CHILD FATALITY PREVENTION SYSTEM: HOMICIDE DATA, 2016 - 2020

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Introduction

The Child Fatality Prevention System (CFPS) is a statewide network that focuses on preventing child deaths. Housed at the Colorado Department of Public Health and Environment (CDPHE), CFPS consists of local review teams, a State Review Team, and the CFPS state support team at CDPHE. Local teams and the CFPS State Review Team include community members and field experts. These teams complete case reviews of infant, child, and youth deaths in Colorado to describe trends and patterns and create strategies to prevent future deaths. As part of the case review process, CFPS partners develop and share out recommendations for how to prevent child deaths annually.

The system reviews all deaths that occur in Colorado among infants, children, and youth under age 18. CFPS does not review deaths of Colorado residents that occur out of state. This is different from other reports of child death data and other Colorado government data sources. As a result, the data presented in this data brief might not match other statistics reported at both the state and national levels.

This data brief provides an overview of homicide data from CFPS. Additional CFPS data are available at: www.cochildfatalityprevention.com/p/reports.html.

For purposes of this brief, ***inequities*** are defined as systemic, avoidable, and unjust factors that prevent people from reaching their highest level of health. ***Disparities*** are differences in health outcomes between people related to social or demographic factors such as race, ethnicity, gender, sexual orientation, or geographic region. Measuring disparities helps measure our progress toward achieving equity.[1,2]

The impact of policies and systems on child deaths

Generations of social, economic, and environmental inequities contribute to the deaths of infants, children, and youth.[3] People exposed to these factors (outlined in the table below) experience additional harm, resulting in higher rates of death. When interpreting the data, it is critical to not lose sight of these systemic, avoidable, and unjust factors. Researchers work towards understanding how geography, race, ethnicity, sexual orientation, and gender identity correlate with health. It is critical that data systems like CFPS identify and understand the life-long inequities that persist across groups in order to eliminate them. When limitations in the data system exist due to how data are collected, or because data are not collected, CFPS strives to provide additional context and research about how inequities impact child deaths. By changing policies and systems that create and perpetuate inequities, CFPS can reduce the number of child deaths that occur in Colorado. Examples of these inequities include, but are not limited to:

RURAL AND FRONTIER GEOGRAPHY	RACE AND ETHNICITY	SEXUAL ORIENTATION AND GENDER IDENTITY
Limited access to Level 1 trauma centers and mental and behavioral health services.[4] Increased stigma associated with mental illness and seeking help.[5] Longer response times by emergency medical services.[6] **→ These and other factors contribute to higher death rates in rural areas, including suicide[7] and passenger vehicle deaths.[8]**	Racism, discrimination, and historical trauma.[9,10] Limited access to high-quality education,[11] employment opportunities,[12] healthy foods,[13] culturally traditional foods,[14] and health care.[15] Chronic stress.[16] **→ These factors result in lasting health impacts for people of color that include infant mortality,[17] high rates of homicide and gun violence,[18] and increased motor vehicle deaths.[19]**	Discrimination, stigma, and bias.[20] Rejection from family, friends, and community.[21] Non-inclusive school curricula and anti-harassment policies.[22] Insufficient access to LGBTQ+-informed health care.[23] **→ This chronic social stress that LGBTQ+ children and youth experience influences health across the lifespan, including higher rates of suicide[24] and substance use.[25]**

