlier research,[27,28] instances in which a child of the victim by a previous partner was living in the home increased the risk of intimate partner femicide. Situations in which the victim and abuser had never lived together were protective, validating safety advice that battered women have offered to other battered women in interview studies.[29] Women who separated from their abusive partners after cohabitation experienced increased risk of femicide, particularly when the abuser was highly controlling. Other studies have revealed the same risks posed by estrangement,[30,31] but ours further explicates the findings by identifying highly controlling male partners as presenting the most danger in this situation. At the incident level, we found that batterers were significantly more likely to perpetrate homicide if their partner was leaving them for a different partner.

The bivariate analysis supported earlier evidence that certain characteristics of intimate partner violence are associated with intimate partner femicide, including stalking, strangulation, forced sex, abuse during pregnancy, a pattern of escalating severity and frequency of physical violence, perpetrator suicidality, perception of danger on the part of the victim, and child abuse.[15,16,20,32–37] However, these risk factors, with the exception of forced sex, were not associated with intimate partner femicide risk in the multivariate analysis. Many of these characteristics of abuse are associated with previous threats with a weapon and previous threats to kill the victim, factors that more closely predict intimate partner femicide risks.

This investigation is one of the few studies of intimate partner femicide to include a control population and, to our knowledge,

TABLE 2—Relationship Dynamics, Threatening Behavior, and Abuse Characteristics

	Abused Control Women (n = 343)	Homicide Victims (n = 220)	P
Relationship variables			
Age difference, y, mean ± SD	1.1 ± 5.7	2.9 ± 6.4	.001
Length of relationship, No. (%)			.023
1 month or less	5 (1.5)	0	
1 month to 1 year	94 (27.5)	44 (20.0)	
1 or more years	243 (71.0)	176 (80.0)	
Don't know/refused/missing	1	0	
Relationship partner, No. (%)			.005
Husband	101 (29.7)	85 (39.0)	
Boyfriend	86 (25.3)	65 (29.8)	
Ex-husband	36 (10.6)	20 (9.2)	
Ex-boyfriend	117 (34.4)	48 (22.0)	
Don't know/refused/missing	3	2	
Separated, No. (%)			<.001
Yes	117 (34.9)	101 (55.2)	
Don't know/refused/missing	8	37	
Cohabitation, No. (%)			<.001
Yes	174 (50.7)	81 (45.0)	
In the past year, but not currently	39 (11.4)	68 (37.8)	
Previously, but not in the past year	11 (3.2)	11 (6.1)	
Never	118 (34.7)	20 (11.1)	
Don't know/refused/missing	1	40	
Biological child(ren) of victim and partner living in the household, No. (%)			.034
Yes	98 (28.6)	73 (37.4)	
Don't know/refused/missing	0	25	
Biological child(ren) of victim, and not of partner, living in the household, No. (%)			<.001
Yes	60 (17.5)	82 (38.7)	
Don't know/refused/missing	0	8	
Relationship abuse dynamics			
Partner controlling behaviors (score > 3), No. (%)			<.001
Yes	84 (24.5)	145 (65.9)	
Partner called victim names to put her down, No. (%)			<.001
Yes	164 (47.8)	151 (77.8)	
Don't know/refused/missing	0	26	
General violence/homicide risk variables			
Partner violent outside home, No. (%)			<.001
Yes	116 (35.5)	102 (55.7)	
Don't know/refused/missing	16	37	
Partner threatened to kill woman, No. (%)			<.001
Yes	50 (14.6)	142 (73.6)	
Don't know/refused/missing	1	27	
Partner threatened to kill family, No. (%)			<.001
Yes	26 (7.6)	72 (33.8)	
Don't know/refused/missing	0	7	

Continued

the first to examine the connection between relationship variables and specific demographic characteristics of victims and perpetrators. Perhaps the most important limitation of the study is its necessary reliance on proxy respondents for data regarding hypothesized risk factors for intimate partner femicide cases. Because we obtained data from control women directly, rather than from a proxy, observed differences between case and control women may have been wholly or partly attributable to differences in accuracy of reporting between victims and their proxies. To examine this issue, we conducted a small pilot study comparing responses of victims of attempted femicide and responses of their proxy respondents and found good agreement between summed Danger Assessment scores from the 2 sources of information. Furthermore, there was no clear tendency for proxies to underreport or overreport victims' exposure to specific risk factors relative to the self-reports of victims themselves.[35]

It is also possible that some of the women who were excluded from this analysis because of no record of previous physical violence were in fact being abused, unknown to the proxy. However, we found fairly good correspondence with police records of previous domestic violence, and, if anything, we found more knowledge of previous physical abuse among proxies than among police. A related limitation is the relatively large proportion of "don't know" responses from proxies regarding certain hypothesized risk factors of a more personal nature (e.g., forced sex). Our decision to treat these "don't know" responses as representing absence of the "exposure" produced conservative biases in our estimates of relationships with intimate partner femicide risks. Therefore, we may have inappropriately failed to reject the null hypothesis in the case of some of these variables with large amounts of missing data and near-significant associations with intimate partner femicide risk.

Another limitation was that we excluded women who did not reside in large urban areas (other than Wichita, Kan) and control group women who did not have telephones. We also failed to keep records of exactly which proxy interviews (estimated to be less

TABLE 2—*Continued*

Partner threatened woman with a weapon, No. (%)			<.001
Yes	16 (4.7)	110 (55.3)	
Don't know/refused/missing	0	21	
Partner threatened to harm children, No. (%)			<.001
Yes	4 (1.2)	36 (18.5)	
Don't know/refused/missing	7	25	
Stalking behavior (score > 3), No. (%)			<.001
Yes	21 (6.1)	47 (21.4)	
Don't know/refused/missing	0	0	
Characteristics of physical violence			
Increase in frequency, No. (%)			<.001
Yes	88 (25.7)	109 (59.9)	
Don't know/refused/missing	5	38	
Increase in severity, No. (%)			<.001
Yes	70 (20.4)	105 (64.4)	
Don't know/refused/missing	5	57	
Partner tried to choke (strangle) woman, No. (%)			<.001
Yes	34 (9.9)	84 (56.4)	
Don't know/refused/missing	1	71	
Forced sex, No. (%)			<.001
Yes	51 (14.9)	84 (57.1)	
Don't know/refused/missing	1	73	
Abused during pregnancy (ever), No. (%)			<.001
Yes	24 (7.0)	49 (25.8)	
No or never been pregnant	319 (93.0)	141 (74.2)	
Don't know/refused/missing	0	30	
Partner arrest previously for domestic violence, No. (%)			.003
Yes	46 (13.9)	50 (25.6%)	
Don't know/refused/missing	12	25	
Incident-level variables			
Gun used, No. (%)			<.001
Yes	3 (0.9)	84 (38.2)	
Partner used alcohol or drugs, No. (%)			<.001
Yes	123 (34.6)	133 (60.5)	
Victim used alcohol or drugs, No. (%)			<.001
Yes	44 (12.4)	53 (24.1)	
Order of protection, No. (%)			<.001
Yes	16 (4.7)	54 (24.5)	
Trigger: jealousy, No. (%)			<.001
Yes	52 (17.1)	85 (38.6)	
No or don't know	291 (82.9)	135 (61.4)	
Trigger: woman leaving, No. (%)			<.001
Yes	32 (10.5)	72 (32.7)	
No or don't know	311 (89.5)	148 (67.3)	
Trigger: woman has new relationship, No. (%)			<.001
Yes	7 (2.0)	26 (11.8)	
No or don't know	336 (98.0)	194 (88.2)	

Note. Unless otherwise noted, the referent time periods for risk variables were the year previous to the most abusive event for abused control women and the year previous to the femicide for femicide victims.

than 10% of the total) were conducted in person rather than by telephone, and thus we cannot evaluate the effects of this source of bias. Finally, we have no way to compare the control women who participated with those who did not, and women living in the most dangerous situations may have been less likely to participate as control women. If so, true exposure to the risk factors of interest among women involved in abusive intimate relationships may be greater than our control data suggest, thus inflating our estimates of increased risks associated with these exposures.

CONCLUSIONS

In light of our findings, it is important to consider the role medical professionals might play in identifying women at high risk of intimate partner femicide. The variables that remained significant in model 6 are those most important for identifying abused women at risk for femicide in the health care system and elsewhere, whereas those that were significant in model 7 are particularly important in prevention of the lethal incident itself. When women are identified as abused in medical settings, it is important to assess perpetrators' access to guns and to warn women of the risk guns present. This is especially true in the case of women who have been threatened with a gun or another weapon and in conditions of estrangement. Under federal law, individuals who have been convicted of domestic violence or who are subject to a restraining order are barred from owning firearms. Judges issuing orders of protection in cases of intimate partner violence should consider the heightened risk of lethal violence associated with abusers' access to firearms.

Often, battered women like the idea of a health care professional notifying the police for them; however, with the exception of California, states do not require health care professionals to report to the criminal justice system unless there is evidence of a felony assault or an injury from an assault.[38–40] In states other than California, the professional can offer to call the police, but the woman should have the final say, in that she can best assess any increased danger that might

TABLE 3—Hypothesized Risk Factors for Intimate Partner Femicide Among Women Involved in a Physically Abusive Intimate Relationship Within the Past 2 Years: Adjusted Odds Ratios

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Abuser age	1.10***	1.08***	NS				
Abuser race/ethnicity	NS						
Abuser education (reference group: high school graduates)							
Less than high school	1.40	NS					
Some college	0.72	NS					
College	0.31*	NS					
Abuser job status (reference group: employed full time)							
Employed part time	1.61	NS	NS	NS	NS	NS	NS
Unemployed, seeking job	1.34	NS	NS	NS	NS	NS	NS
Unemployed, not seeking job	5.09***	6.27***	4.00***	3.24***	4.28***	4.42***	4.35*
Victim age	NS						
Victim race/ethnicity	NS						
Victim education (reference group: high school graduates)							
Less than high school	1.61	NS	NS	NS			
Some college	0.87	NS	NS	NS			
College	0.31**	0.15*	0.28*	NS			
Victim job status (reference group: employed full time)							
Employed part time	0.95	NS	NS				
Unemployed, seeking job	0.13***	0.25*	NS				
Unemployed, not seeking job	0.99	NS	NS				
General risk factors for homicide							
Abuser problem drinker		NS					
Abuser used illicit drugs		4.76***	2.19*	1.88*	NS	NS	
Abuser mental health		NS					
Abuser threatened suicide		NS					
Abuser hurt pet		NS					
Abuser access to gun		7.59***	9.21***	8.28***	5.44***	5.38***	NS
Abuser arrest for violent crime		NS					
Victim problem drinker		NS					
Victim used illicit drugs		NS					
Victim sole access to gun		0.22*	NS	NS	NS	NS	NS
Relationship variables							
Married			NS				
Divorced			NS				
Time in relationship			NS				
Cohabitation (reference: living together during entire past year)							
Living together less than 1 year			NS				
Previously lived together, separated at time of incident			3.64**				
Never lived together			0.39**	0.30**	0.36*	0.34**	0.31**

Continued

result from the police being notified. An excellent resource for referral, shelter, and information is the National Domestic Violence Hotline (1-800-799-SAFE).

