

# Cost of Gun Violence

## in Santa Clara County



In collaboration with  
**Pacific Institute for Research and Evaluation**  
**Prevention Institute**

## **Acknowledgments**

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Supervisor Cindy Chavez, District 2

Supervisor Otto Lee, District 3

Supervisor Susan Ellenberg, District 4

Supervisor Joe Simitian, District 5

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We are deeply grateful to all the community members who contributed their time and effort for participating in the Cost of Gun Violence study.

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### **County and City Partner Agencies**

City of Gilroy, City of Morgan Hill, City of Mountain View, City of Santa Clara, City of Sunnyvale, City of San José, County of Santa Clara Behavioral Health Services, County of Santa Clara District Attorney's Office, County of Santa Clara Office of Diversity, Equity, and Belonging, County of Santa Clara Probation Department, County of Santa Clara Office of Reentry Services, County of Santa Clara Office of Pretrial Services, First 5 Santa Clara County Family Resource Centers, Gilroy Police Department, Milpitas Police Department, Palo Alto Police Department

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August 12, 2022

### To the Residents of Santa Clara County,

In October 2019, the County of Santa Clara Board of Supervisors requested an analysis of the public cost of gun violence from 2000 to 2020, launching a journey that led to this report. During that time, much has changed. COVID-19 swept through our country, accompanied by economic hardship and political upheaval at scales unseen in a generation. Gun violence, unfortunately, also rose precipitously during the pandemic. Nationwide, firearm deaths increased to a record level in 2020, the highest in the past 40 years. Here in our county, the age-adjusted firearm death rate was 4.8 per 100,000 people in 2020, the highest rate in the past decade. Several mass shootings took place in the U.S., including the 2021 VTA railyard shooting, the worst in the county's history.

These grim statistics remind us that violence is a symptom, not a disease. The pandemic and the political environment have exacerbated the root causes of violence: poverty, lack of opportunities, social isolation, discrimination, and racism that serves as a breeding ground for fear, despair, desperation and hate that ultimately lead to acts of brutality. The solution to gun violence requires more than just legislative or criminal justice action; it requires a multi-sectoral, system-wide response that includes thoughtful and transformative partnerships with the communities most deeply affected.

Beyond the cost analysis, this report presents extensive and in-depth data on fatal and nonfatal injuries related to gun violence and possession. Reading this report may not be easy. Behind every statistic of death and injury are families who have lost loved ones and communities robbed of peace, safety, and opportunities to thrive. This report tells their story through data. At the same time, this project would not have been possible without the help of all those working to address gun violence at all levels through government, nonprofit, and grassroots efforts. This report is a tribute to their courage and self-sacrifice. Just as violence impacts us all, each one of us can play a role in creating a more peaceful future.

Sincerely,

A handwritten signature in cursive script that reads "Sara H. Cody, MD".

Sara H. Cody, MD  
Health Officer and Director  
County of Santa Clara, Public Health Department  
San José, CA

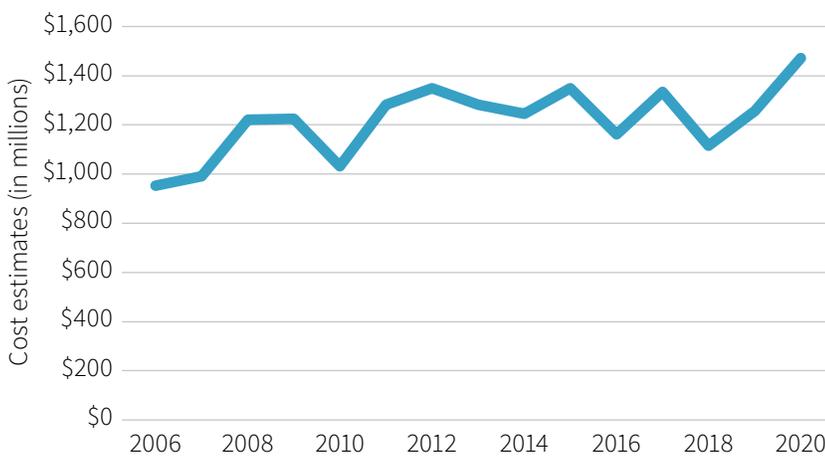
**Board of Supervisors: Mike Wasserman, Cindy Chavez, Otto Lee, Susan Ellenberg, Joe Simitian**  
**County Executive: Jeffrey V. Smith**

# Executive Summary

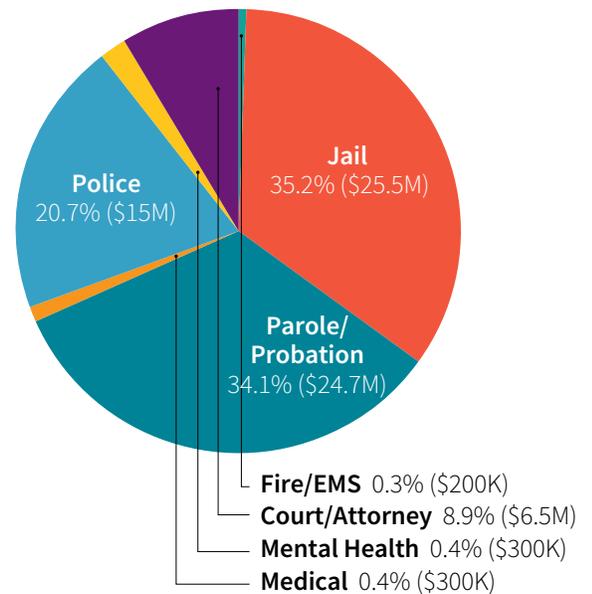
## Cost of Gun Violence Study

**Purpose:** Quantify the economic and societal costs associated with gun violence in Santa Clara County from 2000 to 2020 and inform policy options and strategies to advance violence prevention.

**Costs of Firearm Violence in Santa Clara County, 2006-2020**



**Public Cost of Firearm Violence**



**\$1.2B**

The average annual cost of firearm violence was 1.2B in Santa Clara County during 2016-20.



**\$72.5M**

The average annual public sector costs of firearm violence were \$72.5M in the county.



**>50%**

More than half of the total cost were related to firearm assault/homicide (53%, \$727M) and 38% (\$517M) for self-inflicted injuries and suicide.



**\$35M**

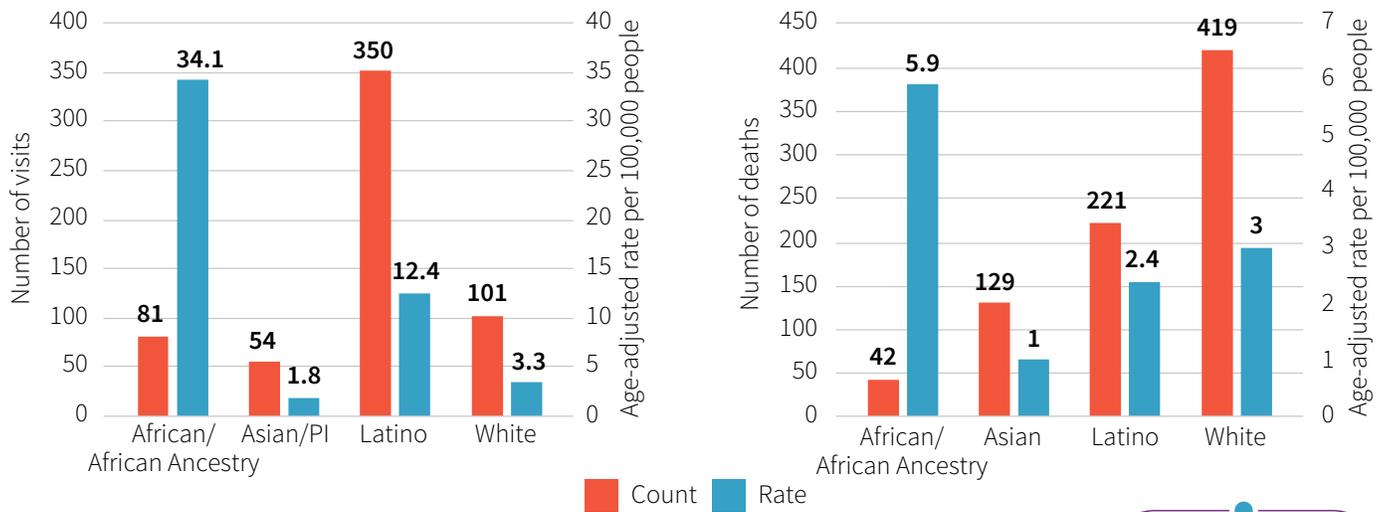
The total cost increased nearly \$35M annually from 2006 to 2020; a 54% increase over the 15-year period.



**28,000**

During 2017-21, an average of 28,000 firearms were purchased annually in Santa Clara County.

# Count and age-adjusted rate of non-fatal firearm injury-related emergency department visits (2016-20) and firearm deaths (2011-20) by race/ethnicity among Santa Clara County residents



**2X**

Annual count of non-fatal firearm injury-related emergency department (ED) visits doubled during the past decade, increasing from 60 in 2011 to 156 in 2020.



**2 in 3**

Nearly 2 in 3 (65%) of the non-fatal firearm injury-related ED visits were among adults ages 18 to 34 years.



**34%**

One in 3 (34%) firearm deaths were among county residents ages 18 to 34 years.



**6 in 10**

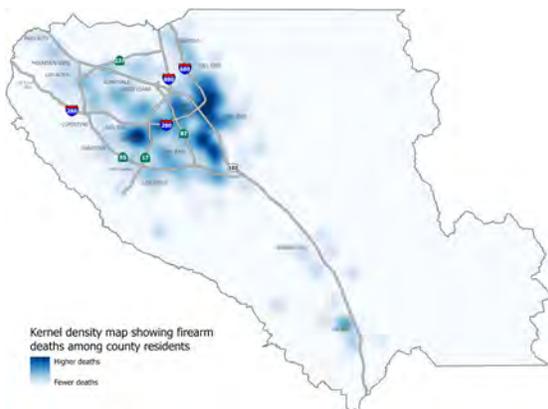
Six in 10 firearm deaths were suicide (60%) and 33% were homicide.



**RACE**

Latinos had the most non-fatal firearm injury-related ED visits, while African/African Ancestry had the highest rate.

## Firearm death density



Higher density areas within the city of San José are hot spots for firearm violence and have higher rates of fatal and non-fatal firearm injuries.

Per-capita costs for firearm injuries were nearly double in San José (\$977) compared to rest of the county (\$523).

## Recommendations ►

# Recommendations

## Strengthen Policy, Advocacy, and Public Awareness

1

**Encourage the adoption of gun safety policies and practices** to ensure gun safety for gun owners and the broader community.

2

**Adopt the use of Racial Equity Impact Assessment tools** to evaluate the County's policy position on guns and advocate for more equitable gun violence prevention policies at the county, state, and federal levels.

3

**Implement public awareness and education campaigns on gun violence prevention** to improve gun safety practices, broaden public understanding of gun safety laws, advance public health prevention strategies, and support trauma-informed healing.

## Increase Protective Factors that Advance Equity

4

**Adopt and replicate community-centered, place-based approaches** to gun violence prevention in neighborhoods facing concentrated disadvantage and/or concentration of risk factors for gun violence.

5

**Expand partnerships with ethnic behavioral health service providers** to strengthen community-based crisis intervention, de-escalation, and mobile mental health crisis care; improve policies and protocols to separate people in crisis from access to firearms and reduce the use of force during intervention.

6

**Support excluded youth by increasing partnerships between cities, school districts, and the County** to expand community-led social, recreational, behavioral, educational, and employment opportunities.