Overview of Homicide Deaths

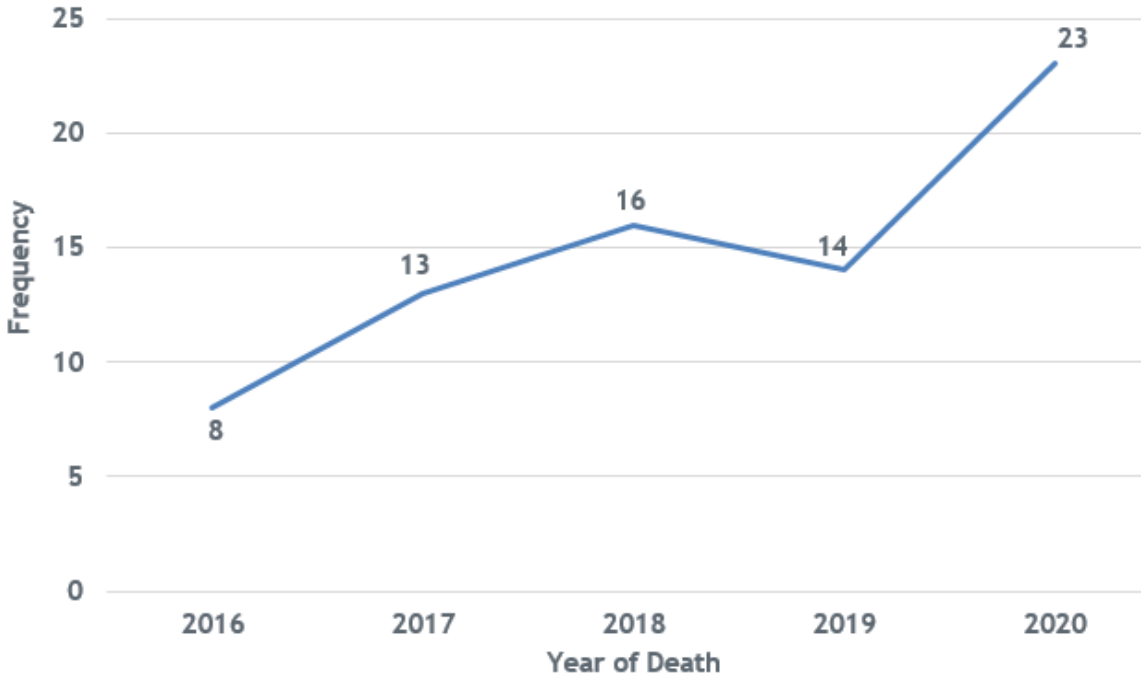
CFPS uses death certificates provided by the Vital Statistics Program within the Center for Health and Environmental Data at CDPHE to identify deaths among those under age 18 in Colorado. The Colorado death certificate has five manners of death: natural, accident, suicide, homicide, and undetermined. Manner of death is a classification made by a coroner, typically following a review of the circumstances surrounding the death and a thorough investigation. Homicide is defined as the action of one person directly causing the death of another.

From 2016-2020, there were 157 deaths among infants, children, and youth ages 0-17 in Colorado classified as a homicide on the death certificate. Local child fatality prevention review teams subsequently determined that child maltreatment caused and/or contributed to 52.9% (n=83) of these deaths. The remaining 47.1% (n=74) of homicide deaths are not attributable to child abuse or neglect.

This brief includes the 74 homicide deaths where child maltreatment was not identified as causing or contributing to the death. These deaths will be referred to as "homicide deaths" for the remainder of this brief. Data on child maltreatment deaths are available in a cause-specific data brief and an interactive data dashboard at: www.cochildfatalityprevention.com/p/reports.html.

Figure 1 shows that the number of yearly homicide deaths ranged from a low of 8 in 2016 to a high of 23 in 2020. The rate increased across the period, although this upward trend was not statistically significant when comparing 2016 (0.6 per 100,000 population) to 2020 (1.8 per 100,000 population). Among homicide deaths, firearms were the most common mechanism used (90.5%, n=67), followed by other causes such as stabbing and fire/burns. The overall rate of firearm homicide deaths for the period was 1.0 per 100,000 population, less than the national rate of firearm homicide deaths over the same period (1.4 per 100,000 population).[26]

Figure 1. Homicide occurring among those under age 18 in Colorado by year, 2016-2020 (n=74)



The impact of the COVID-19 pandemic on homicide.
Due to the changes that the COVID-19 pandemic brought to communities, child death review teams were asked to consider how the pandemic may have been a factor in deaths occurring after March 1, 2020. Teams considered questions including:

- Was this death an indirect result of the outbreak?;
- Did mandated or voluntary closures (i.e., schools, places of business, community centers, courts, social services) affect the outcome of this case?; and
- Was risk increased in this case due to social isolation of the child or the caregiver(s)?