If a woman confides that she is planning to leave her abuser, it is critical to warn her not to confront him personally with her decision. Instead, she needs to leave when he is not present and leave a note or call him later. It is also clear that extremely controlling abusers are particularly dangerous under conditions of estrangement. A question such as "Does your partner try to control *all* of your daily activities?" (from the Danger Assessment[15]) can quickly assess this extreme need for control. Health care professionals can also expeditiously assess whether the perpetrator is unemployed, whether stepchildren are present in the home, and whether the perpetrator has threatened to kill the victim. Under these conditions of extreme danger, it is incumbent on health care professionals to be extremely assertive with abused women about their risk of homicide and their need for shelter.[41] ■

About the Authors

Jacquelyn C. Campbell, Phyllis Sharps, and Kathryn Laughon are with the School of Nursing, Johns Hopkins University, Baltimore, Md. Daniel Webster, Jennifer Manganello, and Janet Schollenberger are with the Bloomberg School of Public Health, Johns Hopkins University. Jane Koziol-McLain is with the School of Nursing, Auckland University of Technology, Auckland, New Zealand. Carolyn Rebecca Block is with the Illinois Criminal Justice Information Authority, Chicago. Doris Campbell is with the College of Medicine, University of South Florida, Tampa. Mary Ann Curry and Nancy Glass are with the School of Nursing, Oregon Health Sciences University, Portland. Faye Gary is with the College of Nursing, University of Florida, Gainesville. Judith McFarlane is with the School of Nursing, Texas Women's University, Houston. Carolyn Sachs is with the School of Medicine, University of California Los Angeles. Yvonne Ulrich is with the School of Nursing, University of Washington, Seattle. Susan A. Wilt is with the New York City Department of Health. Xiao Xu is with Covance Inc, Washington, DC. Victoria A. Frye is with St. Luke's Medical Center, New York City.

Requests for reprints should be sent to Jacquelyn C. Campbell, PhD, RN, Johns Hopkins University, School of Nursing, 525 N Wolfe St, #436, Baltimore, MD 21205-2110 (e-mail: jcampbell@son.jhmi.edu).

This article was accepted September 23, 2002.

Contributors

J.C. Campbell designed the study and wrote most of the introductory and Discussion sections. D. Webster analyzed the data, wrote most of the Results section, and contributed to the Methods and Discussion sections. J. Koziol-McLain wrote the Methods section, con-

TABLE 3—*Continued*

Victim left or asked abuser to leave	3.20**	2.40**	NS		
Victim–abuser had biological child	NS				
Victim had child by a previous partner in home	2.23**	1.70	1.94*	2.44**	2.35*
Abuser–victim age difference	NS				
Abuser control of victim, verbal aggression					
Calls names		NS			
Not high control and separated after living together		3.10*	3.36*	3.64*	3.10*
High control and not separated after living together		2.90**	2.09*	2.08*	2.40*
High control and separated after living together		8.98***	4.07*	5.52**	3.43*
Abuser threats and stalking					
Threatened to harm children			NS		
Threatened to harm family			NS		
Threatened victim with weapon			4.08***	3.38***	4.41*
Threatened to kill victim			2.60**	3.22**	NS
Stalking			NS		
Physical abuse before worst incident					
Abuse increasing in frequency and severity				NS	
Choked (strangled)				NS	
Forced sex				1.87	NS
Abused when pregnant				NS	
Previous arrest for domestic violence				0.34**	0.31*
Incident-level risk factors					
Abuser used alcohol or drugs					NS
Victim used alcohol or drugs					NS
Abuser used gun					41.38**
Trigger: jealousy/victim left for other relationship					4.91***
Trigger: victim left abuser for other reasons					4.04***

Note. NS = nonsignificant.
*$P < .05$; **$P < .01$; ***$P < .001$.

tributed to the Results section, and prepared the tables. J. Manganello contributed to the data analysis and Results sections. All other authors collected data, contributed to the introductory and Discussion sections, and reviewed the article.

Acknowledgments

This research was supported by joint funding from the National Institute on Alcohol Abuse and Alcoholism, the National Institute on Drug Abuse, the National Institute of Mental Health, the National Institutes on Aging, the Centers for Disease Control and Prevention, and the National Institute of Justice (grant R01 # DA/AA11156).

We would like to thank our advocacy, criminal justice, and medical examiner collaborators at each of the sites, along with the women and family members who told their stories. We also thank Arthur Kellerman, MD, for his wise consultation and original ideas. Finally, we thank the staff of the Data Stat Survey Research Firm and Jo Ellen Stinchcomb, Nadiyah Johnson, and the many other assistants and students for all of their work.

Human Participant Protection

Institutional review board approval was obtained from each study site. Informed consent was obtained by telephone from all participants who were interviewed.

References

1. Greenfield LA, Rand MR, Craven D, et al. *Violence by Intimates: Analysis of Data on Crimes by Current or Former Spouses, Boyfriends, and Girlfriends.* Washington, DC: US Dept of Justice; 1998.

2. Mercy JA, Saltzman LE. Fatal violence among spouses in the United States: 1976–85. *Am J Public Health.* 1989;79:595–599.

3. Bailey JE, Kellermann AL, Somes GW, Banton JG, Rivara FP, Rushforth NP. Risk factors for violent death of women in the home. *Arch Intern Med.* 1997;157:777–782.

4. Bachman R, Saltzman LE. *Violence Against Women: Estimates From the Redesigned Survey.* Washington, DC: Bureau of Justice Statistics; 1995.

5. Browne A, Williams KR, Dutton DC. Homicide between intimate partners. In: Smith MD, Zah M, eds. *Homicide: A Sourcebook of Social Research.* Thousand Oaks:Sage,1998:149–164.

6. Langford L, Isaac NE, Kabat S. Homicides related to intimate partner violence in Massachusetts. *Homicide Stud.* 1998;2:353–377.

7. Moracco KE, Runyan CW, Butts J. Femicide in North Carolina. *Homicide Stud.* 1998;2:422–446.

8. Frye V, Wilt S, Schomburg D. Female homicide in New York City, 1990–1997. Available at: http://www.nyc.gov/html/doh/pdf/ip/female97.pdf. Accessed August 18, 2002.

9. National Institute of Justice. *A Study of Homicide in Eight US Cities: An NIJ Intramural Research Project.* Washington, DC: US Dept of Justice; 1997.

10. Wilt SA, Illman SM, Brodyfield M. *Female Homicide Victims in New York City.* New York, NY: New York City Dept of Health; 1995.

11. Campbell JC. "If I can't have you, no one can": power and control in homicide of female partners. In: Radford J, Russell DEH, eds. *Femicide: The Politics of Woman Killing.* New York, NY: Twayne; 1992:99–113.

12. McFarlane J, Campbell JC, Wilt S, Sachs C, Ulrich Y, Xu X. Stalking and intimate partner femicide. *Homicide Stud.* 1999;3:300–316.

13. Pataki G. *Intimate Partner Homicides in New York State.* Albany, NY: New York State Governor's Office; 1997.

14. Straus MA, Gelles RJ. *Physical Violence in American Families: Risk Factors and Adaptations to Family Violence in 8,145 Families.* New Brunswick, NJ: Transaction Publishers; 1990.

15. Johnson H, Sacco VF. Researching violence against women: Statistics Canada's national survey. *Can J Criminology.* 1995;37:281–304.

16. Campbell JC. Prediction of homicide of and by battered women. In: Campbell JC, ed. *Assessing the Risk of Dangerousness: Potential for Further Violence of Sexual Offenders, Batterers, and Child Abusers.* Newbury Park, Calif: Sage Publications; 1995:93–113.

17. Campbell JC, Sharps P, Glass NE. Risk assessment for intimate partner violence. In: Pinard GF, Pagani L, eds. *Clinical Assessment of Dangerousness: Empirical Contributions.* New York, NY: Cambridge University Press; 2000:136–157.

18. Hosmer DW, Lemeshow S. A goodness-of-fit test

for the multiple logistic regression model. *Commun Stat.* 1980;A10:1043–1069.

19. Hawkins DF. Inequality, culture, and interpersonal violence. *Health Aff (Millwood).* 1993;12:80–95.

20. Stets JE. Job autonomy and control over one's spouse: a compensatory process. *J Health Soc Behav.* 1995;35:244–258.

21. Fagan J, Stewart DE, Hansen K. Violent men or violent husbands? Background factors and situational correlates. In: Gelles RJ, Hotaling G, Straus MA, Finkelhor D, eds. *The Dark Side of Families.* Beverly Hills, Calif: Sage Publications; 1983:49–68.

22. Weiner NA, Zahn MA, Sagi RJ. *Violence: Patterns, Causes, Public Policy.* New York, NY: Harcourt Brace Jovanovich; 1990.

23. Browne A, Williams KR, Dutton DC. Homicide between intimate partners. In: Smith MD, Zahn M, eds. *Homicide: A Sourcebook of Social Research.* Thousand Oaks, Calif: Sage Publications; 1998:149–164.

24. Arbuckle J, Olson L, Howard M, Brillman J, Anctil C, Sklar D. Safe at home? Domestic violence and other homicides among women in New Mexico. *Ann Emerg Med.* 1996;27:210–215.

25. Kellerman AL, Rivara FP, Rushforth NB. Gun ownership as a risk factor for homicide in the home. *N Engl J Med.* 1993;329:1084–1091.

26. Gondolf EW. *Batterer Intervention Systems: Issues, Outcomes, and Recommendations.* Thousand Oaks, Calif: Sage Publications; 2002.

27. Daly M, Wiseman KA, Wilson M. Women and children sired by previous partners incur excess risk of uxorcide. *Homicide Stud.* 1997;1:61–71.

28. Brewer VE, Paulsen DJ. A comparison of US and Canadian findings on uxorcide risk for women with children sired by previous partners. *Homicide Stud.* 1999;3:317–332.

29. Campbell JC, Miller P, Cardwell MM, Belknap RA. Relationship status of battered women over time. *J Fam Violence.* 1994;9:99–111.

30. Wilson M, Daly M. Spousal homicide risk and estrangement. *Violence Vict.* 1993;8:3–15.

31. Dawson R, Gartner R. Differences in the characteristics of intimate femicides: the role of relationship state and relationship status. *Homicide Stud.* 1998;2:378–399.