## Strengthen Government and Community Level Coordination and Data Systems

7

**Establish a gun safety data workgroup** to guide the development of a data-to-action dashboard.

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# Introduction

## Impact of Gun Violence at the National and State Level

Gun violence is a public health crisis and has become one of the leading causes of premature deaths. It affects many communities and families daily, whether through suicide, domestic violence, community violence, or other forms.<sup>1</sup> With a comprehensive public health approach, gun violence is preventable.<sup>2</sup>

Each day, nearly 124 people are killed by gunshot, and more than 200 are injured nationwide.<sup>3</sup> According to a recent Centers for Disease Control and Prevention (CDC) report, 45,222 people died due to firearm injuries in 2020, the highest number of deaths due to firearm injuries in the U.S. in a year.<sup>4</sup> Firearm injuries were among the five leading causes of death for people ages 1-44 in the United States.<sup>3</sup>

In California, there were 3,449 firearm-related deaths in 2020.<sup>5</sup> Statewide, the increase in the firearm-related homicides contributed to increase of homicides overall. The use of firearms also became more prevalent in other crime categories such as robbery and assault.<sup>6</sup>

Certain population subgroups are more impacted by firearm injuries than others. Nearly 9 in 10 firearm injury deaths (86%) and non-fatal injuries (87%) occurred among men. Firearm homicides are more common among teens and young adults (15 to 34 age group) while firearm suicides are more common among White seniors (75 years and older). People of color (African/African Ancestry<sup>7</sup>, American Indian or Alaska Natives, and Latinos) experience disproportionately higher rates of firearm homicides. In addition, American Indian or Alaska Natives and non-Hispanic Whites encounter higher rates of firearm suicide.<sup>5</sup>

A firearm injury is a gunshot wound or penetrating injury from a weapon that uses a powder charge to fire a projectile such as handguns, rifles, or shotguns.<sup>3</sup>

Firearm injury can be:

- Intentional self-harm (suicide)
- Intentional interpersonal violence (homicide)
- Unintentional injury
- Legal intervention
- Undetermined intent.

**Not all guns are considered firearms. For example, BB guns and pellet guns are not firearms. However, for the purposes of this report, the term “gun” and “firearm” are used interchangeably but represent data for firearms only.**

The magnitude and impacts of gun violence are complex, making it difficult to fully understand its true toll on society. In addition to the lives lost and economic impact of firearm violence, it also affects human lives in ways that are not as easy to measure, such as family members lost to shootings or suicide, people who witness shootings, or children who grow up in an environment of pervasive gun use. Without investment over time to support individual and community healing, the trauma resulting from these incidents lasts throughout the life course and even extends across generations, with social and economic consequences to neighborhoods, communities, and society. This report is an attempt at capturing the tangible and intangible costs of gun violence on our society. It helps us look at not only the economic values lost, but the potential we could gain through more effective prevention.

## Demographic Overview of Santa Clara County

With an estimated population of 1,936,259 in 2020, Santa Clara County was the 6th largest county in California, and the most populous county in the Bay Area.<sup>8</sup> According to the U.S. Census Bureau, more than 1 in 4 county residents (22%) were children under 18 years of age and 1 in 7 county residents (14%) were seniors ages 65 years and over. Santa Clara County was a minority-majority county comprised of 25% Latino, 2% African/African Ancestry, 0.2% American Indian and Alaska Native, 37% Asian, 0.3% Native Hawaiian and Other Pacific Islander and 31% non-Hispanic White residents. Nearly 3% of the county population were civilian veterans.<sup>9</sup>

Four in 10 county residents (40%) were foreign-born representing various world regions; amongst them 68% from Asia and 21% from Latin America. More than half of county residents ages 5 years and over (53%) speak a language other than English at home. More than half of county residents ages 25 years and older (54%) have attained a bachelor's degree or higher education. Median household income in the county was \$130,890 during 2016-20.<sup>9</sup>



# Purpose of the Study

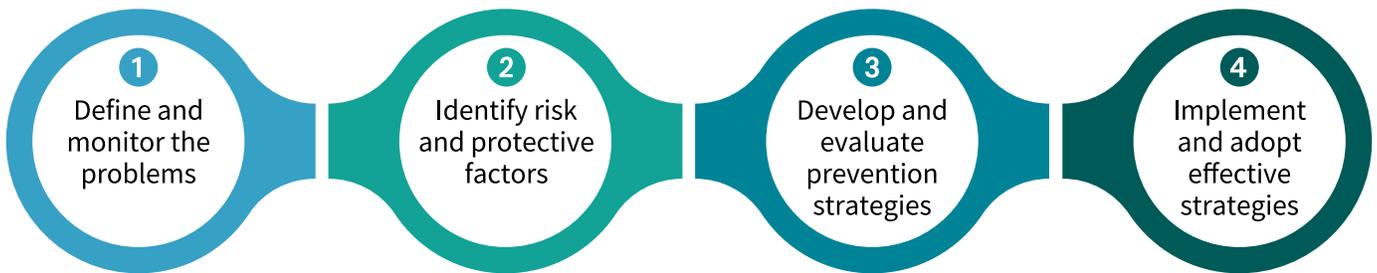
In August 2019, the County of Santa Clara Board of Supervisors directed the Public Health Department to undertake a study on the public cost of firearm violence.

The purpose of the Cost of Gun Violence Study is to quantify the economic costs of firearm violence in the county. In addition to the countywide data summarization, data on select cities are included in

the report to provide local context.

This study provides the County Board of Supervisors and other decision makers with a public health framework for firearm violence prevention and shares recommendations for a comprehensive set of strategies with emphasis on upstream and systemic violence prevention.

## Public Health framework includes the following steps:



Adapted from CDC's Public Health Approach to Violence Prevention (<https://www.cdc.gov/violenceprevention/about/publichealthapproach.html>)

**1. Define and monitor the problem:** Data are presented to quantify firearm violence prevalent in the county.

**2. Identify risk and protective factors:** Institutional and systemic factors such as poverty, lack of economic and educational opportunities, racism and discrimination, unsafe neighborhood environment, and lack of support networks contribute to inequitable outcomes, especially for people of color. Firearm violence related racial/ethnic disproportionalities are highlighted in this report. Protective factors such as social connectedness and community assets are included in the recommendations.

**3. Develop and evaluate prevention strategies:** Report recommendations propose population-level upstream strategies, with an equity focus to help those impacted the most from firearm violence.

**4. Implement and ensure adoption of effective strategies:** This step ensures effective implementation of prevention strategies at multiple levels; from individual to neighborhood to community to countywide.

## Methods Overview

The County of Santa Clara Public Health Department collaborated with the Pacific Institute for Research and Evaluation (PIRE), and Prevention Institute (PI) to undertake this study. This study used a peer-reviewed framework for estimating the cost of firearm violence developed by PIRE.<sup>10</sup>

Fatal and non-fatal firearm injuries included in the report are based on county death, hospital, emergency department, and police databases. The firearm violence costs are derived using a mix of county data sources where available, with cost per event estimates derived from national data sources and extrapolated to county data. The medical, fire department, police, and criminal justice costs are mostly calculated using county and state data sources. The other major cost categories including mental health, wage loss, quality of life loss, and cost to employers are derived using national estimates and studies published in peer-reviewed journals.

A series of key informant and stakeholder meetings were conducted to understand the community and stakeholder concerns, perspectives on root causes, and possible solutions and policy recommendations to be included in further action planning. These meetings were represented by community members, resident groups, community

based organizations, criminal justice partners, County Health System and department partners, advocacy groups, subject matter experts, and city agencies.

Rates are useful in assessing the disease or death burden for a given population, compared with another population, regardless of size. Crude and age-specific death rates is calculated as the total number of deaths during a specific time period in the population category of interest, divided by the at-risk population for that category. However, crude rates are influenced by the underlying age distribution of the population, which can change over time and can be different in different population subgroups and geographic areas. Age-adjusting the rates ensures that differences in deaths between one population subgroup and another are not due to differences in their age distribution. Age-adjusted death rate is a weighted average of the age-specific death rates, where the weights are the proportions of persons in the corresponding age groups of a standard population. (Centers for Disease Control and Prevention; [https://www.cdc.gov/cancer/uscs/technical\\_notes/stat\\_methods/rates.htm](https://www.cdc.gov/cancer/uscs/technical_notes/stat_methods/rates.htm))

For more information about methods and limitations, please see Appendix B and C respectively.



## Data Sources Used in the Study



### Health and Hospital

- Death data
- Emergency department data
- Hospitalization data
- EMS data



### Mental Health

- Mental health services provided in community following mass shootings
- Staff hours, salaries, and other staffing information



### Indirect Costs

- Loss of wage estimates
- Loss of quality of life estimates



### Criminal Justice

- Gun sales
- Firearm offenses
- Gun violence restraining orders
- Firearm-related hearings and sentencing
- Victim compensation



### Population Health Surveys

- Behavioral Risk Factor Survey
- California Healthy Kids Survey
- California Safety and Wellbeing Survey



### Local Contextual Data

- National and State comparison data
- Local demographic data
- Local trends data on gun violence indicators

**Cost assessment using a peer-reviewed framework applied to all these data domains**

# Results

## Data Overview

**Table 1.** Firearm Violence, Santa Clara County, 2016-20

The table contains the summary counts, percent distribution and rates for non-fatal firearm injury-related emergency department visits and hospitalizations, and firearm deaths among Santa Clara County residents during 2016-20.

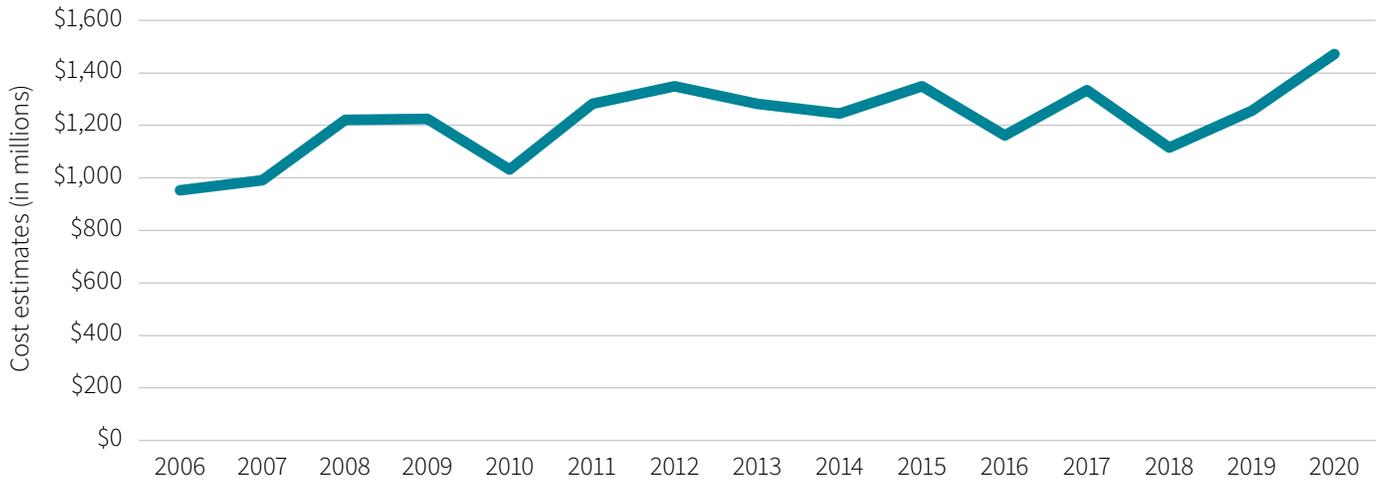
	Non-fatal firearm injury-related emergency department visits			Non-fatal firearm injury-related hospitalizations			Firearm deaths		
	Count	Percent	Rate	Count	Percent	Rate	Count	Percent	Rate
<b>2016-20</b>									
<b>Santa Clara County</b>	610	-	6.8	479	-	5.3	394	-	
<b>Female</b>	63	10%	1.5	32	7%	0.7	44	11%	1
<b>Male</b>	547	90%	11.9	447	93%	9.8	350	89%	7.9
<b>African/African Ancestry</b>	81	13%	34.1	71	15%	30.5	21	5%	5.9
<b>Asian*</b>	54	9%	1.8	32	7%	1.1	59	15%	1
<b>Latino</b>	350	57%	12.4	266	56%	10.0	104	26%	2.4
<b>White</b>	101	17%	3.3	82	17%	2.9	209	53%	3
<b>Less than 18 years</b>	50	8%	11.6	32	7%	7.4			
<b>18 to 24 years</b>	199	33%	125.9	135	28%	85.4	59	15%	7.3
<b>25 to 34 years</b>	197	32%	73.1	138	29%	51.2	75	19%	4.8
<b>35 to 44 years</b>	86	14%	30.9	77	16%	27.7			
<b>45 to 64 years</b>				78	16%	17.4	102	26%	4.2
<b>65 years and over</b>				19	4%	9.6	94	24%	7.2

Sources : Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), Emergency Department Visits and Patient Discharge Database, 2016-20, Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death data, 2011-20

Notes: \*Data are presented as Asian/Pacific Islanders combined for emergency department visits/hospitalizations and Asians for deaths. Age-adjusted death rates by race/ethnicity are for 10-year time period (2011 to 2020) while rest of the data in the table are for 5-year time period (2016 to 2020). Age-adjusted rates per 100,000 are presented for county overall, gender and race/ethnicity. Age-specific rates per 100,000 are presented for age groups. Data (blank cells) are not presented when the number of emergency department visits is 15 or fewer and when the number of deaths is 1 to 10. Whites refer to non-Hispanic Whites in this report.