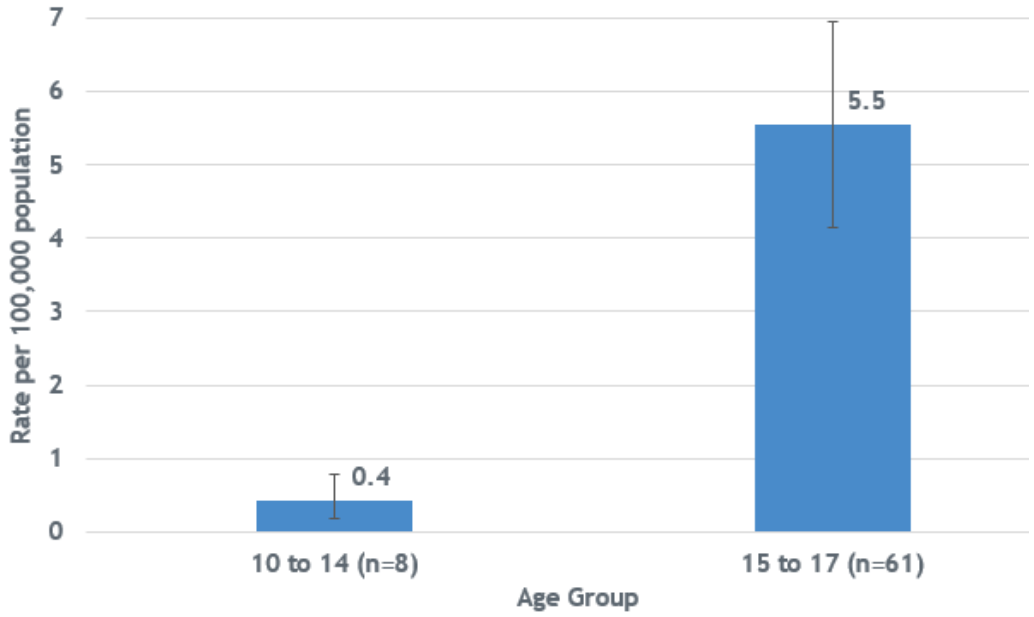
CFPS teams ultimately determined that the COVID-19 pandemic indirectly contributed to 15.8% (n=3) of homicide deaths reviewed by CFPS that occurred between March 1, 2020 and December 31, 2020. CFPS teams will continue to answer these questions about the impact of the pandemic on child deaths for cases reviewed in 2021 and beyond.

Demographic Characteristics

Age

Of the 74 homicide deaths, 82.4% (n=61) occurred among youth ages 15-17, 12.2% (n=9) among youth ages 10-14, and 5.4% (n=4) among infants and children under age 10. The age-specific rate of homicide deaths was highest among Colorado residents ages 15-17 at 5.5 per 100,000 population. This is significantly higher than for all other age groups (Figure 2).

Figure 2. Age-specific rates of homicide occurring in Colorado among Colorado residents under age 18 by age group, 2016-2020 (n=73)



*Error bars represent 95% confidence limits for rates.
**Age groups under 10 suppressed due to counts less than 3.

Sex

Of the 74 homicide deaths, 85.1% (n=63) of those who died were male, with the rate of homicide deaths significantly higher for males (1.9 per 100,000 population) than for females (0.4 per 100,000 population).

Sexual Orientation and Gender Identity

Defining Key Terminology

- Sex assigned at birth: The sex that the medical community labels a person at birth based on observable medical factors (e.g., appearance of genitals, informed assumptions about future sexual function and fertility, presumed course of hormone exposure to the brain).[27] Most people are assigned male or female, and this is what is put on their birth certificate. Although this is a culturally significant practice, there is broad scientific consensus that the male/female categories used in this practice do not accurately represent human biology.[28,29] When someone's sexual and reproductive anatomy, genetics, or hormone development do not fit the typical definitions of female or male, they may be described as intersex.
- Gender identity: A person's innate, deeply felt sense of identifying as a man, as a woman, or gender-nonbinary, regardless of the sex assigned at birth. Gender identity is distinct from sexual orientation. The term "cisgender" means someone's gender identity is the same as their sex assigned at birth. "Transgender" refers to a gender identity that is different from the sex assigned at birth.
- Gender expression: A person's characteristics and behaviors that are socially defined as either masculine or feminine, such as dress, grooming, and mannerisms. Social or cultural norms can vary widely and some characteristics accepted as masculine, feminine, or gender-neutral in one culture may be different in another.
- Sexual orientation: A person's physical or emotional attraction to people of the same, neither, both, and/or opposite gender. "Heterosexual," "bisexual," and "homosexual" are all sexual orientations. A person's sexual orientation is distinct from a person's gender identity and expression.
- LGBTQ+: An umbrella term that collectively refers to people who are lesbian, gay, bisexual, transgender, queer, and questioning. The '+' represents those who are part of the community, but for whom LGBTQ does not accurately capture or reflect their identity (e.g., intersex, asexual, pansexual, agender, bigender, and genderqueer).