32. Campbell JC, Soeken K, McFarlane J, Parker B. Risk factors for femicide among pregnant and nonpregnant battered women. In: Campbell JC, ed. *Empowering Survivors of Abuse: Health Care for Battered Women and Their Children.* Thousand Oaks, Calif: Sage Publications; 1998:90–97.

33. Campbell JC, Soeken K. Forced sex and intimate partner violence: effects on women's health. *Violence Women.* 1999;5:1017–1035.

34. McFarlane J, Soeken K, Campbell JC, Parker B, Reel S, Silva C. Severity of abuse to pregnant women and associated gun access of the perpetrator. *Public Health Nurs.* In press.

35. Websdale N. *Understanding Domestic Homicide.* Boston, Mass: Northeastern University Press; 1999.

36. Weisz A, Tolman R, Saunders DG. Assessing the risk of severe domestic violence: the importance of survivors' predictions. *J Interpersonal Violence.* 2000;15:75–90.

37. Saunders DG, Browne A. Intimate partner homicide. In: Ammerman RT, Hersen M, eds. *Case Studies in Family Violence.* New York, NY: Kluwer Academic Publishers; 2000:415–449.

38. Chalk R, King P. Violence in families: assessing prevention and treatment programs. In: Chalk R, King PA, eds. *Health Care Interventions.* Washington, DC: National Academy Press; 1998.

39. Gielen AC, O'Campo P, Campbell J, et al. Women's opinions about domestic violence screening and mandatory reporting. *Am J Prev Med.* 2000;19:279–285.

40. Rodriguez MA, McLoughlin E, Nah G, Campbell JC. Mandatory reporting of domestic violence injuries to the police: what do emergency department patients think? *JAMA.* 2001;286:580–583.

41. Wadman MC, Muelleman RL. Domestic violence homicides: ED use before victimization. *Am J Emerg Med.* 1999;17:689–691.

Separation as a Risk Factor for Victims of Intimate Partner Violence: Beyond Lethality and Injury

A Response to Campbell

TK LOGAN
ROBERT WALKER
University of Kentucky

Keywords: *divorce; separation; victimization; intimate partner violence; women*

Between 25% and 41% of women report a lifetime history of physical or sexual assault by an intimate partner (Richardson et al., 2002; Tjaden & Thoennes, 2000; Wilt & Olson, 1996), and the health and mental health consequences of partner victimization are significant (Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997; Resnick, Acierno, & Kilpatrick, 1997). One obvious solution to ending the violence is for a woman to leave or separate from the violent partner. In fact, many, if not most women in abusive relationships do eventually leave violent relationships (Amato & Rogers, 1997; Bradbury & Lawrence, 1999; Testa & Leonard, 2001). However, leaving a violent partner does not always stop the violence. In fact, separation has been identified as an important risk factor for lethal violence and injury (Campbell, 1995; J. Campbell et al., 2003; McFarlane et al., 1999). Although lethal violence and injury are extremely important risks and considerations, there are other often-overlooked risks that women must face when they separate from a violent partner that should be considered in research and interventions. More specifically, women separating in the context of victimization are at high risk for stress, mental health, and health problems; have increased conflict over the children and concern for child safety; and have economic, structural, psychological, and social barriers to help seeking. All of these factors may substantially affect a woman's separation adjustment, well-being, and ability to maintain separation from a violent ex-partner.

JOURNAL OF INTERPERSONAL VIOLENCE, Vol. 19 No. 12, December 2004 1478-1486
DOI: 10.1177/0886260504269699

Increased Risk for Stress, Mental Health, and Health Problems

Separation is a common life transition with approximately 50% of first marriages and about 60% of second marriages ending in divorce; and more than 60% of cohabitant relationships ending in separation within a 5-year period (Bumpass, Sweet, & Castro Martin, 1990; Cherlin, 1992; Krieder & Fields, 2002; Smock & Manning, 1997; Wu & Balakrishman, 1995). Although separation is common, it is generally a stressful life event and is associated with increased stress levels and negative mental health and health problems for women (Logan, Walker, Jordan, & Campbell, 2004). More specifically, changes in finances, social networks, employment, residence, neighborhoods, childcare, and schools are common for families during the course of a separation. For example, separation usually diminishes the economic standing of women (Amato, 2000; Kreider & Fields, 2002; McKeever & Wolfinger, 2001) and decreases social support systems (Marks, 1996; O'Connor, Hawkins, Dunn, Thorpe, & Golding, 1998; C. Ross, 1995). In addition, separation is often associated with increased demands and complexity. For example, single parents, most of whom are mothers (86%) (Fields & Casper, 2001; Sorensen & Zibman, 2000), are more likely to experience stress and role strain (Amato, 2000; Hope, Rodgers, & Power, 1999; Johnson & Wu, 2002) because they are single-handedly trying to keep the family together economically, psychologically, and physically (e.g., appointments, school responsibilities, extracurricular activities) especially compared to married mothers (Kaiser Family Foundation, 2003; Ladd & Zvonkovic, 1995). Furthermore, conflict in separating and divorcing couples is common especially during property and child custody negotiations (Buchanan & Heiges, 2001). It is likely that these stressors are related to the increased risk of health and mental health problems often reported for separating women (Logan, Walker, Jordan, & Campbell, 2004).

In addition to the stressors, health, and mental health problems that are experienced during a typical separation, women leaving abusive relationships often experience mental health and health problems from the violence during the relationship (Logan, Walker, Cole, & Leukefeld, 2002; Logan, Walker, Jordan, & Leukefeld, 2004). Partner violence experiences have been associated with mental health problems such as anxiety, post-traumatic stress disorder (PTSD), and depression (Golding, 1999; Holtzworth-Munroe, Smultzler, & Sandin, 1997; Weaver & Clum, 1995). Research suggests that the mental health effects of partner victimization can last for years even after the violence has ended for some women depending on the level of cumulative stress over time (Anderson & Saunders, 2003; Anderson, Saunders,

Yoshihama, Bybee, & Sullivan, 2003). Women with histories of partner violence also report health problems such as acute injuries, chronic health problems, and stress-related health problems (J. Campbell, Woods, Chouaf, & Parker, 2000; Dutton, Haywood, & El-Bayoumi, 1997; Eby, Campbell, Sullivan, & Davidson, 1995; Resnick et al., 1997).

Furthermore, ongoing violence can exacerbate health, mental health, and stress levels. One study found that 95% of women leaving violent relationships continued to experience psychological abuse and 39% experienced continued physical violence after separating (Hotton, 2001). Several longitudinal studies suggest that women who experience frequent and ongoing violence have higher rates of psychological distress than women not experiencing ongoing violence (R. Campbell, Sullivan, & Davidson, 1995; Mechanic, Uhlmansiek, Weaver, & Resick, 2002; Mertin & Mohr, 2001).

Increased Conflict About the Children and Concern for Child Safety

Although conflict and threats of custody disputes may occur in separating couples regardless of violence history, a history of violence changes the context of the custody disputes and the separation experience (Logan, Walker, Jordan, & Campbell, 2004). There is some evidence suggesting that violent ex-partners sometimes use the court system by disputing custody to continue to try to control, intimidate, and harass their partners (J. Campbell, Rose, Kub, & Nedd, 1998; Jaffe, Lemon, & Poisson, 2003). One study found that almost 40% of women leaving partners who were abusive were afraid during custody and child support negotiations (Kurz, 1996). In addition, women leaving partners who were abusive often experience threats to harm or abduct the children (McCloskey, 2001; Mechanic, Weaver, & Resick, 2000), and these threats are especially salient given the research suggesting the overlap between partner violence and child abuse (30% to 60% of cases) (McCloskey, Figueredo, & Koss, 1995; S. Ross, 1996). Thus, not only are women concerned for their own safety, they are also often concerned for their children's safety. Even so, there is some evidence suggesting the criminal justice system does not consider mother's or the child's safety in making custody and visitation determinations (Logan, Walker, Horvath, & Leukefeld, 2003; Logan, Walker, Jordan, & Horvath, 2002), and certain custody and visitation arrangements may actually provide opportunities for a violent ex-partner to continue to harass his ex-partner (Henderson, 1990; Hilton, 1992; Wuest, Ford-Gilboe, Merritt-Gray, & Berman, 2003). Furthermore, the legal system does not always protect women from partner violence that may increase stress levels even further during this transition period (Logan,

Evans, Stevenson, & Jordan, in press; Logan, Shannon, & Walker, in press; Logan, Stevenson, Evans, & Leukefeld, 2004).

Economic, Structural, Psychological, and Social Barriers

Economic strain is a significant issue for women and mothers who are separating in general; however, poverty has particularly been associated with victimization experiences of all types including intimate partner violence victimization (U.S. Department of Justice, 1997, 2000). In addition, women with partner abuse histories often have employment problems because of the violence that may affect their economic stability, independence, and status even after separating (Swanberg & Logan, in press). Women with partner violence histories often experience numerous barriers to accessing health and mental health care as well as more obvious resources such as housing and legal resources (Logan, Evans, Stevenson, & Jordan, in press; Logan et al., in press; Logan, Stevenson et al., 2004). Furthermore, there are many psychological barriers and difficulties women must contend with including psychological adjustment to the separation and the loss of the relationship as well as coming to terms with the victimization experiences (Anderson & Saunders, 2003; Logan, Walker, Jordan, & Campbell, 2004). In addition, almost every woman who has experienced physical and sexual abuse has also experienced psychological abuse (Follingstad, Rutledge, Berg, Hause, & Polek, 1990). However, psychological abuse is extremely harmful and creates substantial barriers for women regarding their self-worth and self-efficacy (Arias & Pape, 1999; Marshall, 1999; Sackett & Saunders, 1999). Research also shows that cognitive difficulties can occur as a result of chronic stress, threats, fear, and mental health problems that can impair decision making, cognitive appraisals of threats and responses to threats, and the ability to maintain separation (Logan, Walker, Jordan, & Campbell, 2004). Finally, women with victimization histories may be socially isolated because of the violence or because of embarrassment and stigma that may be a significant barrier in help seeking and adjustment (Logan, Walker, Jordan, & Campbell, 2004).

Gaps in the literature. Understanding there are risks for women separating from partners who are violent beyond lethality and injury is an important step in furthering research and interventions for intimate partner violence victims. However, there are several gaps in the literature that need to be addressed with research to facilitate interventions. First, the literature on separation for women has been developed in isolation from the victimization lit-

erature; while at the same time, the victimization literature has paid little attention to the separation literature. Often, separation is seen as so-called the answer to ending the violence and/or as a normal transition. However, interventions cannot be developed without a more clear understanding of this important and risky transition time for women separating in the context of victimization. Second, more information is needed to understand the contextual differences within which separation experiences occur. For example, examining separation in the context of victimization and how cultural norms may influence the separation process is important. In addition, understanding differences among women separating from cohabitant partners who are violent and violent marital partners may be important in understanding the separation process. Moreover, understanding how community resources may hinder or facilitate separation in the context of victimization and individual outcomes is critical. Finally, theoretical models are greatly needed to guide future research as well as interventions. However, it is critical that these models include contextual and individual factors as well as allow for a range of individual responses to both separation and victimization experiences (Logan & Walker, 2004).