# Estimated Costs for Firearm Injuries and Deaths

**Figure 1.** Costs of firearm violence in Santa Clara County, 2006-2020



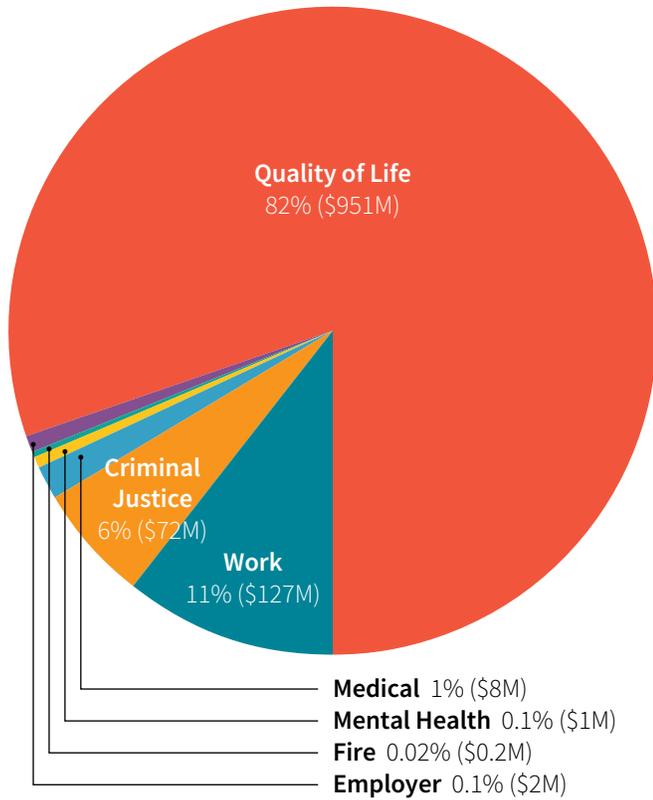
Source: Cost estimates are built based on local firearm-related data sources, local cost data and budget analyses, and published models of injury and crime costs (Zonfrillo et al. 2018, Miller et al. 2021, Hunt et al. 2019)

In the U.S., firearm violence costs \$280 billion in an average year. This amount includes the lifetime costs associated with firearm violence: immediate medical treatment, long-term physical and mental health care, lost wages, criminal justice costs and quality of life lost estimates.<sup>11</sup>

From 2006 through 2020, the annual societal costs of firearm violence in Santa Clara County increased from \$952 million to nearly \$1.472 billion (costs in 2020-dollar amount). The average annual increase of \$35 million equates to a 54% increase over the 15-year period.<sup>12</sup>



**Figure 2.** Costs of firearm violence by sector type



Source: Cost estimates are built based on local firearm-related data sources, local cost data and budget analyses, and published models of injury and crime costs (Zonfrillo et al. 2018, Miller et al. 2021, Hunt et al. 2019)

During 2016-20, the average annual costs related to firearm injuries and deaths were nearly \$1.2 billion dollars in Santa Clara County. This total cost estimate represented medical, criminal justice, mental health, lost wages, quality of life, emergency services, and employer-related costs. During 2016-20, quality of life costs (82%, \$951 million) accounted for the largest share of the cost estimates for firearm injuries and deaths in the county.

### Components of Firearm Injury and Crime Costs

**Medical Care:** The cost of all medical treatment associated with firearm injuries including emergency medical transport, acute care, rehabilitation and physical therapy, follow-up care, long-term medical and institutional care, prescriptions, prosthetic devices, home modifications, coroner services, and the costs of health insurance claims processing.

**Fire:** Costs of emergency medical response by fire departments.

**Mental Health Care:** The cost of behavioral health care of those shot and their families and friends, including treatment for grief, depression, anxiety, and post-traumatic stress disorder. Costs of treating suicidality that caused a firearm injury are excluded.

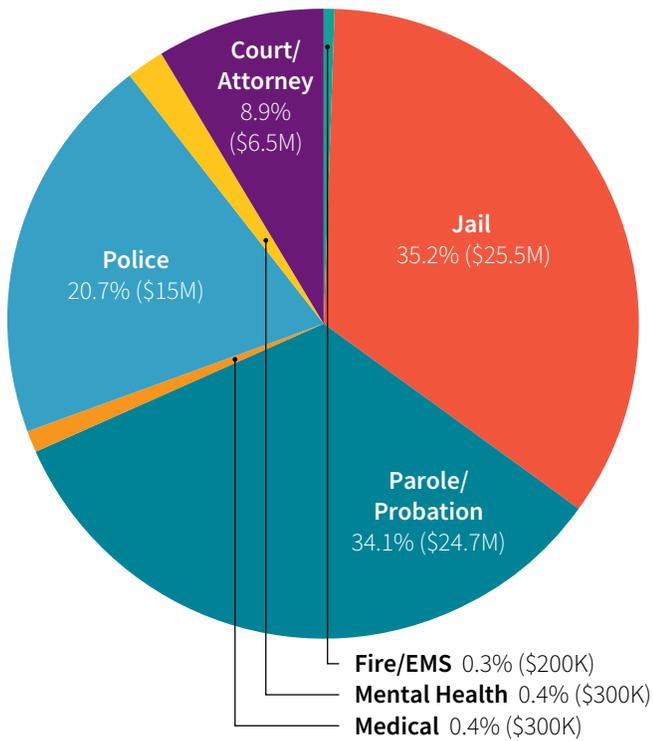
**Work related:** Wages, benefits like health insurance and leave, and household work (valued at the price for hiring a person to accomplish the same tasks) lost over the victim's remaining life span.

**Quality of Life:** The dollar value of the pain and lost well-being that families experience due to death and injury, exclusive of the work-related costs. The study adopts a value prescribed by the U.S. Department of Health and Human Services based on what people pay for small reductions in their risk of death and injury.

**Employer related:** Costs of workplace disruption resulting from loss or absence of an employee. This includes the cost of hiring and training new employees, overtime required to accomplish work of the injured employee, and the administrative costs of processing personnel changes. To avoid double counting work-related costs, this category excludes sick leave.

**Criminal Justice:** Costs of police response and investigation, victim services, district attorney, public defender, jail, prison, probation, and parole.

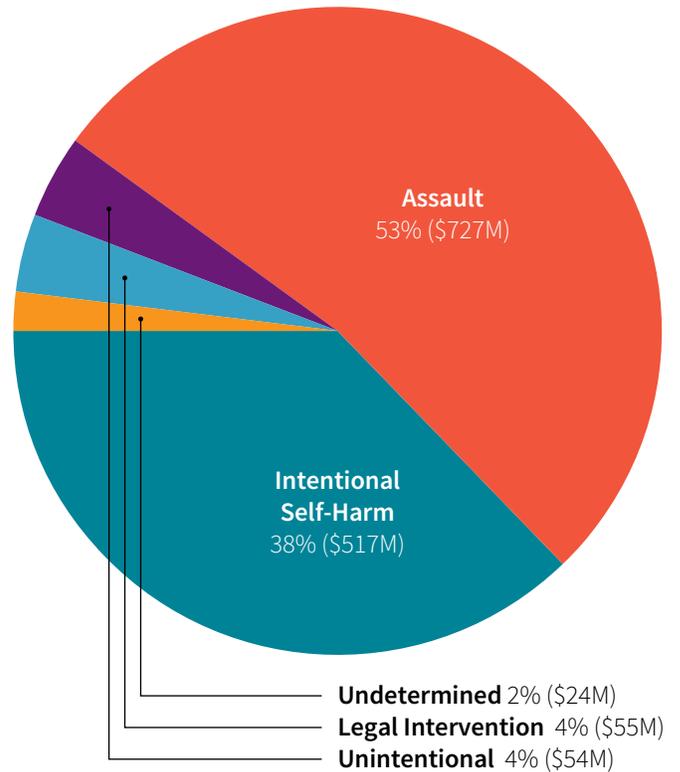
**Figure 3. Costs of firearm violence by County Departments**



Source: Cost estimates are built based on local firearm-related data sources, local cost data and budget analyses, and published models of injury and crime costs (Zonfrillo et al. 2018, Miller et al. 2021, Hunt et al. 2019)

Costs of firearm violence can be divided between public and private sectors. Public Cost is the cost to the public sector, paid for by taxpayers (e.g., uninsured person admitted to ED); Private cost is cost to the private sector (employers), and cost borne by individuals. During 2016-20, the average annual public sector costs of firearm violence were \$72.5 million in the county. The county-level public sector cost estimate represented the following sectors: jail at \$25.5 million, probation/parole at \$24.7 million, medical at \$300,000, police at \$15 million, mental health at \$300,000, court/attorney fees at \$6.5 million, and emergency services at \$200,000. At Federal and State level, the prison costs added an additional \$215 million per year for incarceration related to firearm violence in the county.

**Figure 4. Costs of firearm violence by intent**



Source: Cost estimates are built based on local firearm-related data sources, local cost data and budget analyses, and published models of injury and crime costs (Zonfrillo et al. 2018, Miller et al. 2021, Hunt et al. 2019)

During 2016-20, more than half of the firearm violence costs in the county were related to firearm assaults/homicides (53%, \$727 million). Costs due to other types of firearm violence were: \$517 million for firearm self-inflicted injuries/suicide, \$55 million for legal intervention-involved firearm injuries/deaths (see pg 37 for more information), \$54 million for unintentional firearm injuries/deaths, and \$24 million for undetermined firearm injuries/deaths. Figure 4 includes the \$215 million per year in Federal and State prison costs, which are not included in figure 2.

**Table 2. Selected average annual costs of firearm violence by outcome, 2016-20**

The table contains the annual cost estimates for medical and mental health, work, quality of life and total costs for firearm deaths, hospitalizations and emergency department visits among county residents during 2016-20. Data below excludes \$287 million in criminal justice costs spread across these incidents and firearm crimes that did not result in death or hospital-treated injury. Also, state and federal prison costs are not included in the table below.

Firearm injury outcome	Medical & mental health	Work	Quality of life	Subtotal
Fatal (firearm deaths)	\$1,748,886	\$113,508,784	\$873,877,606	\$989,135,276
Non-fatal hospitalizations	\$7,402,692	\$13,225,170	\$73,530,151	\$94,158,013
Non-fatal emergency department visits	\$325,068	\$544,288	\$3,919,709	\$4,789,065
<b>Total</b>	<b>\$9,476,646</b>	<b>\$127,278,242</b>	<b>\$951,327,466</b>	<b>\$1,088,082,354</b>

Source: Cost estimates are built based on local firearm-related data sources, local cost data and budget analyses, and published models of injury and crime costs (Zonfrillo et al. 2018, Miller et al. 2021, Hunt et al. 2019)

During 2016-20, firearm deaths accounted for most of the work-related costs (89%, \$114 million) and quality of life costs (92%, \$874 million) while non-fatal firearm injury-related hospitalizations accounted for most of the medical and mental health costs (78%, \$7 million).