LGBTQ+ youth are systematically impacted by the stigma that stems from heterosexism and transphobia in families, schools, communities, and policies.[30] These systems of oppression are upheld by a society that privileges being heterosexual and cisgender as normative, while

other sexual orientations and gender identities are devalued.[31] This structural stigma constrains LGBTQ+ children and youth, placing them at the margins, and making them more likely to experience poor health and wellbeing.[32]

LGBTQ+ people experience discrimination, bias, rejection from family, friends, and community, limited access to LGBTQ+ informed and affirming health care, and high rates of victimization such as sexual violence.[33,34] Lack of supportive environments in schools and communities (i.e., Gender and Sexuality Alliances, access to all gender restrooms, inclusive school curricula and policies) also play a role in the structural stigma experienced by LGBTQ+ young people.

Research is beginning to illuminate the connection between structural stigma, discrimination, and death. A recent study shows that exposure to structural stigma is associated with greater risk of death among adults who had a same-sex partner in the last year.[35] Anti-LGBTQ+ homicides are fatal acts of criminal violence in which people are targeted because of their actual or perceived sexual orientation or gender identity, and are a manifestation of the heterosexism that is pervasive in the United States.[36] In 2019, sexual orientation was the second most-common target of hate crimes in Colorado.[37] In 2020, the Human Rights Campaign reported a record number of 44 fatal violent attacks against transgender and gender non-conforming people.[38] Anti-LGBTQ+ violence is a serious problem and may be vastly underreported.[39] Data collection challenges make it difficult to accurately identify disparities in homicide for LGBTQ+ people.

In order to better understand these disparities and address the unique needs of LGBTQ+ people, it is critical to gather complete and standardized data about sexual orientation and gender identity (SOGI). Unlike other demographic information, children and young people are rarely—if ever—asked about their gender identity or sexual orientation as a part of demographic information for their schooling or medical treatment. As such, records used to identify other demographic information during CFPS case reviews often do not contain SOGI data.

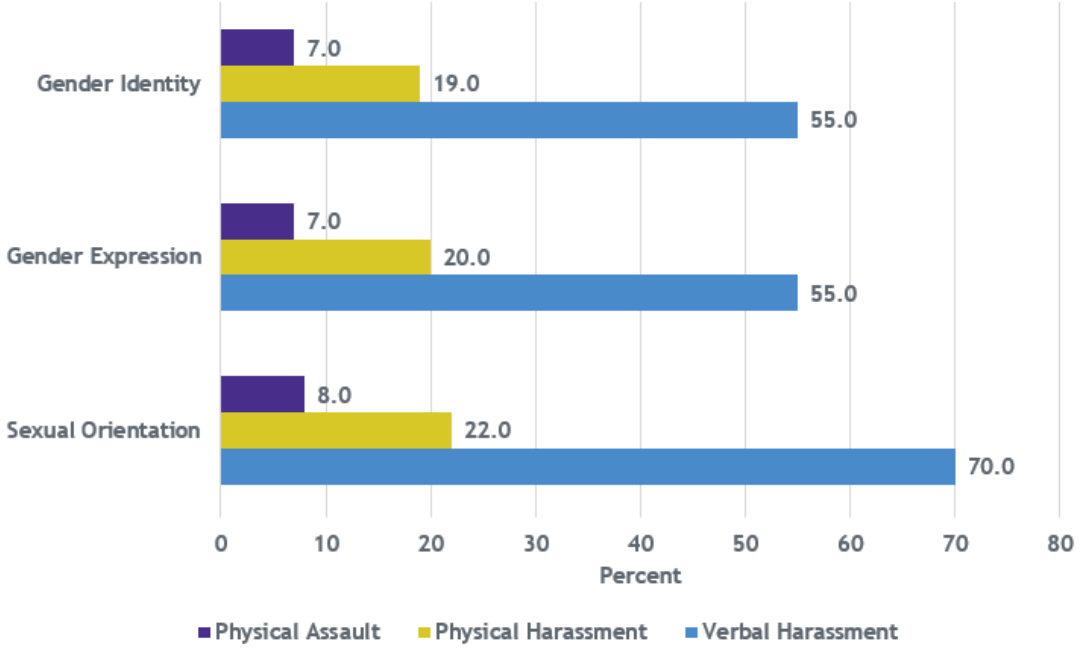
While CFPS does attempt to collect SOGI information, there are notable challenges for CFPS and other mortality data systems to accurately capture this information. As a result, little is known about causes of death in LGBTQ+ people. This has long hindered efforts to understand and prevent these deaths. There are multiple factors that directly affect collection of SOGI data at the time of death. The ability of medicolegal death investigators to collect SOGI information is reliant on the knowledge of friends or family of the young person, who are the key reporting sources for coroner and law enforcement investigators. In many cases, the young person who died may have identified as LGBTQ+ but were not open about their identity. Friends and family of the young person who died may also not be willing to share SOGI information with investigators due to SOGI-related stigma. These challenges are amplified by a lack of training for death investigators in eliciting SOGI information from friends and family in an accurate and sensitive way.[40,41]