CONCLUSION

Although separation is a commonly experienced life transition, it is generally a stressful life event and is associated with negative mental health and health problems for women regardless of victimization history. The research clearly suggests that separation is a risk factor for lethal violence and injury; however, separation for women leaving partners who are violent poses many risks beyond lethality and injury that should be considered in research and interventions. The full spectrum of risks cannot be addressed without expanding the knowledge base regarding separation in the context of victimization. Understanding the dimensions and critical issues women face when separating from an ex-partner who is violent could make a substantial difference in their individual adjustment and potentially to societal cost over time.

REFERENCES

Amato, P. (2000). The consequences of divorce for adults and children. *Journal of Marriage and the Family*, *62*, 1269-1287.

Amato, P., & Rogers, S. (1997). A longitudinal study of marital problems and subsequent divorce. *Journal of Marriage and the Family*, *59*, 612-624.

Anderson, D., & Saunders, D. (2003). Leaving an abusive partner: An empirical review of predictors, the process of leaving, and psychological well-being. *Trauma, Violence, & Abuse*, *4*(2), 163-191.

Anderson, D., Saunders, D., Yoshihama, M., Bybee, D., & Sullivan, C. (2003). Long-term trends in depression among women separated from abusive partners. *Violence Against Women*, *9*(7), 807-838.

Arias, I., & Pape, K. (1999). Psychological abuse: Implications for adjustment and commitment to leave violence partners. *Violence and Victims*, *14*(1), 55-67.

Bradbury, T., & Lawrence, E. (1999). Physical aggression and the longitudinal course of newlywed marriage. In X. Arriaga & S. Oskamp (Eds.), *Violence in intimate relationships* (pp. 181-202). Thousand Oaks, CA: Sage.

Buchanan, C., & Heiges, K. (2001). When conflict continues after the marriage ends: Effects of postdivorce conflict on children. In J. Grych & F. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and applications* (pp. 337-362). New York: Cambridge University Press.

Bumpass, L., Sweet, J., & Castro Martin, T. (1990). Changing patterns of remarriage. *Journal of Marriage and the Family*, *52*, 747-756.

Campbell, J. (1995). Prediction of homicide of and by battered women. In J. Campbell (Ed.), *Assessing the risk of dangerousness: Potential for further violence of sexual offenders, batterers, and child abusers* (pp. 93-113). Thousand Oaks, CA: Sage.

Campbell, J., Rose, L., Kub, J., & Nedd, D. (1998). Voices of strength and resistance: A contextual and longitudinal analysis of women's responses to battering. *Journal of Interpersonal Violence*, *13*, 743-761.

Campbell, J., Webster, D., Koziol-McLain, J., Block, C., Campbell, D., Curry, M., et al. (2003). Risk factors for femicide in abusive relationships: Results from a multi-site case control study. *American Journal of Public Health*, *93*(7), 1089-1097.

Campbell, J., Woods, A., Chouaf, K., & Parker, B. (2000). Reproductive health consequences of partner violence: A nursing research review. *Clinical Nursing Research*, *9*(3), 217-237.

Campbell, R., Sullivan, C., & Davidson, W. (1995). Women who use domestic violence shelters: Changes in depression over time. *Psychology of Women Quarterly*, *19*(2), 237-255.

Cherlin, A. (1992). *Marriage, divorce, remarriage: Social trends in the United States*. Cambridge, MA: Harvard University Press.

Dutton, M., Haywood, Y., & El-Bayoumi, G. (1997). Impact of violence on women's health. In S. Gallant, G. Puryear Keita, & R. Royak-Schaler (Eds.), *Health care for women: Psychological, social, and behavioral influences* (pp. 41-56). Washington, DC: American Psychological Association.

Eby, K., Campbell, J., Sullivan, C., & Davidson, W. (1995). Health effects of experiences of sexual violence for women with abusive partners. *Health Care for Women International*, *16*, 563-576.

Fields, J., & Casper, L. (2001). *America's families and living arrangements: March 2000* (Current Population Reports, P20-537). Washington, DC: U.S. Census Bureau.

Follingstad, D., Rutledge, B., Berg, E., Hause, E., & Polek, D. (1990). The role of emotional abuse in physically abusive relationships. *Journal of Family Violence*, *5*(2), 107-120.

Golding, J. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, *14*(2), 99-132.

Henderson, A. (1990). Children of abused wives: Their influence on their mothers' decisions. *Canada's Mental Health Journal*, *38*(2/3), 10-13.

Hilton, N. (1992). Battered women's concerns about their children witnessing wife assault. *Journal of Interpersonal Violence*, *7*(1), 77-86.

Holtzworth-Munroe, A., Smultzler, N., & Sandin, E. (1997). A brief review of the research on husband violence. *Aggression and Violent Behavior*, *2*(2), 179-213.

Hope, S., Rodgers, B., & Power, C. (1999). Marital status transitions and psychological distress: Longitudinal evidence from a national population sample. *Psychological Medicine*, *29*, 381-389.

Hotton, T. (2001). Spousal violence after marital separation. *Juristat*, *21*, 1-19.

Jaffe, P., Lemon, N., & Poisson, S. (2003). *Child custody and domestic violence: A call for safety and accountability.* Thousand Oaks, CA: Sage.

Johnson, D., & Wu, J. (2002). An empirical test of crisis, social selection, and role explanations of the relationship between marital disruption and psychological distress: A pooled time-series analysis of four-wave panel data. *Journal of Marriage and Family*, *64*, 211-224.

Kaiser Family Foundation. (2003, April). *Women, work, and family health: A balancing act* (Issue Brief No. 3336). Washington, DC: Author.

Kilpatrick, D., Acierno, R., Resnick, H., Saunders, B., & Best, C. (1997). A 2-year longitudinal analysis of the relationship between violent assault and substance use in women. *Journal of Consulting and Clinical Psychology*, *65*(5), 834-847.

Kreider, R., & Fields, J. (2002). *Number, timing, and duration of marriages and divorces: 1996* (Current Population Reports, P70-80). Washington, DC: U.S. Census Bureau.

Kurz, D. (1996). Separation, divorce, and woman abuse. *Violence Against Women*, *2*(1), 63-81.

Ladd, L., & Zvonkovic, A. (1995). Single mothers with custody following divorce. *Marriage and Family Review*, *20*, 189-211.

Logan, T., Evans, L., Stevenson, E., & Jordan, C. (in press). Barriers to services for rural and urban rape survivors. *Journal of Interpersonal Violence*.

Logan, T., Shannon, L., & Walker, R. (in press). Protective orders process and barriers in rural and urban areas: A multiperspective study. *Violence Against Women*.

Logan, T., Stevenson, E., Evans, L., & Leukefeld, C. (2004). Rural and urban women's perceptions of barriers to health, mental health, and criminal justice services: Implications for victims services. *Violence and Victims*, *19*(1), 37-62.

Logan, T., & Walker, R. (2004). *A model of context-dependant stress and coping among partner violence victims*. Manuscript in preparation.

Logan, T., Walker, R., Cole, J., & Leukefeld, C. (2002). Victimization and substance use among women: Contributing factors, interventions, and implications. *Review of General Psychology*, *6*(4), 325-397.

Logan, T., Walker, R., Horvath, L., & Leukefeld, C. (2003). Divorce, custody, and spousal violence: A random sample of docket records in a circuit court. *Journal of Family Violence*, *18*(5), 269-279.

Logan, T., Walker, R., Jordan, C., & Campbell, J. (2004). An integrative review of separation and victimization among women: Consequences and implications. *Violence, Trauma, & Abuse*, *5*(2), 143-193.

Logan, T., Walker, R., Jordan, C., & Horvath, L. (2002). Child custody evaluations and domestic violence: Case comparisons. *Violence and Victims*, *17*(6), 719-742.

Logan, T., Walker, R., Jordan, C., & Leukefeld, C. (2004). *Adult interpersonal victimization, mental health, and substance use among women: Contributing factors, treatment, and implications*. Washington, DC: American Psychological Association.

Marks, N. (1996). Flying solo at midlife: Gender, marital status, and psychological well-being. *Journal of Marriage and the Family*, *58*, 917-932.

Marshall, L. (1999). Effects of men's subtle and overt psychological abuse on low-income women. *Violence and Victims*, *11*(1), 69-88.

McCloskey, L. (2001). The "Medea complex" among men: The instrumental abuse of children to injure wives. *Violence and Victims*, *16*(1), 19-37.

McCloskey, L., Figueredo, A., & Koss, M. (1995). The effects of systemic family violence on children's mental health. *Child Development*, *66*, 1239-1261.

McFarlane, J., Campbell, J., Wilt, S., Sachs, C., Ulrich, Y., & Xu, X. (1999). Stalking and intimate partner femicide. *Homicide Studies*, *3*(4), 300-316.

McKeever, M., & Wolfinger, N. (2001). Reexamining the economic costs of marital disruption for women. *Social Science Quarterly*, *82*(1), 202-217.

Mechanic, M., Uhlmansiek, M., Weaver, T., & Resnick, P. (2002). The impact of severe stalking experienced by acutely battered women: An examination of violence, psychological symptoms and strategic responding. In K. Davis, I. Frieze, & R. Maiuro (Eds.), *Stalking: Perspectives on victims and perpetrators* (pp. 89-160). New York: Springer.

Mechanic, M., Weaver, T., & Resick, P. (2000). Intimate partner violence and stalking behavior: Exploration of patterns and correlates in a sample of acutely battered women. *Violence and Victims*, *15*(1), 55-72.

Mertin, P., & Mohr, P. (2001). A follow-up study of posttraumatic stress disorder, anxiety, and depression in Australian victims of domestic violence. *Violence and Victims*, *16*(6), 645-654.

O'Connor, T., Hawkins, N., Dunn, J., Thorpe, K., & Golding, J. (1998). Family type and depression in pregnancy: Factors mediating risk in a community sample. *Journal of Marriage and the Family*, *60*, 757-770.

Resnick, H., Acierno, R., & Kilpatrick, D. (1997). Health impact of interpersonal violence 2: Medical and mental health outcomes. *Behavioral Medicine*, *23*, 65-78.