## Costs of Firearm Violence at City Level, Santa Clara County

There are 15 cities and towns in Santa Clara County; with San José being the largest city with a population of 1,013,240.<sup>13</sup> Cost estimates are only presented for San José in this report due to the following reasons. First, smaller population and relatively lower incidence of firearm violence in other cities did not permit the sharing of data per data deidentification guidelines. Also, margin of error will be larger for costs estimated based on small counts in other cities. Second, San José has a disproportionately higher rate of gun violence relative to its population, with several crime hot spots within its borders, requiring greater attention in data analysis.

County Public Health Department collaborated with the City of San José for estimating the costs of gun violence. On January 19, 2022, City of San José and PIRE publicly released the [Incidence and Cost of Firearm Injuries in San Jose, CA report](#). The data presented in the county report is an update to the societal costs originally published in the above-mentioned report.



On average, 228 fatal and non-fatal firearm injuries occurred annually among San José residents during 2019-2020 time period. The average included 64 firearm assaults, 29 intentional self-harm firearm injuries, and 135 unintentional or undetermined intent firearm injuries.

The lifetime costs of fatal and non-fatal firearm injuries among San José residents averaged \$995 million in 2019-20. Lost quality of life accounted for most of these costs (68%). Criminal justice was the second largest cost component (22%). Costs were \$643 million for assault and legal intervention firearm injuries; \$298 million for self-harm firearm injuries; and \$53 million for unintentional and undetermined intent firearm injuries. The method to estimate the costs of firearm violence is same for the county and San José.

Per-capita costs for firearm injuries were \$977 in San José, nearly double the per-capita cost of \$523 in rest of the county. The updated costs are higher than those published in the January 2022 City report. The difference in cost estimate is mostly due to the change in the value per life lost of \$11.2 million used by the U.S. Department of Health and Human Services in 2020<sup>14</sup> from a \$5.8 million value (in 2020 dollars) based on a 1990 systematic review.<sup>15</sup>

For detailed information about firearms present in the county, prevalence of firearm injuries and death among county residents, and different types of firearm injuries, please see Appendix A. Aligning with the report's primary purpose to provide estimated costs of gun violence in the county, the results section only has the brief data overview and detailed costs of gun violence. Appendix A has the comprehensive data for firearm violence impacting the county residents.



# Recommendations

In recent years, the county has grappled with several alarming trends related to gun violence that pose severe risks to our communities. These trends include spike in gun ownership in the general population and lack of safe storage practices, proliferation of ghost guns and its facilitation of criminal activities, ease of access to firearms among prohibited and high-risk persons, increase in firearm-related assaults and crimes, more frequent use of guns among youth population and in gang activities, rise in mental health incidents and domestic violence disputes involving a firearm.<sup>16</sup> Interviews with community leaders further revealed a climate of fear that permeates people’s social relationships and general outlook, deeply tied to broader societal anxieties arising from the pandemic, the hostile political environment, economic upheavals, and other macro-level factors.

**Figure 5. Socioecological Framework**

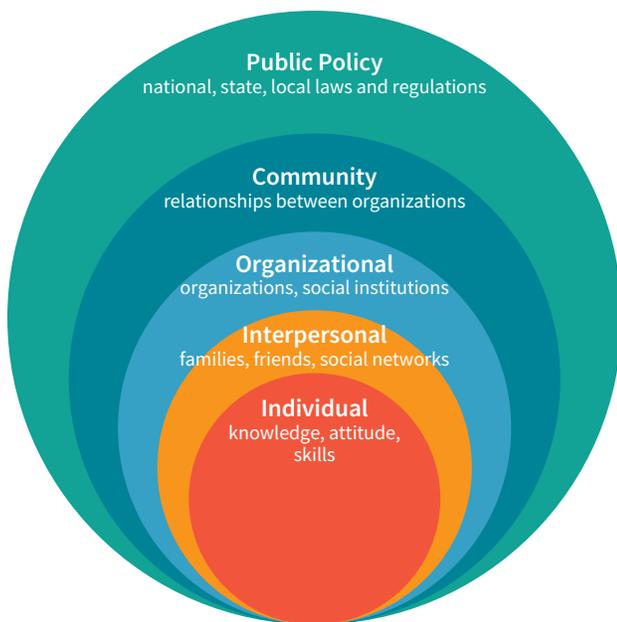


Image courtesy of CDC.

As with most complex social issues, gun violence is a preventable public health issue that is most effectively remedied by addressing population-level risk factors like concentrated poverty and systemic racism. A strong consensus emerged through the stakeholder meetings that calls for the application of a public health approach centered on racial equity and the root causes of violence.

While the Public Health framework guides the implementation of strategies, a socioecological framework aids in the development and alignment of strategies for maximum impact. The socioecological framework can provide a helpful roadmap in advancing programmatic and policy solutions in the arenas mentioned above. It also helps guide policy makers to map out strategies at multiple levels and across sectors that mutually reinforce each other. This framework examines contributors, drivers, and interventions that comprehensively target the individual, community, organization, and societal levels as summarized in sectors that mutually reinforce each other. This framework examines contributors, drivers, and interventions that comprehensively target the individual, community, organization, and societal levels as summarized in the [Public Health Pathways to Preventing Violence framework developed by Prevention Institute](#).

The highlighted recommendations provide a promising path forward for reducing gun violence and creating community safety. The recommendations represent a strong desire among stakeholders to strengthen a coordinated violence prevention response among multiple partners, including residents, community-based organizations, county and city elected officials and county and city departments, and advocacy groups. While this list is not exhaustive of all possible actions, it underscores the critical importance of targeting efforts that invest in and

support individuals and communities at greatest risk of experiencing gun violence. Moreover, further research and advocacy are required to fully understand the complexities of gun violence, its historic role as a tool of power and domination, and explore more aggressive gun control policies beyond the local level.<sup>17</sup> Implementation of these recommendations requires strong commitment and deeper collaboration among multiple cross-sector and institutional partners, as well as financial investment.

## Recommendations to Strengthen Policy, Advocacy, and Public Awareness

### RECOMMENDATION 1

**Encourage the adoption of gun safety policies and practices to ensure gun safety for gun owners and the broader community.**

Increases in gun ownership and the presence of unsafely stored guns in the home are associated with increased firearm injuries and an increase in the risk of suicide among adults and adolescents. Additionally, unsecured guns in the home increases the likelihood of gun theft.<sup>18</sup> Advancing a culture of gun safety requires establishing more robust and evidence-based gun safety policies and practices. One example of such policies is safer storage ordinances requiring firearms to be stored with a locking device or in a locked container, unloaded, and separate from ammunition. Another example is the adoption of policies that require gun owners to report or more promptly report the loss or theft of their firearm. Several local jurisdictions have already implemented stronger gun safety policies and lead the way for others to do the same. Gun safety laws significantly reduce the risk of intentional and unintentional firearm injuries, particularly among children and youth.

*“A major part of gun violence and safe storage education is undoing the idea that putting a gun in the closet or under the bed is “safe”. We need to create a norm change so that safe gun storage is as commonplace as wearing your seatbelt.”*

— Stakeholder Meeting, Gun Safety Advocate

### RECOMMENDATION 2

**Adopt the use of Racial Equity Impact Assessment tools<sup>19</sup> to evaluate its policy position on guns and advocate for more equitable gun violence prevention policies at the city, county, state, and federal levels.**

A Racial Equity Impact Assessment (REIA) is a systematic examination of how different racial groups can potentially be affected by a policy decision or action. The REIA is used to identify unintended or disproportionate negative consequences that may fall upon historically disadvantaged racial groups to mitigate harm and increase equity: how do we ensure the data analysis and decision points do not result in further harm to communities of color? In the context of gun violence, a REIA can be used to reduce victimization and minimize arrests and incarceration which disproportionately impacts communities of color. Typical questions in a REIA include: What types of racial disparities could potentially result from the policy’s design and implementation? Who are the specific communities that the policy will impact?<sup>20</sup> The use of REIA is relatively new in the U.S, but adoption is on the rise among counties and cities. The City of Seattle has been using Racial Equity Analysis in its policy development and budget planning since 2012. Other regions, such as Iowa and Connecticut, which have passed legislation requiring examination of the racial impacts of all new sentencing laws prior to passage.<sup>21</sup>

Intertwined with the legacy of systemic racial discrimination in the United States, there are continuing disparities in enforcing and implementing firearm restrictions. Gun violence prevention policy advocates have a renewed awareness of the potential for racial bias in developing and implementing gun violence prevention policies. Gun violence prevention researchers urgently recommend racial equity impact assessments for all gun violence policies.<sup>22</sup>

*“We must pursue permanent solutions that uplift communities and youth rather than temporary fixes. Talking about things is not enough, allocation of resources and support is key to making any impact.”*

— Stakeholder Meeting, Community-based organization staff

### RECOMMENDATION 3

**Develop and implement robust public awareness and education campaigns to improve gun safety practices, broaden public understanding of gun safety laws and effective public health prevention strategies, and encourage trauma-informed healing and support.**

Communication strategies provide vital information and influence individuals and communities to be active participants in public health action addressing gun violence. Public awareness campaigns can effectively encourage safer gun safety practices, dispel the stigma associated with a mental health crisis, build understanding of effective prevention strategies, and promote healing and support by elevating the voices of victims, families, and communities impacted by gun violence.<sup>23</sup> According to the Centers for Disease Control and Prevention, there is growing evidence for the use of targeted, culturally tailored campaigns addressing such factors.

Communications and education campaigns are most effective when they leverage and help build understanding, relationships, shared vision, and trust across sectors for the goal of reframing violence as a preventable issue. This can be accomplished through partnerships with CBOs, schools, gun shop owners, and others.

Community education messages about gun prevention policies, such as California’s Red Flag Law and Gun Violence Restraining Orders (GVRO), also provide mechanisms to prevent gun harm during a mental health crisis. This public education may include messaging about warning signs and how to activate life-saving tools through GVROs. Integrating violence prevention and anti-bullying curriculum in schools is another important element. Interjurisdictional and intersectoral coordination would yield tremendous progress on this front.

Finally, educational campaigns must work to create a paradigm shift around how guns are discussed, perceived, and understood in society. Public education must include tools to critically examine the deep relationship guns have to colonialism, power, patriarchy, and nationalism. It must also examine the way guns, as both a physical and symbolic weapon, has been continually used to reinforce oppressive gender and racial hierarchies and maintain power over Black, Indigenous and people of color.

*“[We] need a policy change from investing in jails and punishment to invest in human beings. Stop investment in criminal justice system. Start with better education. Invest in school structures. Investing upfront.”*

— Stakeholder Meeting participant, Black Leadership Kitchen Cabinet member

## Recommendations to Increase Protective Factors that Advance Equity

### RECOMMENDATION 4

Adopt and replicate community-centered, place-based approaches to gun violence prevention in neighborhoods facing concentrated disadvantage/concentration of risk factors for gun violence.

A history of racially discriminatory practices such as redlining and other inequitable investments has created communities of concentrated disadvantage resulting in the high prevalence of risk factors for gun violence. In these places, gun violence can be prevented by strengthening the economic health, built environment conditions, social environment, and civic infrastructure of neighborhoods and cities.

Effective place-based programs currently exist in Santa Clara County and can serve as models to scale or replicate in neighborhoods experiencing high rates of gun violence. An increasing body of evidence for place-based strategies is prompting the federal, state, and local jurisdictions to adopt this approach.<sup>24</sup> Community-centered, place-based approaches include resident engagement and leadership development activities to support neighborhood action planning, culturally rooted, community-based violence prevention and intervention; community health worker programs; resident-led healing and trauma-informed neighborhood projects; and campaigns for educational equity and affordable housing/anti-displacement. These strategies directly address the root causes impacting community health and foster new community norms that serve as protective factors against gun violence.<sup>20</sup>

Well-resourced communities can play a role by acknowledging the institutional and systemic structures that perpetuate inequalities and actively partner with disadvantaged communities to fight these injustices.



*East San José Safe and Peaceful Neighborhood Event*

### RECOMMENDATION 5

Expand partnerships with ethnic behavioral health service providers to strengthen community-based crisis intervention, de-escalation, and mobile mental health crisis care; improve policies and protocols to separate people in crisis from access to firearms and reduce the use of force during intervention.