It is worth noting that during the time period when deaths that occurred from 2016-2020 were being reviewed, questions asking about sexual orientation and gender identity were inconsistently available in the National Fatality Review-Case Reporting System (NFR-CRS), the data tool that CFPS uses. In April 2018, existing sexual orientation and gender identity questions were removed from the NFR-CRS. CFPS added Colorado-specific sexual orientation and gender identity questions in April 2019, and in April 2020, the National Center for Fatality Review and Prevention added sexual orientation and gender identity questions back into the NFR-CRS for all states. In addition, the NFR-CRS added a life stressors section in its newest update, which will improve CFPS's ability to understand how stress caused by discrimination due to sexual orientation and/or gender identity contributes to deaths among children and youth.

In an effort to reduce barriers in collecting this information, local child fatality prevention review teams receive guidance and training on how to discuss sexual orientation and gender identity during fatality reviews.

Although CFPS faces challenges in collecting data about sexual orientation and gender identity, there are other data sources to provide information about violence experienced by LGBTQ+ people. For example, findings from the GLSEN 2019 National School Climate Survey demonstrate that Colorado schools were not safe for many LGBTQ+ students. Many students experienced verbal and physical anti-LGBTQ+ victimization at school, including 22% of LGBTQ+ students that experienced physical harassment based on their sexual orientation and 7% of students that reported experiencing physical assault based on their gender (Figure 3).[42]

Figure 3. LGBTQ students in Colorado harassed or assaulted in the past year based on sexual orientation, gender identity, and gender expression, 2019



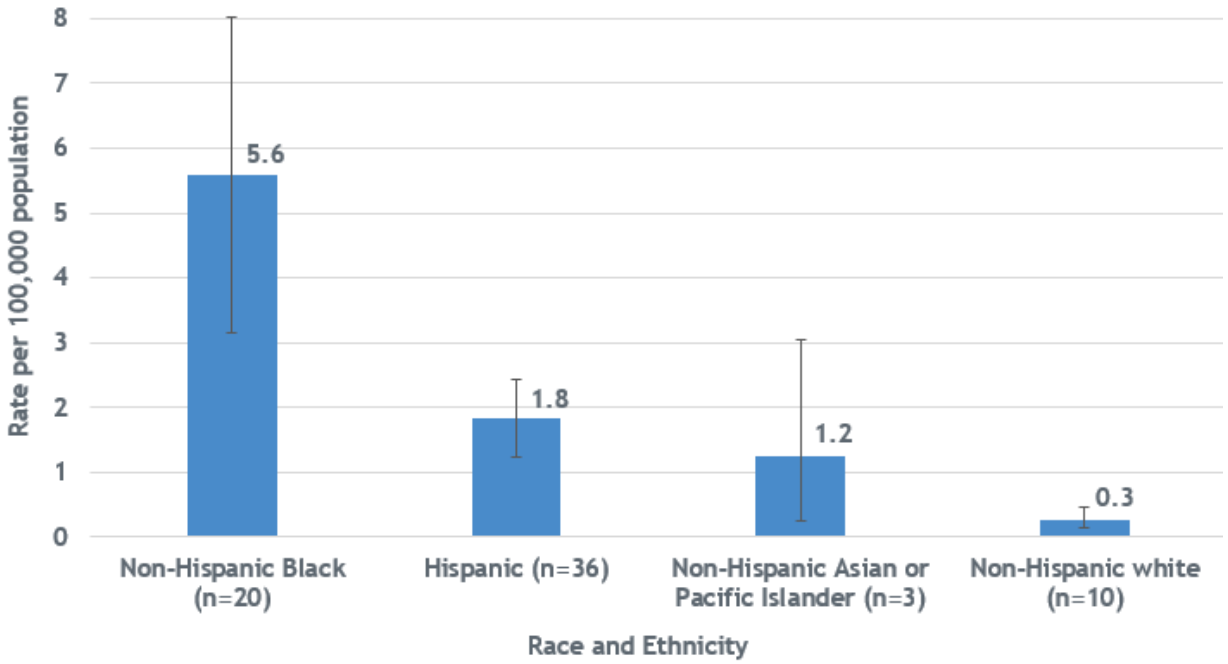
Data source: School Climate for LGBTQ Students in Colorado, 2019 State Snapshot, GLSEN.