Richardson, J., Coid, J., Petruckevitch, A., Chung, W., Moorey, S., & Feder, G. (2002). Identifying domestic violence: Cross sectional study in primary care. *British Medical Journal*, *324*, 1-6.

Ross, C. (1995). Reconceptualizing marital status as a continuum of social attachment. *Journal of Marriage and the Family*, *57*(1), 129-134.

Ross, S. (1996). Risk of physical abuse to children of spouse abusing parents. *Child Abuse and Neglect*, *20*(7), 589-598.

Sackett, L., & Saunders, D. (1999). The impact of different forms of psychological abuse on battered women. *Violence and Victims*, *14*(1), 105-117.

Smock, P., & Manning, W. (1997). Cohabitating partners' economic circumstances and marriage. *Demography*, *34*(3), 331-341.

Sorensen, E., & Zibman, C. (2000). *Child support offers some protection against poverty* (Assessing the new federalism, Series B, No. B-10). New York: Urban Institute. Available at www.urban.org

Swanberg, J., & Logan, T. (in press). Domestic violence and employment: A qualitative study of rural and urban women. *Journal of Occupation Health Psychology.*

Testa, M., & Leonard, K. (2001). The impact of marital aggression on women's psychological and marital functioning in a newlywed sample. *Journal of Family Violence*, *16*(2), 115-130.

Tjaden, P., & Thoennes, N. (2000). *Extent, nature, and consequences of intimate partner violence* (NCJ 181867). Washington, DC: National Institute of Justice.

U.S. Department of Justice. (1997). *Sex differences in violent victimization, 1994* (Bureau of Justice Statistics Special Report NCJ 164508). Washington, DC: Bureau of Justice Statistics, Office of Justice Programs.

U.S. Department of Justice. (2000). *Criminal victimization in the United States, 1995: A National Crime Victimization Survey report* (NCJ 171129). Washington, DC: Bureau of Justice Statistics, Office of Justice Programs.

Weaver, T., & Clum, G. (1995). Psychological distress associated with interpersonal violence: A meta-analysis. *Clinical Psychology Review*, *15*(2), 115-140.

Wilt, S., & Olson, S. (1996). Prevalence of domestic violence in the United States. *Journal of the American Medical Women's Association*, *51*(3), 77-82.

Wu, Z., & Balakrishman, T. (1995). Dissolution of premarital cohabitation in Canada. *Demography*, *32*(4), 521-532.

Wuest, J., Ford-Gilboe, M., Merritt-Gray, M., & Berman, H. (2003). Intrusion: The central problem for family health promotion among children and single mothers after leaving an abusive partner. *Qualitative Health Research*, *13*(5), 597-622.

TK Logan, Ph.D., is currently an associate professor at the University of Kentucky with appointments in the Department of Behavioral Science and the Center on Drug and Alcohol Research. She has been funded by the National Institute on Drug Abuse (NIDA) to examine HIV risk behavior, victimization, and drug use among crack users and by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) to study alcohol, violence, mental health, and health status and utilization among rural and urban women with protective orders. She has completed studies in the area of intimate partner violence and divorce, intimate partner violence and custody, stalking victimization and perpetration, domestic violence assault perpetration, HIV risk behavior, and differences in health, mental health, service utilization, and barriers to services for rural and urban women.

Robert Walker, M.S.W., L.C.S.W., is an assistant professor at the University of Kentucky Department of Psychiatry and the Center on Drug and Alcohol Research. He also has conjoint appointments in the College of Social Work at the University of Kentucky and the Department of Behavioral Science at the University of Kentucky. He was the center director of the Bluegrass East Comprehensive Care Center in Lexington, Kentucky, for 20 years. He is the project director of Kentucky's substance abuse treatment outcome study and is a primary investigator on a Center for Substance Abuse Treatment–funded (CSAT) project and a state data infrastructure project. He is a co-investigator on an NIAAA study of alcohol use and health among domestic violence victims. He serves as a member of the Kentucky Traumatic Brain Injury Trust Fund and the Governor's Council on Domestic Violence and Sexual Assault in Kentucky. He has published in the areas of substance abuse and domestic violence.

Published in final edited form as:
Ann Epidemiol. 2012 April ; 22(4): 277–284. doi:10.1016/j.annepidem.2012.02.009.

Workplace Homicides Among U.S. Women: The Role of Intimate Partner Violence

Hope M. Tiesman, PhD, **Kelly K. Gurka, PhD**, **Srinivas Konda, MPH**, **Jeffrey H. Coben, MD**, and **Harlan E. Amandus, PhD**
National Institute for Occupational Safety and Health, Division of Safety Research, Analysis and Field Evaluations Branch (H.M.T., S.K., H.E.A.); West Virginia University, Department of Community Medicine and Injury Control Research Center (K.K.G.); and West Virginia University, Injury Control Research Center (J.H.C.), Morgantown, West Virginia

Abstract

PURPOSE—Intimate partner violence (IPV) is an important public health issue with serious consequences for the workplace. Workplace homicides occurring to U.S. women over a 6-year period, including those perpetrated by an intimate partner, are described.

METHODS—Workplace homicides among U.S. women from 2003 to 2008 were categorized into type I (criminal intent), type II (customer/client), type III (co-worker), or type IV (personal relations) events using the Census of Fatal Occupational Injuries. Fatality rates were calculated and compared among workplace violence (WPV) types, occupations, and characteristics including location of homicide, type of workplace, time of day, and weapon used.

RESULTS—Between 2003 and 2008, 648 women were feloniously killed on the job. The leading cause of workplace homicide for U.S. women was criminal intent, such as robbing a store (n = 212; 39%), followed by homicides perpetrated by a personal relation (n= 181; 33%). The majority of these personal relations were intimate partners (n = 142; 78%). Over half of workplace homicides perpetrated by intimate partners occurred in parking lots and public buildings (n = 91; 51%).

CONCLUSIONS—A large percentage of homicides occurring to women at work are perpetrated by intimate partners. WPV prevention programs should incorporate strategies to prevent and respond to IPV.

Keywords

Homicide; Workplace; Women; Domestic violence

INTRODUCTION

In the United States, workplace injury fatalities have decreased 27% since 1992 with the greatest declines observed for workplace homicides (1). In 2010, 506 homicides occurred in

Address correspondence to: Hope M. Tiesman, PhD, NIOSH, Division of Safety Research, 1095 Willowdale Road, M/S 1811, Morgantown, WV 26506. Tel.: 304-285-6067; Fax: (304) 285-6235. htiesman@cdc.gov.

U.S. workplaces, representing the lowest total ever recorded by the census (2). Despite these declines, in 2010, workplace homicides among women were up 13% and homicide remains a leading cause of occupational injury death for U.S. women (2). In an effort to better understand workplace violence (WPV), researchers have divided WPV events into four categories, based on the relationship of the perpetrator with the employee: Type I (criminal intent), type II (customer/client), type III (co-worker), and type IV (personal relations) (3–5). Although some of the early WPV studies found the type IV events were not common in the workplace, many of these studies did not analyze workplace typology across gender; therefore, the results were heavily weighted toward men's experiences with WPV (6–8). The few studies that performed gender-specific analyses focusing on the perpetrators of workplace homicides found that women were significantly more likely to be killed on the job by intimate partners than men; however, these published reports are limited to individual states or cities (9, 10). The role that intimate partners play in the fatal WPV experience of women is relatively unknown.

Over one third of U.S women (35.6%) have experienced rape, physical violence, and/or stalking by an intimate partner in their lifetime (11). Intimate partner violence (IPV) can follow women into the workplace, resulting in serious consequences not only for the victim, but for her co-workers as well. Each year, an estimated 13,000 acts of violence are committed by intimate partners against women while at work (12). The vast majority of women who experience IPV-related violence on the job have increased absenteeism and reduced work productivity (13). In an average year, employees experiencing IPV lose more than 8 million workdays and approximately $18 million in annual earnings owing to job loss or absenteeism (14).

To the best of our knowledge, no national published report examines the typology of workplace homicides among U.S. women. Furthermore, a national analysis of workplace homicides among U.S. women has not been reported in more than 20 years (15). To address the need for more comprehensive data on the epidemiology of workplace homicides among women, an analysis using six years of data from the Census of Fatal Occupational Injuries (CFOI) was conducted. The primary purpose of this was to categorize workplace homicides occurring to U.S. women into the four types of WPV using perpetrator data obtained from the narrative text fields. In this paper, the characteristics of these homicides, including those perpetrated by an intimate partner at the victim's workplace, are described.

METHODS

Data Sources

Workplace homicides among U.S. women from 2003 through 2008 were examined using the CFOI. Data from 2003 to 2008 were selected for this analysis to utilize the most recently available data while using a consistent set of occupation categories. CFOI considers 2003 to be a break in series for the coding of occupation because the classification system changed in 2003. The CFOI is maintained by the Bureau of Labor Statistics (BLS) and is the most comprehensive and timely source of U.S workplace injury death data. The BLS defines fatal work-related injury as those fatalities occurring to noninstitutionalized persons who were working at the time of the incident, and on the premises of their employer or other places

while on the job. The BLS identifies and compiles all U.S. fatal work-related injuries using multiple administrative documents including death certificates, workers' compensation reports, medical examiner reports, Occupational Safety and Health Administration investigation reports, and police reports. Two or more source documents are required to confirm that a fatality was work related. The CFOI includes data on fatal work injuries from all 50 states and the District of Columbia. The data used in this analysis originated from restricted access research files under a memorandum of agreement between BLS and the National Institute for Occupational Safety and Health.

Denominator data for the calculation of fatality rates was obtained from the BLS's Current Population Survey. The Current Population Survey is a monthly household survey of approximately 50,000 civilian, noninstitutionalized residents that provides information on their employment, occupation, industry, and a variety of other work-related characteristics (16). The Current Population Survey includes wage and salary workers, the self-employed, part-time workers, and unpaid workers in family-oriented enterprises such as farms (16). The number of annual female workers was extracted from this database.

Variables

Workplace homicides were identified using the Occupational Injury and Illness Classification System codes (17). This classification system, developed by the BLS, provides detailed codes for the nature of injury, body part affected, source of injury, and injury event or exposure (17). For this study, the following event codes were used to define workplace homicide: 6000, assaults and violent acts, unspecified; 6100, assaults and violent acts by person, unspecified; 6120, hitting, kicking, beating; 6130, shooting; 6150, stabbing; and 6190, assaults and violent acts by persons, not else-where classified. Homicides were then further categorized into the four types of WPV using information derived from the CFOI narrative text by two independent coders using a systematic methodology (3):

- Type I (criminal intent): The perpetrator had no legitimate relationship with the employee or the business and was committing a crime, such as robbery or trespassing, in conjunction with the homicide.
- Type II (customer/client): The perpetrator had a legitimate relationship with the employee or business and became violent while using the services of the business. Perpetrators can include customers, clients, patients, students, and inmates.
- Type III (co-worker): The perpetrator was a current or former employee of the business.
- Type IV (personal relations): The perpetrator had a personal relationship with an employee (includes domestic violence occurring in the workplace).