Community-based crisis interventions and mobile teams offer targeted interventions and violence interruptions to individuals and groups in need wherever they are, including at home, work, or elsewhere in the community. Mobile crisis units already exist in various locations within county and can be scaled up and enhanced. Several promising

models in cities, such as South Bronx, New York and Richmond, California, have shown evidence of effectively reducing the incidence and harm related to gun violence.<sup>25</sup> This recommendation strengthens and extends the county’s focus on community-based crisis intervention and mobile teams by expanding partnerships with ethnic service providers. Multi-disciplinary teams, including trained, licensed providers, local community-based programs, and trusted community members with lived experiences, would work collectively to mediate conflict, de-escalate situations, and provide mental health and healing support as part of the crisis continuum of care, especially among communities of color and within specific geographic areas most at risk for gun violence. This strategy seeks to reduce police officer-involved injuries, reduce arrests of individuals with mental illness, minimize officers’ use of force, increase diversion of mentally ill individuals from the criminal justice system, and enhance their access to mental health and other prevention services addressing social determinants of health.

*“Don’t sit there and wait for crisis. We need to build capacity in the community around conflict resolution, addressing the fear people have of each other. We need to train community members as peace makers and de-escalators.”*

— Stakeholder Meeting Participant,  
Black Leadership Kitchen Cabinet Member

## RECOMMENDATION 6

**Support excluded youth by increasing partnerships between cities, school districts, and the County to expand community-led social, recreational, behavioral, educational, and employment opportunities.**

Many opportunities exist to support young people’s flourishing. Yet, a segment of the county’s youth have social, recreational, behavioral, educational, and employment-related needs that remain unmet. Due to structural inequalities, these young people are more likely to suffer from poor mental and behavioral health and have a higher risk for gun violence perpetration and victimization. Too often, these disadvantaged young people are met with punitive responses rather than opportunities that increase their positive experiences and strengthen their community’s protective factors. Supportive options should be explicitly designed with input from this population to emphasize safe, stable, and nurturing connections and environments, with attention to cultural and community fit.

*“How do we start to employ young people, exposing them to opportunities, help them be involved in leadership, and to learn empathy. If we plant the seed, then families will catch on. Whatever policy or program we create now will expand 7 generations into the future.”*

— Stakeholder Meeting Participant,  
Community Based Organization staff

## Recommendations to Strengthen Government and Community-Level Coordination and Data Systems

### RECOMMENDATION 7

**Establish a gun safety data workgroup to guide the development of a data-to-action dashboard.**

The complexity of multiple data systems involved in tracking the actual cost of gun violence and a lack of non-governmental contributions of data as part of the entire data-to-action planning process presents challenges in fully understanding the impact of gun violence. Establishing a collaborative, multisectoral data working group is needed to develop a centralized data platform to address these challenges and barriers. The

workgroup would be represented by county departments, city agencies, community-based organizations, advocacy groups, and resident leaders involved in gun violence prevention efforts. Governmental and non-governmental agencies would be encouraged to make more data available publicly in the spirit of transparency and to support data-driven decision-making.<sup>26</sup> This type of information repository, such as data lake or warehouse, would require data contributions from all stakeholders, not just criminal justice and hospital systems, in order to meet the magnitude of this intractable issue. Data sharing agreements would facilitate the inter-departmental sharing of de-identified record-level and population-level data to allow for continuous analysis along the spectrum of gun violence, greater collective understanding of the impact of gun violence, and more robust and informed prevention action planning among the collaborative.

# Conclusion

For decades, gun violence research has been restricted due to the Dickey Amendment, a provision in the U.S. government's annual appropriations legislation that prohibits the use of federal funds to advocate or promote gun control. However, a 2018 decision from Congress to end such restrictions offers new opportunities to advance knowledge and policies in this area.<sup>27</sup> An economic analysis of the impact of gun violence has been conducted on the national and state level, but rarely within a local jurisdiction, for the purpose of informing locally driven actions and strategies. This report pioneered an innovative approach to firearm research through multi-disciplinary methodologies and inter-sectoral

collaborations. It opened the door to an exciting frontier of questions and learnings for years to come.

Now, more than ever, there is need for an upstream and comprehensive, public health approach for addressing gun violence. In a difficult environment for federal gun control legislation, this report offers a promising path forward by pointing towards efforts that tackle root causes of violence, promote resiliency, and build capacity in both government systems and the community.



# Appendices

## Appendix A: Detailed Firearm Violence Data

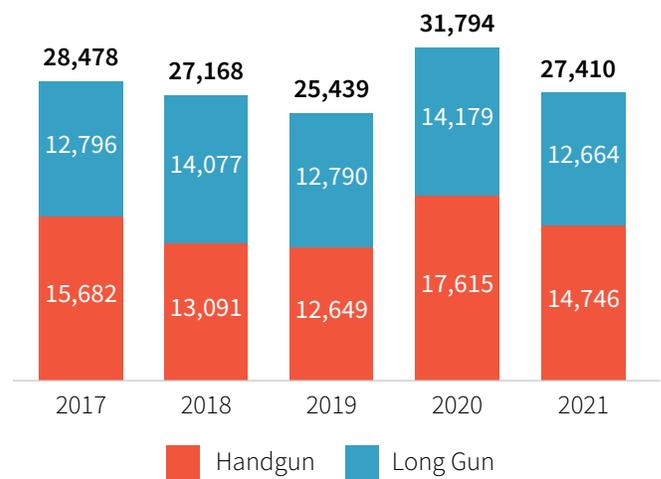
### Firearms Availability in Santa Clara County

Compared to other developed countries, the U.S. has the most firearms present among civilians along with the weakest firearm laws.<sup>28</sup> The availability of firearms increased nationwide in recent years.<sup>29</sup> In the U.S., there was a record number of firearm sales in 2020; millions of people, including many first-time purchasers, bought firearms.<sup>30</sup> Nationally, the firearm sales in 2020 increased by 64% compared to 2019.<sup>31</sup>

When firearm sales increase, resulting in higher availability of firearms, research shows total suicides, firearm suicides, total homicides, firearm homicides, and unintentional firearm injuries/fatalities also increase.<sup>32</sup>

In 2021, nearly 550,000 firearms were purchased and/or owned by Santa Clara County residents. Based on the historical data from 2001 to 2015, nearly half of the firearms purchased in the county were handguns.<sup>33</sup>

**Figure 6. Registered firearms in Santa Clara County by type, 2017-2021**



Source: California Department of Justice

During 2017-21, an average of 28,000 firearms were purchased annually in Santa Clara County. More than half of these firearms (74,714, 53%) were purchased in San José.<sup>32</sup>

Nationally, the average firearm-owning household possessed 4.8 to 5.16 firearms.<sup>34</sup> Based on the national data, an estimated 17% to 18% of households in the county own firearms (106,300 to 114,300 households). Similarly, an estimated 15% to 18% of households (49,000 to 57,500) own firearms in San José.<sup>32</sup>

**Table 3.** Number, percent, and rate of newly purchased firearms, by jurisdiction, Santa Clara County, 2017-21

Community	Count of firearms	Percent of firearms	Rate of firearms per 100 residents
Campbell	4,684	3.3%	10.7
Cupertino	3,025	2.2%	5.0
Gilroy	8,601	6.1%	14.5
Los Altos	2,222	1.6%	7.0
Los Altos Hills	624	0.4%	7.4
Los Gatos	3,867	2.8%	11.5
Milpitas	4,978	3.5%	6.2
Monte Sereno	436	0.3%	12.5
Morgan Hill	7,786	5.5%	17.1
Mountain View	5,178	3.7%	6.3
Palo Alto	3,355	2.4%	4.9
San José	74,714	53.3%	7.4
Santa Clara	8,256	5.9%	6.5
Saratoga	2,688	1.9%	8.7
Sunnyvale	8,511	6.1%	5.5
Unincorporated	1,364	1.0%	1.5
Santa Clara County	140,289	100.0%	7.2

Source: California Department of Justice, Firearm sales background check system

Table 3 summarizes the number of newly acquired firearms in Santa Clara County by jurisdiction. Higher proportion of firearms were purchased in the cities of San José (53%), Gilroy (6.1%), Sunnyvale (6.1%), Santa Clara (5.9%), and Morgan Hill (5.5%). The firearm acquisition rate was similar in San José (7.4 purchased firearm per 100 residents) and the county (7.2) during 2017-21. Firearm acquisition rates were highest in the cities of Morgan Hill (17.1), Gilroy (14.5), Monte Sereno (12.5), Los Gatos (11.5) and Campbell (10.7).

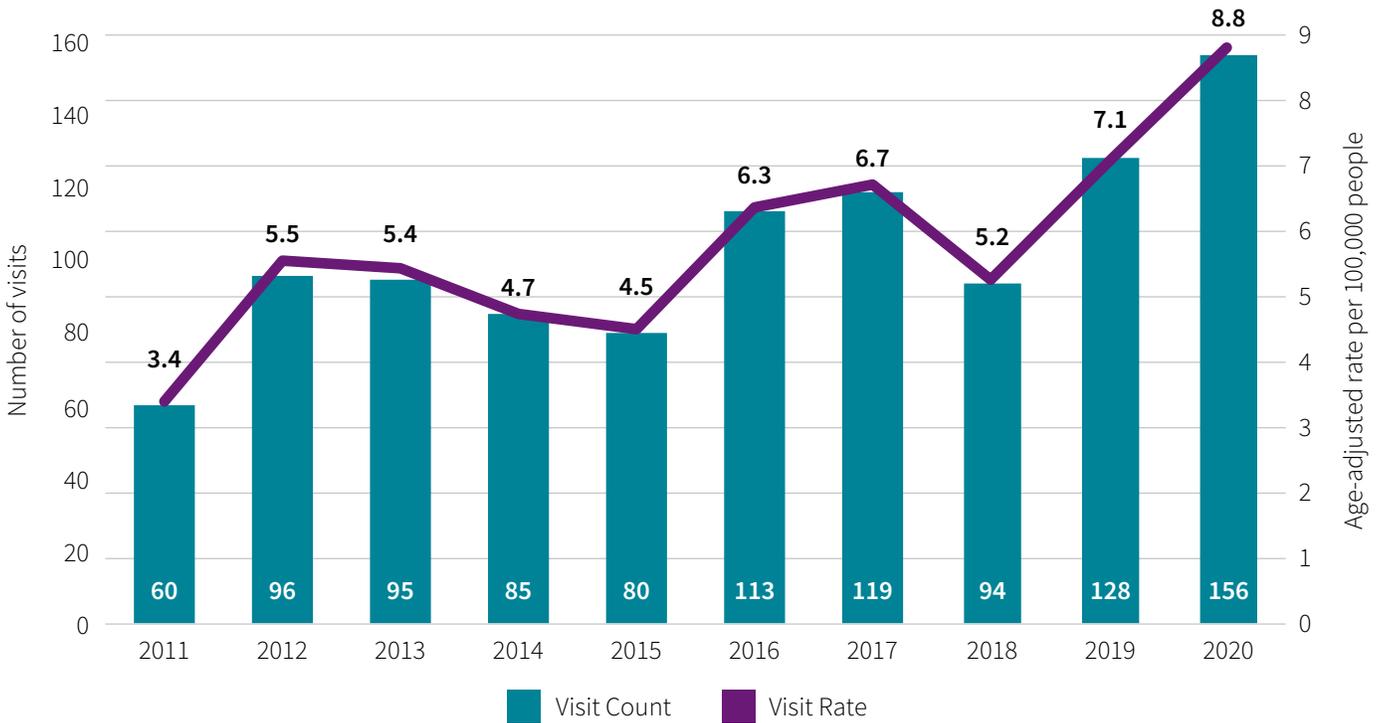


*Photo from May 22, 2022 Santa Clara county gun buyback.*

# Non-fatal Firearm Injury-related Emergency Department (ED) Visits

In Santa Clara County and nationwide, people more often survive than die from a firearm injury, unless it is intentionally self-inflicted. Most of the firearm injury-related emergency department visits were assault related and unintentional firearm injuries.<sup>35</sup>