Race and Ethnicity

A note about terminology: Hispanic ethnicity as collected on the Colorado death certificate includes those that identify as Mexican, Mexican American, Chicano, Chicana, Puerto Rican, Dominican, Cuban, Central American, South American, Latin American, Spanish, and other Latin or Hispanic descent.[43] Additionally, "Latinx" and "Chicanx" are increasingly used gender inclusive terms, respecting those with a non-binary gender identity.[44,45] To ensure clarity, this report uses "Hispanic" throughout the data section to reflect how CFPS data are collected from the death certificate and to align with terminology used in cited literature and research.[46]

Of the 74 infants, children, and youth who died by homicide, 48.7% (n=36) were of Hispanic origin, 27.0% (n=20) were non-Hispanic Black, 14.9% (n=11) were non-Hispanic white, and 4.1% (n=3) were non-Hispanic Asian or Pacific Islander. Colorado observed a significant disparity in the rate of homicide deaths by race and ethnicity (Figure 4). The rate of homicide deaths was nearly seven-times higher among Hispanic infants, children, and youth (1.8 per 100,000 population), and over twenty-times higher among non-Hispanic Black infants, children, and youth (5.6 per 100,000 population) in Colorado compared to non-Hispanic whites (0.3 per 100,000 population).

Figure 4. Rates of homicide occurring in Colorado among Colorado residents under age 18 by race and ethnicity, 2016-2020 (n=73)



*Error bars represent 95% confidence limits for rates.

The rate data and disparities by race and ethnicity observed by CFPS (Figure 3) is consistent with national trends[47] and these differences exist because of community-level inequities. Racialized residential segregation is a social determinant of the racial disparities observed in homicide deaths, and is largely driven by discriminatory federal, state and local policies, such as redlining, that create unjust geographic divisions among racial and ethnic groups.[48] Racial segregation leads to neighborhood disadvantage by concentrating neighborhood poverty, creating barriers to and fewer opportunities for a healthy lifestyle, limiting access to health services, and increasing housing and food insecurity.[49] The consequences of residential segregation resulting from historical practices like redlining continue to reverberate throughout communities of color today. In the U.S., Black families are more likely to live in communities that are highly segregated with limited access to basic needs assistance, mental health and substance abuse treatment, and opportunity for employment.[50] Data show 17.9% of AI/AN, 16.8% of Black, and 14.8% of Hispanic Coloradoans live below the poverty level, compared to 7.7% of non-Hispanic white Coloradans.[51]

In addition to harming economic opportunity, this structural injustice may reduce a community's ability to achieve shared goals of keeping residents safe and neighborhoods free of crime and interpersonal violence.[52,53] As a result communities may be less able to monitor children's play groups, intervene to support youth to prevent concerns like truancy, and confront those who are disturbing public spaces.[54] Racial segregation concentrates poverty in certain areas and isolates residents from key resources. This results in a less united neighborhood and makes it less likely for residents to intervene on behalf of the good of the community. Having poor neighborhood support and cohesion fosters a social norm in which violence is a part of daily life.[55]

Therefore, the disparity observed for homicide deaths may be partly explained by racialized residential segregation and living in high poverty areas. This is continually perpetuated by social policies that maintain segregation.[56,57] It is critical to identify, understand and eradicate the life-long inequities that persist across racial groups and that contribute to these differences in homicide death rates.

Geography

To calculate statistics by geographic location within the state, counties in Colorado are categorized as urban, rural, or frontier, according to standards applied by the Colorado Rural Health Center.[58] All counties that are not designated as parts of Metropolitan Areas are considered rural. Frontier counties are further classified as those with a population density of six or fewer persons per square mile. It is worth noting that these county designations are limited in that they do not account for the geographic nuance experienced by several large counties in Colorado (e.g., Arapahoe, El Paso, Larimer, Mesa) that have both populous urban centers and broad rural areas.