If the coders disagreed on the categorization of a homicide, circumstances of the fatality were described to the co-authors and a group decision was made. Because the WPV categories are not necessarily mutually exclusive, several specific coding rules were developed. Homicides perpetrated by co-workers who were also a relative or intimate partner of the decedent were categorized as type III (co-worker). Homicides perpetrated by a person hired by an intimate partner (a "hitman") were considered type IV events (personal

relations). All homicides perpetrated by an intimate partner were further coded into current spouse, ex-spouse, other current intimate partner, or other ex-intimate partner using the narrative text variables. After categorization was complete, all homicides were manually examined for accuracy using the narrative text fields for a final quality control step. Six-hundred forty-eight workplace homicides occurred to U.S. women between 2003 and 2008 and there were sufficient details in the narrative text to categorize 84% of these homicides (n = 544).* WPV type could not be determined for 104 homicides (16%).

Major occupational groups were defined using the 2000 Standard Occupational Classification system. This system classifies occupations based on work performed, skills, education, training, and credentials. All occupations are clustered into 1 of 23 major groups (18).

Statistical Analysis

Workplace homicide rates were calculated as the total number of workplace homicides among U.S. women during this period divided by the estimated number of working women during this period and expressed as the number of fatalities per million workers. Fatality rates were calculated and compared between the four types of WPV and major Standard Occupational Classification occupations. Socio-demographics of the decedent (age, race, and ethnicity) and workplace characteristics (government status) were also compared with rate ratios (RRs) and 95% confidence intervals (CI). Differences between characteristics and WPV typology were compared with the Pearson Chi-Square statistic and exact procedures where appropriate. All *P* values were adjusted for multiple comparisons using the Bonferroni correction and adjustment procedure from 0.05 to 0.007. Analyses were performed with SAS, version 9.2 (SAS Institute, Cary, NC, 2008).

RESULTS

Between 2003 and 2008, 648 workplace homicides occurred among U.S. women, resulting in an overall fatality rate of 1.63 per 1,000,000 workers (Table 1). There were sufficient details in the narrative text to categorize 84% of these homicides (n = 544; Table 1). Of these homicides, 39% were type I events (n = 212), 33% were type IV (n = 181), 14% were type III (n = 77), and 14% were type II (n = 74). Of the type IV homicides, nearly 80% were perpetrated by an intimate partner (n = 142). Of the 142 IPV-related workplace homicides, 57% (n = 81) were perpetrated by a current or former spouse and 43% (n = 61) by an unmarried current or former intimate partner (data not shown).

There were no differences in homicide rates among age categories with respect to overall workplace homicide; however, significant differences in the proportion of homicides between age categories and the types of WPV were found ($p < .0001$; Table 2). For women between the ages of 25 and 34 and 35 and 44, type IV homicides were the most frequent (43% and 44%, respectively); however, for women between the ages of 45and 54 and those

*The CFOI narrative is an unpublished text field used by BLS to verify coded data fields; narratives are only available with access to the CFOI research file. Because this is not a published field, presented numbers cannot be replicated by BLS and should not be considered official BLS statistics.

older than 55 years of age, type IV homicides were the most frequent (45% and 60%, respectively; $p < .0001$). Non-white women had significantly higher overall workplace homicide rates than white women (RR = 1.7; 95% CI, 1.4–2.0), but there were no differences across the types of WPV ($p = .063$). Hispanic women also had significantly higher workplace homicide rates than non-Hispanic women (RR = 1.7; 95% CI, 1.4–2.0) and there were no differences across the types of WPV ($p = .045$).

Workplace homicide rates among women were significantly higher in private than in federal, state, or local workplaces (RR = 1.8; 95% CI, 1.4–2.3). A significantly greater proportion of type I and IV workplace homicides were found in private workplaces than in federal, state, or local workplaces ($p < .0001$). Firearms were used in 67% of the workplace homicide, overall (n = 434), followed by knives or other sharp objects (n = 114 [18%]; data not shown). The remaining homicides were owing to strangulation, blunt force trauma, or fire (n = 99 [15%]). A significantly larger percentage of type IV homicides were caused by firearms (n = 143 [80%]), whereas, more than half of type II homicides were because of stabbing, strangulation, blunt force trauma, or fire (n = 42 [56%]; $p < .0001$).

Figure 1 displays the rate of workplace homicides and the proportion of WPV types by occupation. Among those occupations with 20 or more homicides in the 6-year period, women in protective services had the highest workplace homicide rate and those in sales had the second highest rate (8.0 and 3.9 per 1,000,000, respectively; Figure 1). Although these occupations had the highest workplace homicide rates, they also had the lowest percentage of type IV events (16%). Nearly 50%of workplace homicides among women in healthcare and production occupations were perpetrated by a personal relation (46% and 52%, respectively).

The homicides took place in a variety of workplace settings (Table 3). The most frequent locations were retail business establishments including restaurants, cafes, convenience stores, hotels, and motels (n = 135 [25%]), followed by commercial stores (n = 103 [19%]) and parking lots/garages (n = 74 [14%]). The location of the workplace homicide differed among the types of WPV ($p < .0001$). The most frequent locations for type I and type III homicides were retail establishments (n = 73 [34%] and n = 23 [30%], respectively) and “home” for type II homicides (n = 25 [34%]). Over 60% of the workplace homicides that occurred at home were to home healthcare aides or real estate professionals. The largest percentage of type IV homicides occurred in parking lots/garages and public buildings (n = 48 [27%] and n = 43 [24%], respectively). There were also significant differences in the time of the workplace homicides among the types of WPV (data not shown; $p = .0016$). Although a large proportion of the type I and III homicides occurred in the evening and late night hours (from 4 PM and midnight; n = 79 [37%] and n = 23 [30%], respectively), most of the type II and IV homicides occurred during normal business hours (8:00 AM to 4 PM; n = 30 [41%] and n = 97 [54%]).

DISCUSSION

This research provides a national description of workplace homicides among U.S. women spanning a 6-year period. Despite the fact that homicide is the leading cause of occupational

injury death for U.S. women, very little research has focused on describing WPV among women. Additionally, IPV is rarely acknowledged as an element of WPV. Although 39% of women killed in the U.S. workplace were killed during a type I event such as a robbery, theft, or other criminal activity, type IV WPV homicides followed closely behind. Thirty-three percent of women killed in U.S. workplaces were killed by a known personal relation, of whom the majority were intimate partners. More U.S. women died on the job as the result of domestic violence than at the hands of a client such as a student, patient, or prisoner or by a current or former co-worker.

Women are murdered by someone they know 12 times as often as by a stranger (19). Based on the current study, these trends carry over into the workplace as well; a greater proportion of female workers are killed by someone they know personally than are male victims of workplace homicide (20, 21). Our findings also correspond with state- and city-based occupational homicide studies. An analysis of work-related homicides in North Carolina between 1977 and 1991 found that 75% of female homicide victims were killed by a current or former intimate partner (9). An examination of workplace homicides in Chicago also demonstrated an elevated risk of IPV-related homicide for women in the workplace—40% of the workplace homicides occurring to women over a 25-year period were perpetrated by an intimate partner (10). The last national analysis of work-related homicides among U.S. women did not describe the characteristics of the perpetrator, so to the best of our knowledge, this is the first such report (15).

Although our results coincide with other data on fatal work-related IPV, there were differences between our findings and the most recent data on nonfatal, work-related IPV. Using 4 years of data from the National Crime Victimization Survey, Harrell (22) found that fewer than 2% of nonfatal WPV among women was committed by an intimate partner. There are two potential explanations for the discrepancy. First, the nonfatal, work-related IPV data in the Harrell (22) 2011 report should be interpreted with caution because it is based on fewer than 10 cases. Second, when respondents answer IPV questions within the context of crime victimization, such as in the National Crime Victimization Survey, there is a potential for undercounting events (23). When respondents are asked about IPV in a more behaviorally oriented manner, such as with the National Violence against Women Survey, they report higher incidences (23).

A finding of interest from this study was that Hispanic women had significantly higher work-related IPV fatality rates, even though studies have consistently show that IPV rates among Hispanics are similar or lower than rates for non-Hispanic whites (24). Our results do, however, coincide with data that demonstrates a higher work-related injury and assault risk among Hispanics compared with non-Hispanic whites (25, 26). Because workplace injury and assault risk are associated with factors correlated with race and ethnicity such as occupation, work schedule, union representation, health insurance, and job hours, disentangling these relationships can be problematic (27). To the best of our knowledge, no study has specifically examined racial or ethnic differences in WPV, controlling for these potential confounders. Further research is needed to evaluate possible reasons for the discrepancy between overall IPV rates and work-related IPV among Hispanics.

Important risk factors associated with work-related IPV were identified, including occupation, time of day, and location of these homicides, that may afford opportunities for intervention development and policy modifications. Among occupational groups, although women in protective service and sales occupations had the highest overall workplace homicide rate, a smaller percentage of these homicides were perpetrated by intimate partners, likely because of their high percentage of type I events. Occupations with the largest percentage of type IV workplace homicides were "Production," "Healthcare," "Office and administrative support," and "Personal care and service." There are two possible explanations for these findings. First, other types of homicide, such as type I, are less prominent in these occupations because these jobs are not associated with known workplace homicide risk factors such as the exchange of money, contact with customers, and delivery of services (28, 29). Second, women employed in these occupations may work in locations where access into the business or workplace is poorly secured, such as hospitals, public office buildings, beauty salons, and factories. These types of workplaces may be the easiest locations in which a perpetrator can access his intimate partner (9).

Women were at an increased risk for type IV WPV events while walking to and from work in parking lots and garages and while in public buildings. This coincides with the results from a study on work-related fatal injuries in parking lots that demonstrated that 22% of women killed in parking lots at work, were killed by an intimate partner (30). These results point to simple prevention measures that employers could support to protect victims of IPV. For example, maintenance of adequate lighting in the parking lot, perimeter control, line of sight, separation of employee parking from the general public, and hiring security guards are recommended (30). Our findings may also reflect specific work disruption techniques reported in the literature (31). Galvez and colleagues (31) performed focus groups of immigrant and Mexico-origin Latino men enrolled in batterer intervention programs to study specific work-related IPV tactics (31). Several new IPV tactics emerged from these focus groups, including restricting their partner's use of automobiles and denying access to a driver's license (31). These findings may be applicable to other races and ethnicities and help to explain the high prevalence of work-related IPVs in parking lots and garages.