**Figure 7.** Non-fatal firearm injury-related emergency department visits, Santa Clara County, 2011-2020



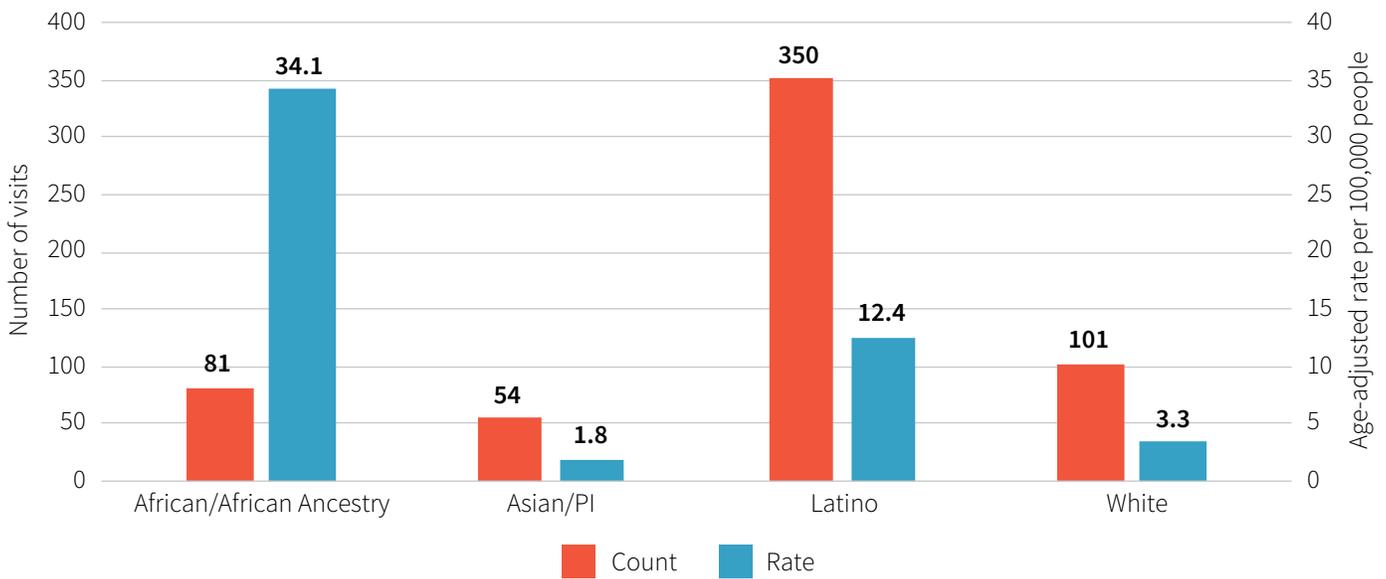
Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2011-2020

Note: Data for 2011 to Q3 2015 are summarized using ICD-9-CM classification. Data for Q4 2015 to 2020 are summarized using ICD-10-CM classification. Any differences in data measures should be interpreted with caution, as these might be partially due to changes in the classification system.

The count of annual non-fatal firearm injury-related emergency department visits more than doubled during the past decade, increasing from 60 in 2011 to 156 in 2020. Similarly, age-adjusted rate of visits increased from 3.4 per 100,000 people in 2011 to 8.8 in 2020. Nine in ten (90%) of the non-fatal firearm injury-related emergency department visits were among males.<sup>36</sup>

During 2016-20, unintentional/accidental firearm injuries (77%) were the most common cause of non-fatal firearm injury-related emergency department visits.<sup>36</sup>

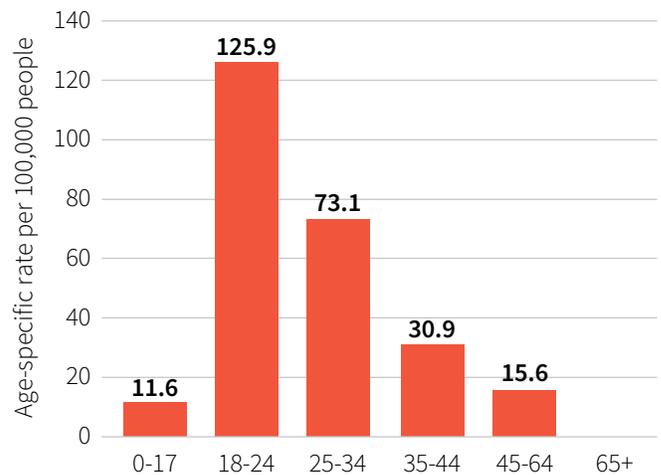
**Figure 8.** Count and age-adjusted rate of firearm injury related emergency department visits by race/ethnicity among Santa Clara County residents, 2016-20



During 2016-20, nearly 6 in 10 non-fatal firearm injury-related emergency department visits were among Latinos (57%) residing in the county followed by Whites (17%), African/African Ancestry (13%) and Asian/Pis (9%). The age-adjusted rate of non-fatal firearm injury-related emergency department visits was highest among African/African Ancestry (34.1 per 100,000 people) followed by Latinos (12.4), Whites (3.3) and Asian/Pis (1.8).<sup>36</sup>



**Figure 9.** Age-specific rate of non-fatal firearm injury-related emergency department visits, Santa Clara County, 2016-20



Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2016-20

A higher proportion of non-fatal firearm injury-related emergency department visits were among young adults. During 2016-20, nearly 2 in 3 (65%) of the non-fatal firearm injury-related emergency department visits were among adults ages 18- to 34 years.<sup>36</sup>

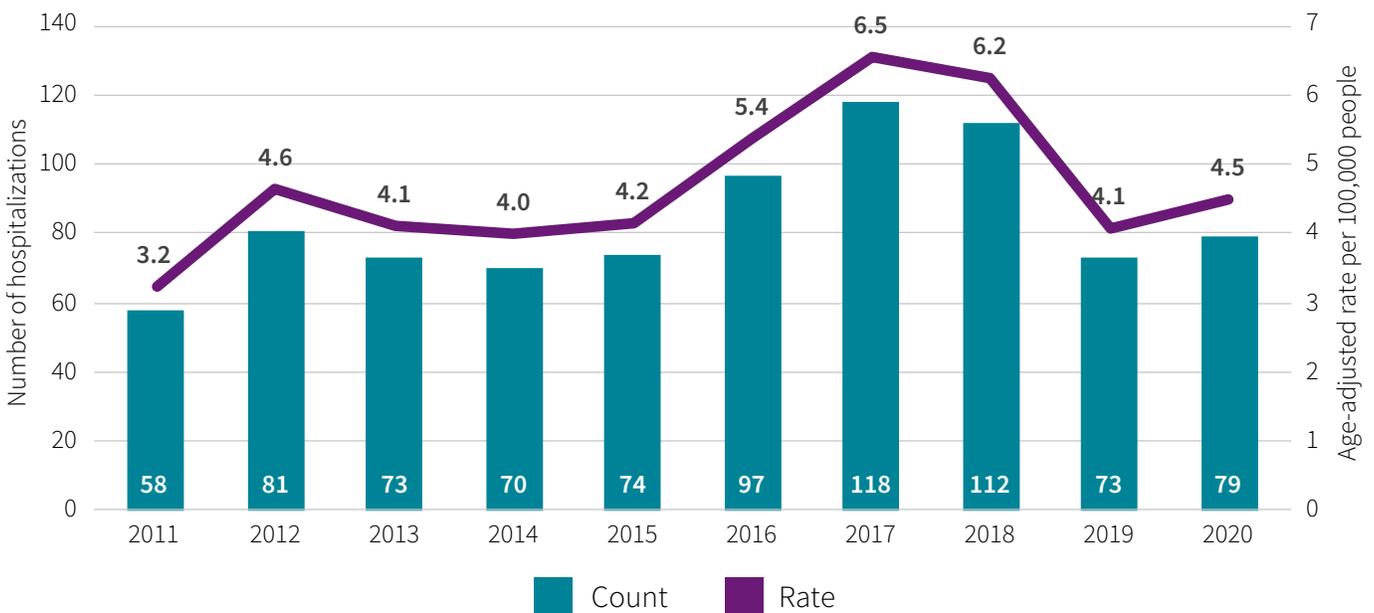
## Non-fatal Firearm Injury-related Hospitalizations

Hospitalizations due to firearm injury are an important component for assessing the complete scope of non-fatal firearm injuries. Hospitalized firearm injuries tend to be more serious than those treated in the emergency department, resulting in longer and more complex medical care,<sup>37</sup> with medical costs for non-fatal firearm injuries per case averaging \$72,640 for hospitalizations versus \$2,371 for ED visits.

In Santa Clara County, the count of annual non-fatal firearm injury-related hospitalizations increased from 58 in 2011 to a peak of 118 in 2017 and then decreased to 79 in 2020. Similarly, the age-adjusted rate of hospitalizations increased from 3.2 per 100,000 people in 2011 to 6.5 in 2017 and then decreased to 4.5 in 2020. Most of the non-fatal firearm injury-related hospitalizations were assault related and unintentional firearm injuries.<sup>38</sup>

During 2011-15, firearm assault (66%) accounted for two-thirds of the firearm injury-related hospitalizations, followed by 23% due to unintentional firearm injuries. However, in 2016-20, more than 1 in 2 (56%) of the firearm injury-related hospitalizations were due to unintentional firearm injuries, followed by 1 in 3 (35%) due to firearm assaults.<sup>39</sup>

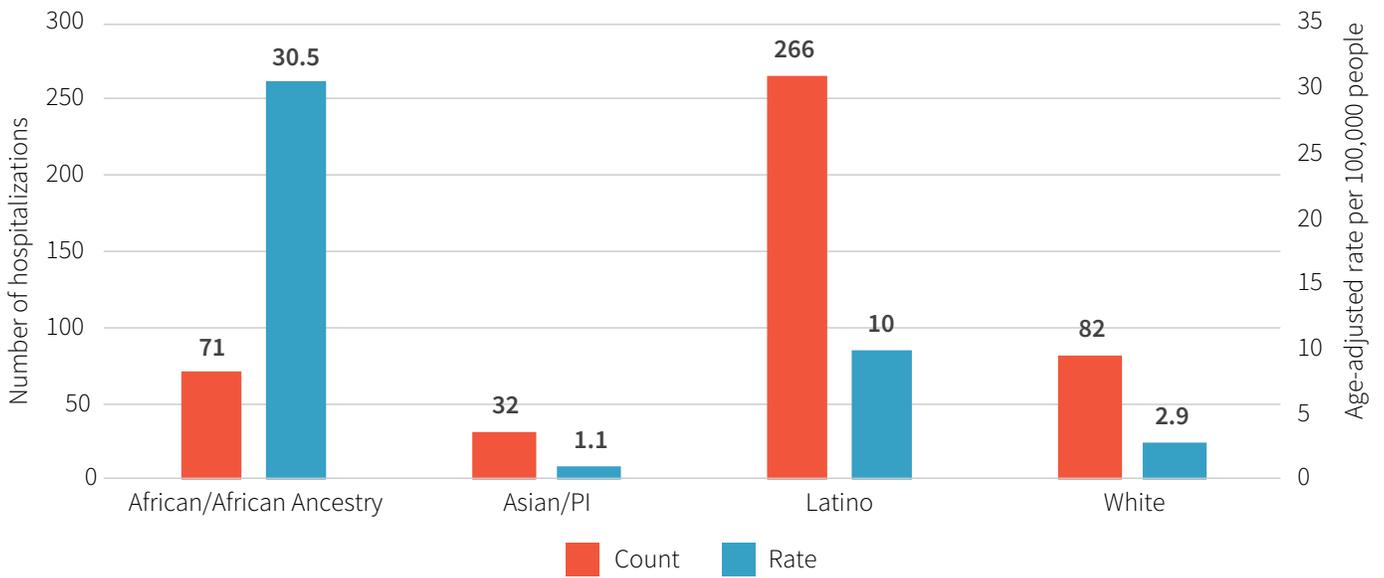
**Figure 10.** Non-fatal firearm injury-related hospitalizations



Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2001-2020

Note: Data for 2001 to Q3 2015 are summarized using ICD-9-CM classification. Data for Q4 2015 to 2020 are summarized using ICD-10-CM classification. Any differences in data measures should be interpreted with caution, as these may be partially due to changes in the classification system.