Between 2016 and 2020, the majority of Colorado residents under age 18 who died by homicide in Colorado resided in an urban county (95.9%, n=70). The rate of homicide deaths among infants, children, and youth living in an urban county was 1.3 per 100,000 population. Homicide deaths for infants, children, and youth under age 18 living in a frontier or rural county in Colorado are infrequent. These deaths are so rare that they do not meet privacy criteria for sharing data publicly. However, this data is consistent with national data showing higher homicide death rates in our most urban areas.[59] One potential factor contributing to this geographic disparity in homicide deaths is the racialized residential segregation occurring in urban areas discussed previously. Evidence suggests that this structural, community-level inequity harms economic opportunity and contributes to the higher level of gun violence and crime experienced in urban, racially segregated areas.[60,61]

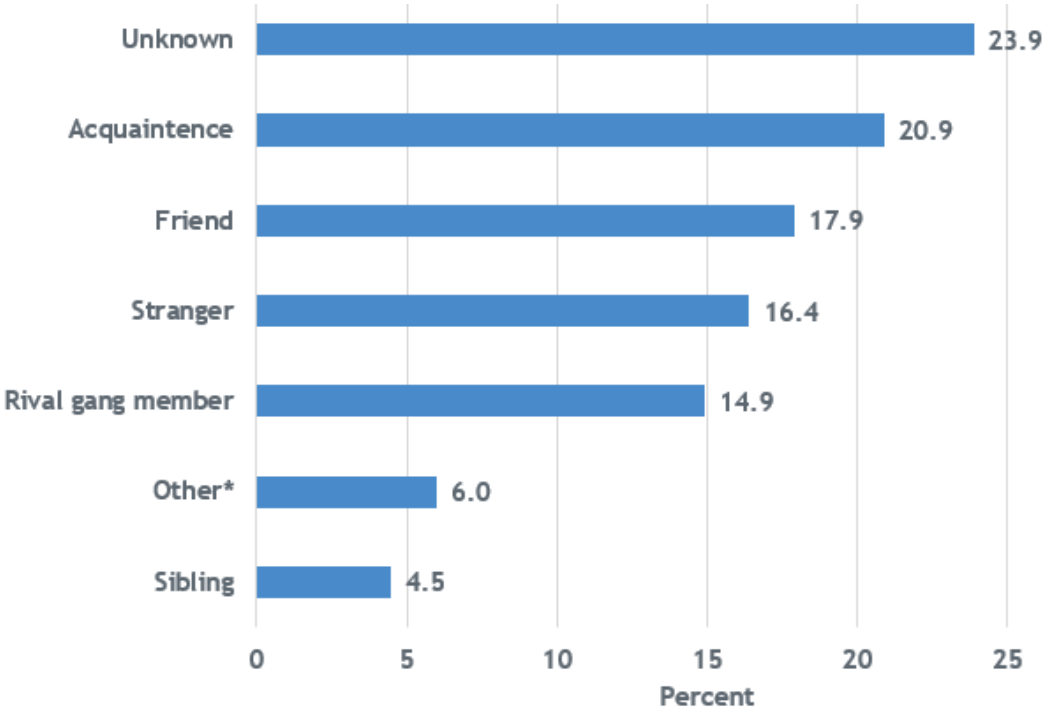
Circumstances of Firearm Homicide

With firearms making up the majority of all homicides (90.5%, n=67), the following circumstance data will focus specifically on firearm homicide deaths.

The weapon type most commonly associated with firearm homicide deaths was a handgun (59.7%, n=40) followed by other types including shotgun, hunting rifle, and assault rifle (7.5%, n=5). Information about weapon type was missing or unknown for 32.8% (n=22) of these deaths.

The CFPS review process can identify who was handling the fatal weapon during the incident that killed the infant, child, or youth. As shown in Figure 5, acquaintances were most often handling the firearm (20.9%, n=14), followed by friends (17.9%, n=12), strangers (16.4%, n=11), rival gang members (14.9%, n=10), and siblings (4.5%, n=3). Information about the person handling the weapon was unknown for 23.9% (n=16) of these deaths. This unknown information is most often due to the case being an open court case at the time of review. Because of this, investigative records are not available for teams to determine the circumstances surrounding the death, including who was handling the weapon.