More than half of the IPV-related workplace homicides occurred during the day. Although this finding may be a reflection of the normal work hours of the highest risk occupations, it is important to note that the majority of these homicides occurred during normal daytime operating hours. Historically, the highest risk time for the occurrence of a workplace homicide, especially those of a criminal nature, has been nighttime (32). Some of the most effective safety measures for the prevention of workplace homicides entail robbery prevention programs aimed at protecting solo and late-night workers (33). Currently, there is little empirical evidence to guide workplace interventions and safety measures regarding domestic violence (34).

Even though employers are aware of the impact that IPV places on their workplaces, they are often hesitant to address these issues. A survey of 100 senior executives from Fortune 1000 companies showed that 91% believed that domestic violence affected the working lives of their employees and 68% believed their company's financial performance would improve if domestic violence were addressed (35). However, very few U.S. workplaces

consider domestic violence a part of WPV prevention. A national survey of WPV prevention policies found that while 44% of U.S. workplaces address domestic violence in their WPV programs, only 4% provide training on preventing domestic violence (36). These percentages are even more striking among the high-risk industries such as healthcare. Among California health and hospice agencies, although more than half had any type of formal WPV prevention program in place, only 8% had measures to protect workers from domestic violence occurring on the job (37).

IPV in the workplace remains a complex issue for both employees and employers. Instituting policies that permit women to freely discuss matters of IPV would be advantageous. If employees were to divulge IPV to workplace management and provide information when stalking or estrangement occurs, interventions could be utilized to protect the employee and the organization from intimate partner homicide. However, mandating reporting of IPV is complicated. Despite documentation of positive outcomes resulting from violence disclosure to someone at work, many barriers exist including victim's fears of retaliation by the employer (e.g., dismissal) and a lack of training on the part of most workplace management for dealing with IPV (38, 39). The context of each individual situation also needs to be considered; for some women, disclosing IPV to their supervisor may increase her risk of imminent danger. Employers have identified best practice areas that make IPV-related workplace programs effective; however, these have never been scientifically evaluated (40). These include: "Lead from the top," "Set and enforce policies," "Train," "Offer real-life answers," "Make safety and security vital issues," "Wrestle with tough issues," "Communicate creatively," "Integrate education," "Create a supportive culture," and "Reach out" (40).

Recent research also highlights that the type of supervisor support desired by battered women in the workplace is dependent on the stage of behavior change the woman is in. Perrin et al (41) interviewed 133 women who had been physically or sexually abused by an intimate partner in the past year. Cluster analyses revealed three distinct clusters in that reflected the different stage of behavior change in an abusive relationship (41). Generally, women desired more support from supervisors as they moved from the precontemplation stage, to the transition stage, and finally breaking away from the abusive partner (41).

Another possible role that workplaces could play in the prevention of IPV is through the use of Employee Assistance Programs (EAPs). EAPs are a leading resource to confidentially assist employees with a variety of personal problems that impact their work performance. EAPs have been found effective in promoting good mental health, reducing at-risk drinking, and reducing drug use (42–44). However, a recent literature review only found nine articles discussing the role of EAPs in addressing IPV and the vast majority of these articles were descriptive (45). To date, the role of EAPs in reducing and preventing IPV remains an uncertain resource.

There is an important limitation to these data. Although the use of the narrative text field in occupational injury work is an important methodologic technique, it is highly dependent on the quality of the data (46). In this study, the narrative text fields were used to categorize workplace homicide typology. Although 84% of the homicides over the 6-year period were

assigned a typology, there were 104 cases (16%) that could not be categorized owing to the limited information regarding the circumstances of the homicide. The effect of these unknown homicides on the proportions presented in this analysis is unknown; however, a recent BLS data compilation demonstrates that, over a 13-year period, 24% of workplace homicides among women were perpetrated by a relative or personal acquaintance (47). The BLS has access to specific details for each homicide and while their methodology for defining perpetrator status may differ from the one used in this study, this proportion (24%) is similar to our finding (33%) (47).

Domestic violence can spill over into the workplace and our findings indicate that women are killed on the job by intimate partners nearly as frequently as they are killed by strangers. Women are killed by their intimate partners while at work far in excess of women killed by clients and co-workers, which are more commonly dealt with in WPV prevention policies and programs. This analysis is an early step to the identification of circumstances and risk factors for IPV events in the workplace and points to a variety of opportunities for prevention. Given that many IPV victims are employed and spend a great deal of time at work, the workplace is an important area for intervention and protection. Reducing the prevalence of IPV remains a public health priority; however, how to best protect IPV victims while in the workplace remains unclear. Thus, research should be undertaken to better understand the segue between IPV and the victim's work such that effective interventions can be developed to assist both employees and employers on how to deal with the threat of intimate partner homicide and its consequences to not only the victim, but also her work organization.

Selected Abbreviations and Acronyms

BLS	Bureau of Labor Statistics
CFOI	Census of Fatal Occupational Injuries
CI	confidence interval
EAP	Employee Assistance Program
IPV	intimate partner violence
RR	rate ratios
WPV	workplace violence

REFERENCES

1. U.S. Bureau of Labor Statistics, U.S. Department of Labor. [November 14, 2011] 2010 Census of Fatal Occupational Injuries (preliminary data). 2011. Available at: http://www.bls.gov/iif/oshcfoi1.htm#2010.
2. U.S. Bureau of Labor Statistics, U.S. Department of Labor. [November 14, 2011] Census of Fatal Occupational Injuries Summary, 2010. 2011. Available at: http://www.bls.gov/news.release/cfoi.nr0.htm.
3. Injury Prevention Research Center (IPRC). Workplace violence: A report to the nation. Iowa City: University of Iowa; 2001.

4. Howard J. State and local regulatory approaches to preventing workplace violence. Occup Med. 1996; 11:293–301. [PubMed: 8936258]
5. Peek-Asa C, Howard J, Vargas L, Kraus JF. Incidence of on-fatal workplace assault injuries determined from employer's reports in California. J Occup Environ Med. 1997; 39:44–50. [PubMed: 9029430]
6. Peek-Asa C, Erickson R, Kraus JF. Traumatic occupational fatalities in the retail industry, United States 1992–1996. Am J Ind Med. 1999; 35:186–191. [PubMed: 9894542]
7. Schaffer KB, Casteel C, Kraus JF. A case-site/control-site study of workplace violent injury. J Occup Environ Med. 2002; 44:1018–1026. [PubMed: 12448353]
8. Kraus JF, Blander B, McArthur DL. Incidence, risk factors, and prevention strategies for work-related assault injuries: a review of what is known, what needs to be known, and countermeasures for intervention. Annu Rev Public Health. 1995; 16:355–379. [PubMed: 7639877]
9. Moracco KE, Runyan CW, Loomis DP, et al. Killed on the clock: a population-based study of workplace homicide, 1977–1991. Am J Ind Med. 2000; 37:629–636. [PubMed: 10797506]
10. Beauchamp Hewitt J, Levin PF, Misner ST. Workplace homicides in Chicago: risk factors from 1965 to 1990. AAOHN J. 2002; 50:406–411. [PubMed: 12244579]
11. Black, MC.; Basile, KC.; Breiding, MJ.; Smith, SG., et al. The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 summary report. Atlanta, GA: National Center for Injury Prevention and Control; 2011.
12. Bachman, R. National Crime Victimization Survey: violence and theft in the workplace. Tulsa, OK: Bureau of Justice Statistics; 1994.
13. Associates, EDK., et al. The many faces of domestic violence and its impact on the workplace. New York: EDK Associates; 1997.
14. Corso PS, Mercy JA, Simon TR, Finkelstein EA, Miller TR. Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. Am J Prev Med. 2007; 32:474–482. [PubMed: 17533062]
15. Bell CA. Female homicides in United States workplaces, 1980–1985. Am J Public Health. 1991; 81:729–732. [PubMed: 2029041]
16. Bureau of Labor Statistics. [August 21, 2009] BLS handbook of methods. Labor force data received from the Current Population Survey. Available at: http://www.bls.gov/opub/hom/homch1_a.htm
17. Bureau of Labor Statistics. Occupational injury and illness classification manual. Washington, DC: U.S. Department of Labor; 1992.
18. Standard Occupational Classification Manual. Lanham, MD: Bernan Associates; 2000. Office of the President Office of Management and Budget.
19. Violence Policy Center. When men murder women: an analysis of 2008 homicide data. Available at: http://www.iansa-women.org/sites/default/files/newsviews/wmmw2010.pdf.
20. Hendricks SA, Jenkins EL, Anderson KR. Trends in workplace homicides in the U.S., 1993–2002: a decade of decline. Am J Ind Med. 2007; 50:316–325. [PubMed: 17370317]
21. Gurka K, Marshall S, Runyan C, Loomis D, Casteel C, Richardson D. Contrasting robbery- and non-robbery-related workplace homicide: North Carolina, 1994–2003. Am J Prev Med. 2009; 37:17–23. [PubMed: 19423270]
22. Harrell, E. Workplace violence, 1993–2009: National Crime Victimization Survey and the Census of Fatal Occupational Injuries. Washington, DC: Bureau of Justice Statistics; 2011. Available at www.bjs.gov/index.cfm%3fty%3dpbdetail%26iid%3d2377.
23. Tjaden, P.; Thoennes, N. Full Report of the prevalence, incidence and consequences of violence against women. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice; 2000.
24. Klevens J. An overview of intimate partner violence among Latinos. Violence Against Women. 2007; 13:111–122. [PubMed: 17251500]
25. Shannon CA, Rospenda KM, Richman JA, Minich LM. Race, Racial discrimination, and the risk of work-related illness, injury, or assault: findings from a national study. J Occup Environ Med. 2009; 51:441–448. [PubMed: 19339900]