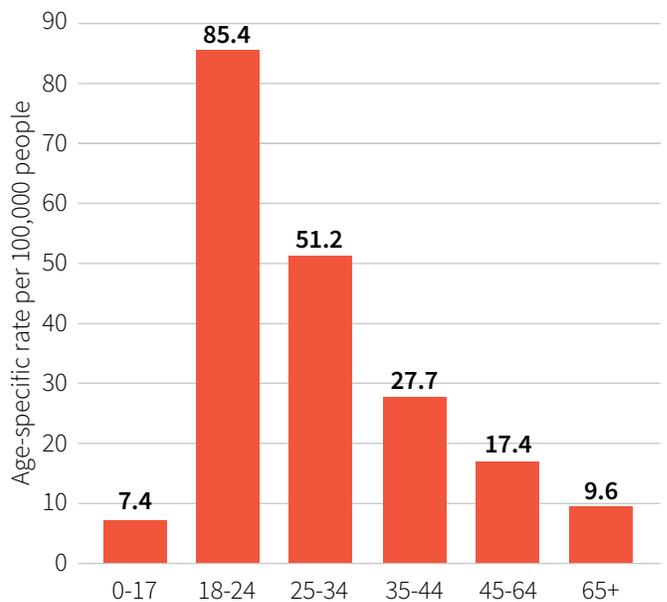
**Figure 11.** Count and age-adjusted rate of non-fatal firearm injury-related hospitalizations by race/ethnicity



Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2016-20

During 2016-20, more than 9 in 10 (93%) firearm injury-related hospitalizations were among males. Latinos in the county accounted for more than half (56%) of non-fatal firearm injury-related hospitalizations, followed by Whites (17%), African/African Ancestry (15%) and Asian/Pis (7%). The age-adjusted rate of non-fatal firearm injury-related hospitalizations was highest among African/African Ancestry (30.5 per 100,000 people) followed by Latinos (10.0), Whites (2.9) and Asian/Pis (1.1). The racial/ethnic distribution was similar between the non-fatal firearm injuries treated in the emergency departments and hospitals.<sup>38</sup>

**Figure 12.** Age-specific rate of non-fatal firearm injury-related hospitalizations



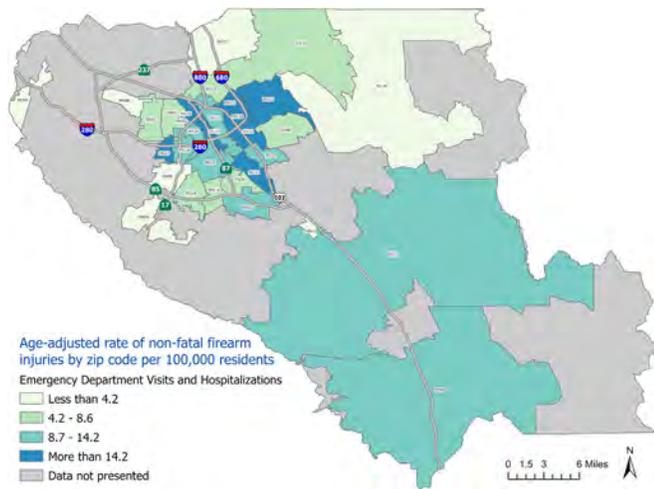
Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2016-20

A majority of non-fatal firearm injury-related hospitalizations were among young adults. During 2016-20, adults ages 18 to 34 accounted for 57% of the non-fatal firearm injury-related hospitalizations.<sup>38</sup>

## Non-fatal Firearm Injuries by Place of Residence

The place of residence and its socio-economic status plays a vital role in health outcomes of people living there. Areas with poor socio-economic status like high poverty rate, lower education attainment, lower per-capita income, higher unemployment rate, higher single parent households, overcrowded households are risk factors for firearm violence. These factors increase the risk for higher rates of firearm injury-related emergency department visits compared to areas with better socio-economic status.<sup>40</sup>

**Figures 13.** Non-fatal firearm injuries treated in medical facilities



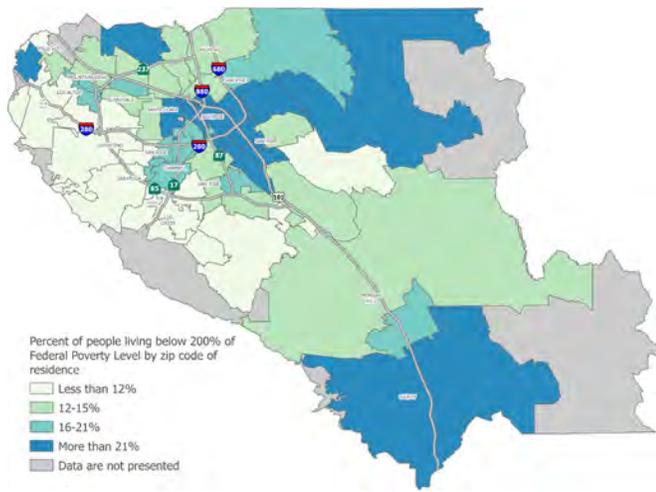
Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2011-20

Note: Data are masked when the number of events is 15 or fewer. Data are not presented for zip codes that cross county boundary. Age-adjusted rates per 100,000 people are mapped.

Data are combined for emergency visits and hospitalizations related to non-fatal firearm injuries and mapped by injured person’s zip code of residence. Zip codes in the East San José region of the county had the highest rate of non-fatal firearm injuries treated in a medical facility during 2011-20. The zip code with the highest count and rate of non-fatal firearm injuries were 95116 (223 service encounters with a rate of 39.4 per 100,000 people), followed by 95122 (155, 24.4), 95111 (135, 21.6), 95127 (116, 17.9), and 95112 (77, 10.7).<sup>41</sup>

The following maps show the zip codes in the county with relatively higher rate of poverty, lower education attainment, higher rate of single parent households with children under the age of 18, and overcrowded households.<sup>42</sup> These maps highlight the zip codes with poor socio-economic status in the county. The non-fatal firearm injuries map (fig. 12) and the social conditions maps (fig. 13 to fig. 16) have overlap in the East San José region highlighting the interaction of poor socio-economic factors and higher prevalence of non-fatal firearm injuries.

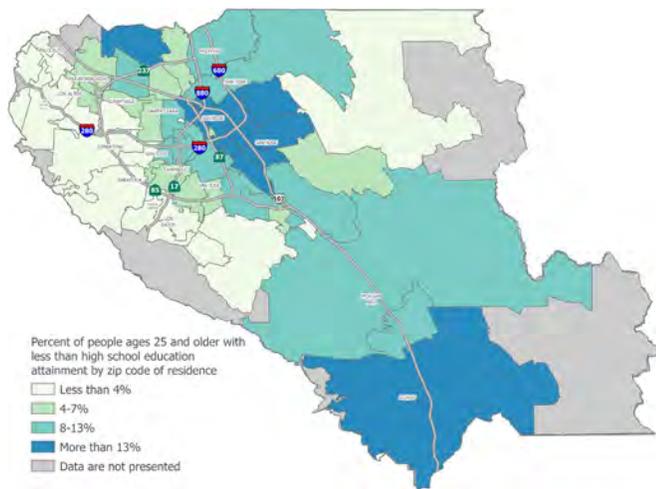
**Figures 14.** People living below 200% Federal Poverty Level



Source: U.S. Census Bureau, 2016-20 American Community Survey 5-year estimates, Table C17002

Note: Data are only presented for zip codes that are completely within Santa Clara County.

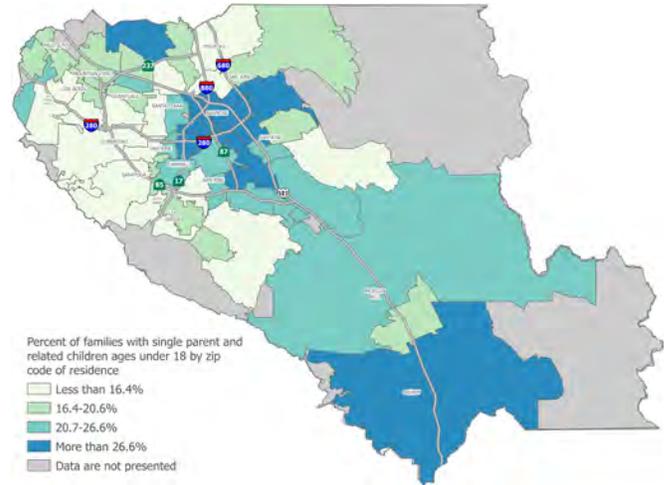
**Figures 15.** Less than high school education attainment



Source: U.S. Census Bureau, 2016-20 American Community Survey 5-year estimates, Table B15002

Note: Data are only presented for zip codes that are completely within Santa Clara County.

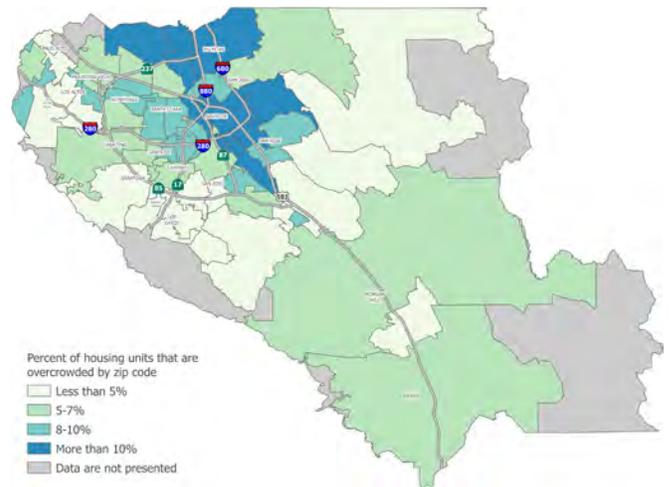
**Figures 16.** Single parent families



Source: U.S. Census Bureau, 2016-20 American Community Survey 5-year estimates, Table B11004

Note: Data are only presented for zip codes that are completely within Santa Clara County.

**Figures 17.** Overcrowded households



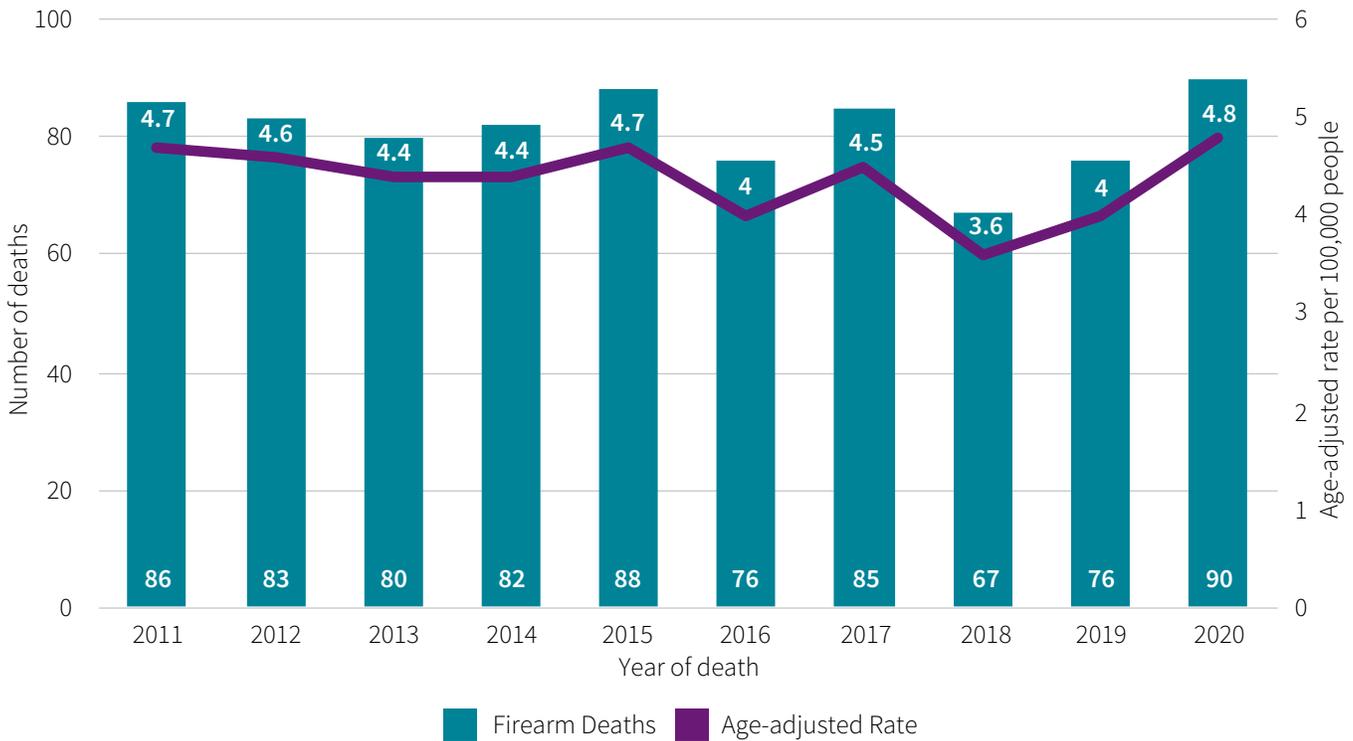
Source: U.S. Census Bureau, 2016-20 American Community Survey 5-year estimates, Table B25014

Note: Data are only presented for zip codes that are completely within Santa Clara County.