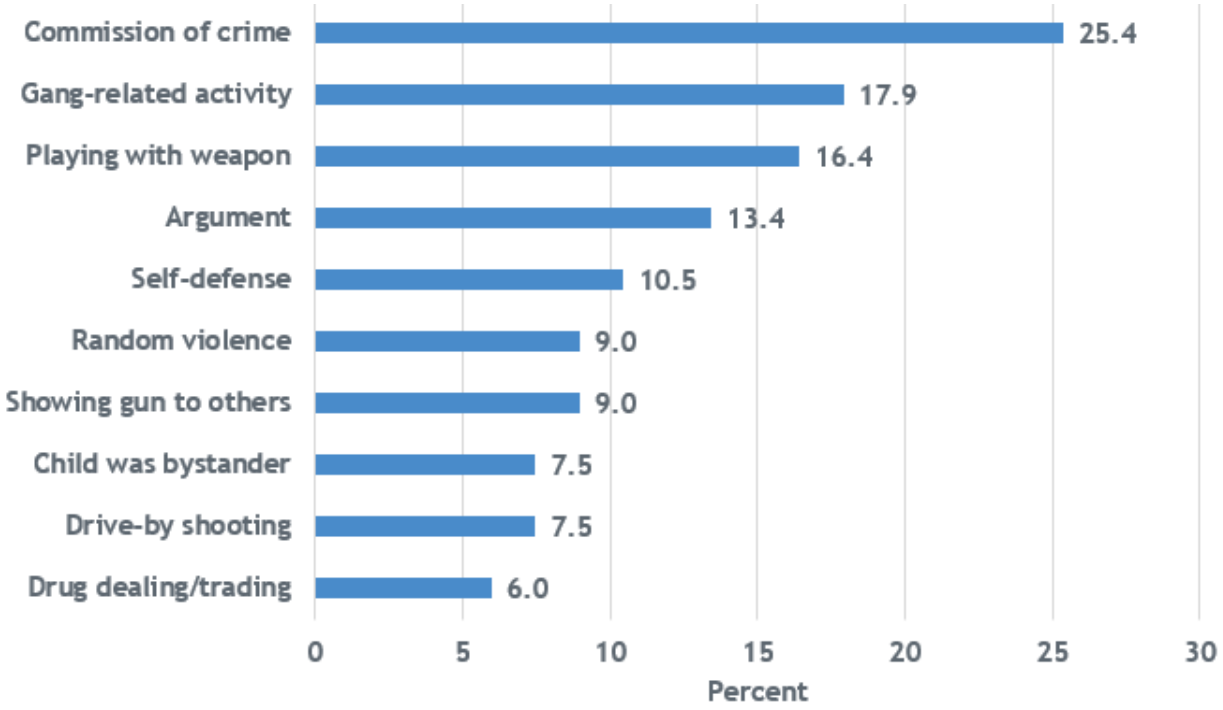
Figure 5. Firearm homicide occurring among those under age 18 in Colorado by person handling fatal weapon, 2016-2020 (n=67)



Mass Shootings
The National Center for Fatality Review and Prevention's Case Reporting System does allow for the collection of information regarding mass shooting fatalities. Although heartbreaking and deeply felt by the communities in which they occur, it is important to note that mass shooting deaths for infants, children, and youth under age 18 in Colorado are infrequent. These deaths are so rare that they do not meet privacy criteria for sharing data publicly.

CFPS review teams collect circumstance information about firearm homicide deaths, including details of how the firearm was being used during the incident (Figure 6). This data showed that firearms used during homicide deaths were most commonly used during the commission of another crime (25.4%, n=17), gang-related activity (17.9%, n=12), playing with the weapon (16.4%, n=11), arguments (13.4%, n=9), or for self-defense (10.5%, n=7). Additionally, these incidents were sometimes attributed to random violence (9.0%, n=6). Information regarding whether the child or youth who died had a delinquent or criminal history, or if they had spent time in juvenile detention, was missing or unknown for about 50% of cases. As mentioned previously, however, about one-quarter of firearm homicide deaths were an open court case at the time of review, meaning that the team had very limited information about the young person and the circumstances surrounding the death. As such, this circumstance information is likely underreported.

Figure 6. Selected circumstances for firearm homicide occurring among those under age 18 in Colorado, 2016-2020 (n=67)



Conclusion

From 2016 to 2020, homicide deaths were the sixth leading cause of death reviewed by CFPS among those under age 18 in Colorado. The highest rates of homicide deaths were observed among youth ages 15-17 and among non-Hispanic Black infants, children, and youth. Over 90% of homicide deaths were caused by firearms, followed by other causes such as stabbing and fire or burns. Firearm homicide deaths occurred most often during the commission of another crime, gang-related activity, playing with the weapon, and arguments. Upstream prevention strategies that address social and structural inequities can reduce homicide deaths among infants, children, and youth. To learn more about the prevention strategies recommended by CFPS, view the 2022 Legislative Report (www.cochildfatalityprevention.com/p/reports.html). To learn even more about the inequities that contribute to child deaths, view the CFPS report "*The Role of Policies and Systems in Child Deaths in Colorado*."

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