26. Richardson DB, Loomis D, Bena J, Bailer JA. Fatal occupational injury rates in Southern and Non-Southern states, by race and Hispanic ethnicity. Am J Public Health. 2004; 94:1756–1761. [PubMed: 15451746]
27. Berdahl TA. Racial/ethnic and gender differences in individual workplace injury risk trajectories: 1988–1998. Am J Public Health. 2008; 98:2258–2263. [PubMed: 18235072]
28. LaMar W, Gerberich SG, Lohman W, et al. Work-related physical assault. J Occup Environ Med. 1998; 40:317–324. [PubMed: 9571522]
29. Amandus HE, Hendricks SA, Zahm D, Friedmann R, Block C, et al. Convenience store robberies in selected metropolitan areas. Risk factors for employee injury. J Occup Environ Med. 1997; 39:442–447. [PubMed: 9172089]
30. Fayard GM. Work-related fatal injuries in parking lots, 1993–2002. J Safety Res. 2008; 39:9–18. [PubMed: 18325411]
31. Galvez G, Mankowski ES, McGlade MS, Ruiz ME, Glass N. Work-related intimate partner violence among employed immigrants from Mexico. Psychol Men Masculin. 2011; 12:230–246.
32. Loomis D, Wolf SH, Runyan CW, Marshall SW, Butts JD. Homicide on the job: workplace and community determinants. Am J Epidemiol. 2001; 154:410–417. [PubMed: 11532782]
33. Loomis D, Marshall SW, Wolf SH, Runyan CW, Butts JD. Effectiveness of safety measures recommended for prevention of workplace homicide. JAMA. 2002; 287:1011–1017. [PubMed: 11866649]
34. Yragui NL, Mankowski ES, Perrin NA, Glass NE. Dimensions of support among abused women in the workplace. Am J Community Psychol. 2011; 49:31–42. [PubMed: 21431433]
35. Roper, ASW. Corporate leaders on domestic violence awareness of the problem: how it's affecting their business and what they're doing to address it. New York: Liz Claiborne, Inc; 2002.
36. Bureau of Labor Statistics (BLS). [May 12, 2011] Survey of workplace violence prevention. Available at: http://www.bls.gov/iif/osh_wpvs.htm.
37. University of North Carolina at Chapel Hill Injury Prevention Research Center. Summary Report to Participating Home Health and Hospice Agencies. Chapel Hill: Author; 2010. Violence against home and hospice workers.
38. Swanberg JE, Logan TK. Domestic violence and employment: a qualitative study. J Occup Health Psychol. 2005; 10:3–17. [PubMed: 15656717]
39. Swanberg JE, Logan T, Macke C. Intimate partner violence, employment, and the workplace: consequences and future directions. Trauma Violence Abuse. 2005; 6:286–312. [PubMed: 16217118]
40. Randel JA, Wells KK. Corporate approaches to reducing intimate partner violence through workplace initiatives. Occup Environ Med. 2003; 3:821–841.
41. Perrin NA, Yragui NL, Hanson GC, Glass N. Patterns of workplace supervisor support desired by abused women. J Interpers Violence. 2011; 26:2264–2284. [PubMed: 20889534]
42. Nakao M, Nishikitani M, Shima S, Yano E. A 2-year cohort study on the impact of an Employee Assistance Programme (EAP) on depression and suicidal thoughts in male Japanese workers. Int Arch Occup Environ Health. 2007; 81:151–157. [PubMed: 17492306]
43. Osilla KC, Zellmer SP, Larimer ME, Neighbors C, Marlatt GA. A brief intervention for at-risk drinking in an employee assistance program. J Stud Alcohol Drugs. 2008; 69:14–20. [PubMed: 18080060]
44. Reynolds G, Shawn MS, Lehman W. Levels of substance use and willingness to use the employee assistance program. J Behav Health Serv Res. 2003; 30:238–248. [PubMed: 12710376]
45. Pollack KM, Austin W, Grisso JA. Employee assistance programs: A workplace resource to address intimate partner violence. J Womens Health. 2010; 19:729–733.
46. McKenzia K, Scotta DA, Campbella MA, McClureb RJ. The use of narrative text for injury surveillance research: a systematic review. Accid Anal Prev. 2010; 42:354–363. [PubMed: 20159054]
47. Bureau of Labor Statistics (BLS). [May 12, 2011] Occupational homicides by selected characteristics, 1997–2009. Available at: http://www.bls.gov/iif/oshwc/cfoi/work_hom.pdf.

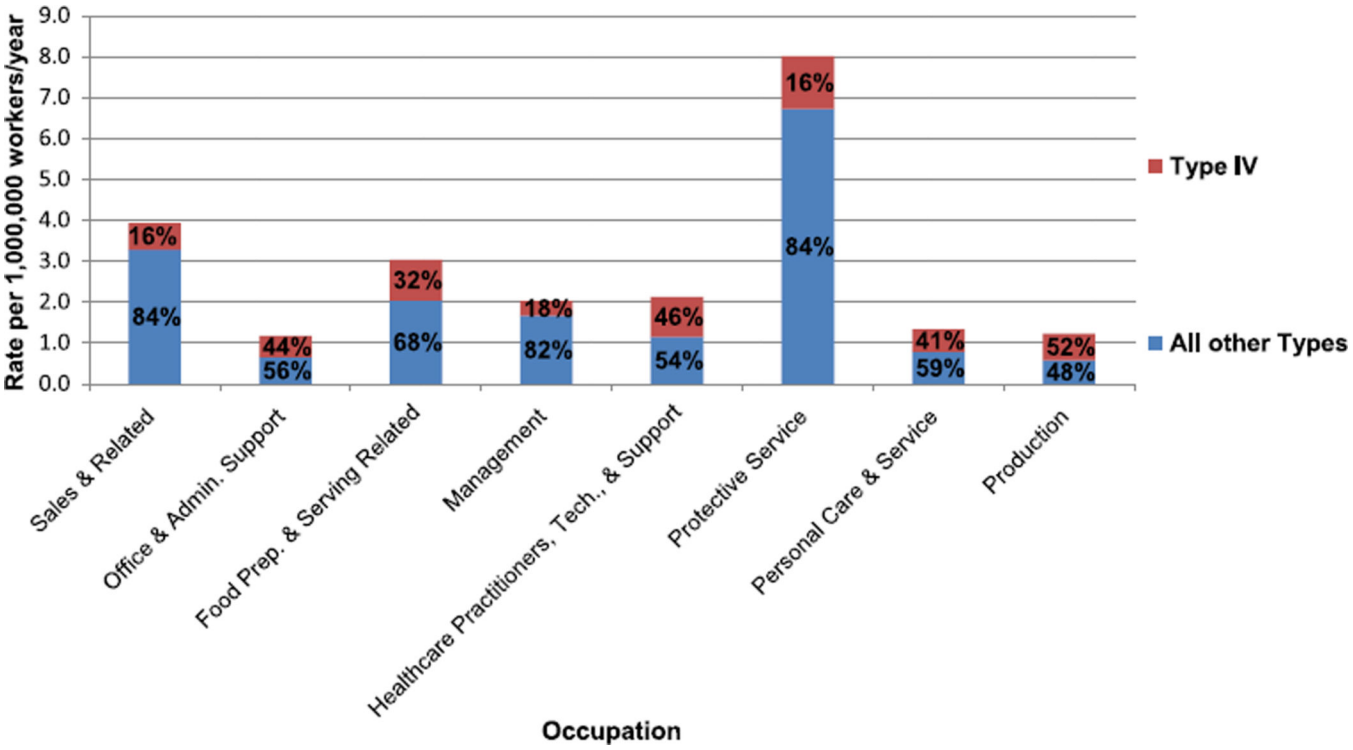


FIGURE 1.

Rates of workplace homicides among U.S. women by selected occupation and typology: CFOI, 2003–2008. Only those occupations with 20 or more homicides in the 6-year period are included.

TABLE 1

Number and rate of workplace homicides among U.S. women by workplace violence typology: CFOI, 2003–2008

Type	N (%)	Rate per 1,000,000 female workers per year
I, Criminal intent	212 (39)	0.53
II, Customers or clients	74 (14)	0.19
III, Worker-on-worker	77 (14)	0.19
IV, Personal relations	181 (33)	0.45
Non-IPV	39 (7)	0.10
IPV	142 (26)	0.36
Total*	544	1.63

CFOI = Census of Fatal Occupational Injuries; IPV = intimate partner violence.

*There were 104 “undetermined” fatalities removed from table; rate is based on total number of homicides (n = 648).

TABLE 2

Sociodemographics and workplace characteristics of workplace homicides among U.S. women by workplace violence typology: CFOI, 2003–2008

	Type I	Type II	Type III	Type IV				
	N (%)	N (%)	N (%)	N (%)	Total[§]	Rate per 1,000,000 female workers per year[*]	Rate ratio (95% CI)[†]	p value[‡]
Age (yrs)								<.0001
≤24	26 (41)	8 (14)	7 (11)	23 (36)	64 (12)	0.14	0.8 (0.6, 1.0)	
25–34	38 (32)	11 (9)	19 (16)	51 (43)	119 (22)	0.17	1.0 (0.8, 1.3)	
35–44	41 (27)	19 (12)	25 (16)	68 (44)	153 (28)	0.19	1.1 (0.8, 1.4)	
45–54	52 (45)	19 (16)	16 (14)	29 (25)	116 (21)	0.14	0.8 (0.6, 1.0)	
≥55	55 (60)	17 (18)	10 (11)	10 (11)	92 (17)	0.17	1.0	
Race								.063
White	140 (36)	61 (16)	55 (14)	130 (34)	386 (71)	0.14	1.0	
Non-white/unknown	72 (46)	13 (8)	22 (14)	51 (32)	158 (29)	0.24	1.7 (1.4, 2.0)	
Hispanic								.045
Non-Hispanic/unknown	182 (34)	68 (13)	59 (11)	147 (27)	456 (84)	1.51	1.0	
Hispanic	30 (26)	6 (5)	18 (16)	34 (30)	88 (16)	2.52	1.7 (1.4, 2.0)	
Government status								<.0001
Federal, state, local	13 (20)	22 (34)	14 (22)	15 (23)	64 (12)	1.05	1.0	
Private	199 (41)	52 (11)	63 (13)	166 (35)	480 (88)	1.94	1.8 (1.4, 2.2)	
Total	212	74	77	181	544			

CFOI = Census of Fatal Occupational Injuries.

[*] Rate is based on the total number of homicides, which includes those 104 homicides which could not be classified regarding type.

[†] Bold face type denotes statistical significance of rate ratios.

[‡] Bold numbers indicate significance for the Bonferroni adjustment ($p = .007$).

[§] Number in parentheses is the column percentage.

TABLE 3

Location of workplace homicides among U.S. women by workplace violence typology: CFOI, 2003–2008[†]

Location	Type I, n (%)	Type II, n (%)	Type III, n (%)	Type IV, n (%)	Total, n (%)
Other retail establishments[*]	72 (34)	11 (15)	23 (30)	29 (16)	135 (25)
Commercial store	61 (29)	–(–)[‡]	–(–)	31 (17)	103 (19)
Parking lot/garage	13 (6)	5 (5)	8 (10)	48 (27)	74 (14)
Schools, office, other public buildings	28 (13)	14 (19)	18 (23)	43 (24)	103 (19)
Home	–(–)	25 (34)	–(–)	10 (6)	48 (9)
Prison/jails	–(–)	15 (20)	–(–)	5 (3)	24 (4)
Other	26 (13)	–(–)	–(–)	15 (9)	57 (10)
Total	212	74	77	181	544

[*] Includes restaurants, cafes, convenience stores, hotels, and motels.

[†] Dashed cells indicate censored cells that do not meet BLS reporting criteria of more than 5.