## Firearm Deaths

Nationwide, the number of firearm deaths increased to record level in 2020, the most in the past 40 years. Firearm suicides accounted for more than half (54%) of the firearm deaths, with firearm homicides accounted for 43% of the firearm deaths.<sup>43</sup>

**Figures 18.** Firearm deaths, Santa Clara County 2011-2020

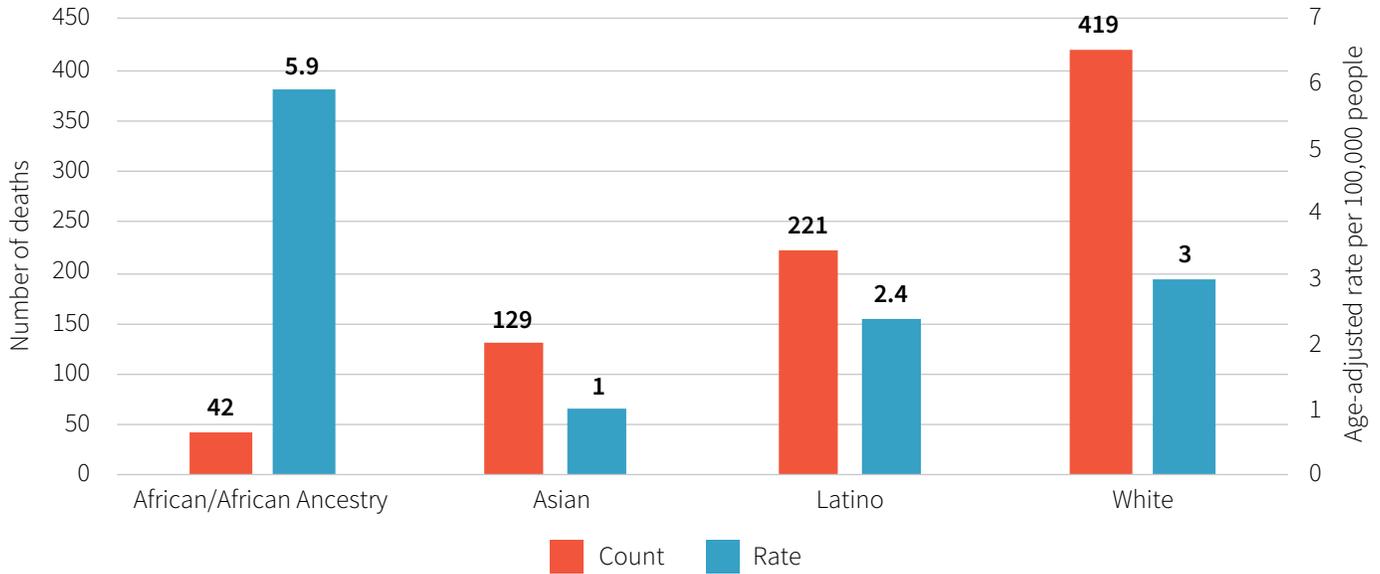


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death data, 2011-2020

From 2001 to 2020, 1,494 county residents died due to a firearm-related injury. The annual count and rate of firearm deaths among county residents remained relatively stable during the past decade. The firearm deaths increased from 76 in 2019 to 90 in 2020, mirroring the nationwide trend. The age-adjusted firearm death rate was 4.8 deaths per 100,000 people in 2020, the highest rate in the past decade.<sup>44</sup>

During 2016-20, 9 in 10 (89%) firearm deaths were among males. The age-adjusted firearm death rate among males (7.9 deaths per 100,000) was 8 times higher than females (1.0).<sup>44</sup>

**Figures 19.** Count and age-adjusted rate of firearm deaths by race/ethnicity, Santa Clara County, 2011-20

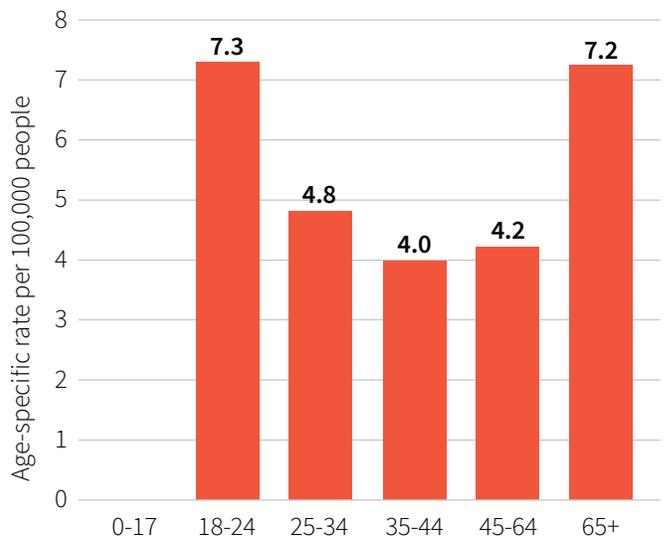


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death data, 2011-20

Note: Data are not presented when the number of deaths is between 1 to 10.

During 2011-20, more than half (52%, 419 deaths) firearm deaths were among Whites residing in the county followed by Latinos (27%, 221), Asians (16%, 129), and African/African Ancestry (5%, 42). The age-adjusted rate of firearm deaths was highest among African/African Ancestry (5.9 deaths per 100,000), followed by Whites (3.0), Latinos (2.4) and Asians (1.0).<sup>44</sup>

**Figures 20.** Age-specific rate of firearm death by age group, Santa Clara County, 2016-20

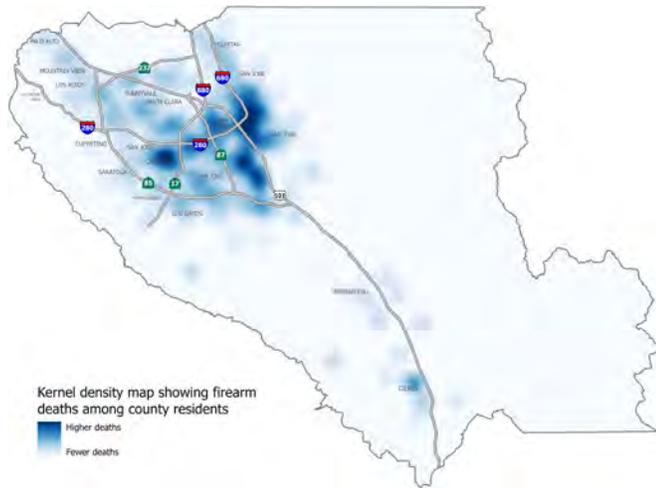


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death data, 2016-20

Note: Data are not presented when the number of deaths is between 1 to 10.

A higher proportion of firearm deaths were among adults ages 18 to 34. During 2016-20, 1 in 3 (34%, 134 deaths) firearm deaths was among county residents ages 18 to 34, followed by 1 in 4 deaths among 45-64 (26%, 102) and 65 and older (24%, 94) age groups each. The age-specific firearm death rate was highest among adults ages 18-24 years (7.3 per 100,000 people) and 65 and older (7.2).<sup>44</sup>

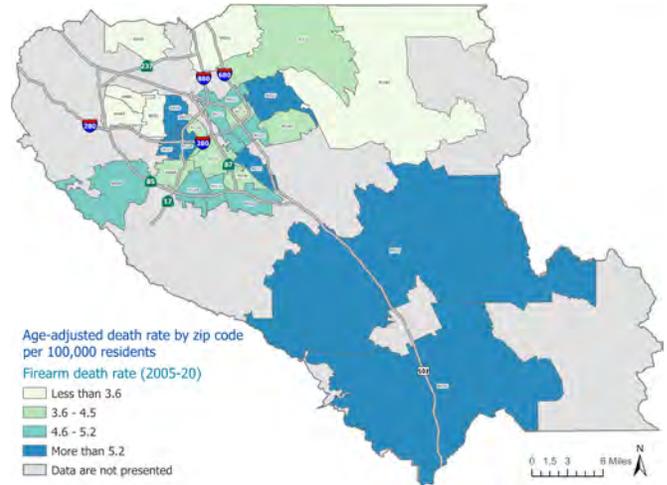
**Figures 21. Firearm death density**



Source: Santa Clara County Public Health Department, Vital Records Business Intelligence System (VRBIS), 2005-2020. Data as of 7/12/2021.

Firearm deaths density map above shows San José, Campbell, and Gilroy had relatively higher density of firearm deaths among county residents.<sup>45</sup>

**Figures 22. Firearm death rate**



Source: Santa Clara County Public Health Department, Vital Records Business Intelligence System (VRBIS), 2005-2020. Data as of 7/1/2021

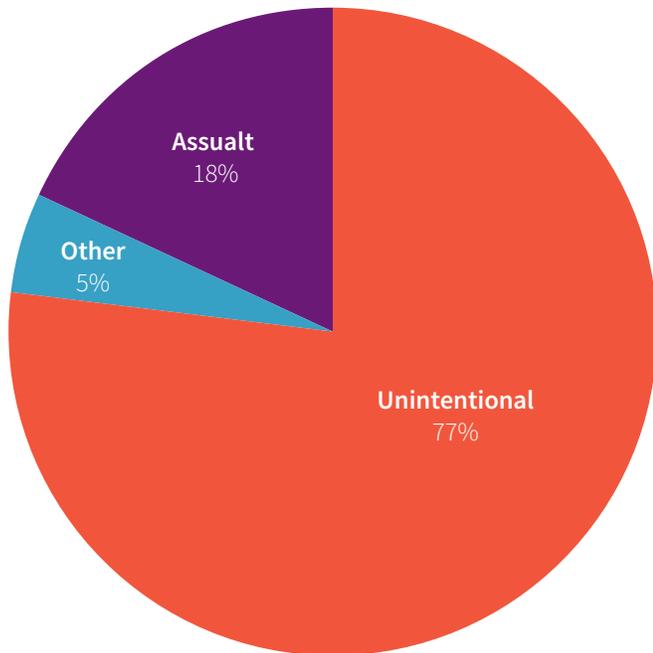
Note: Data are not presented when the death count is between 1 to 20. Age-adjusted death rates per 100,000 are mapped.

The age-adjusted firearm death rate map above shows zip codes located in San José and south county region had higher firearm death rates compared to other zip codes in the county.<sup>46</sup>

## Firearm Violence by Intent

Firearm violence can be grouped based on the intent: intentional self-inflicted, intentional assault (interpersonal), unintentional or accidental, legal intervention and undetermined intent. Most of the non-fatal and fatal firearm injuries are either self-inflicted (suicide) or assault (homicide).<sup>47</sup> Due to their high lethality<sup>48</sup>, firearms contributed to increases in suicide and homicide nationwide.<sup>49</sup>

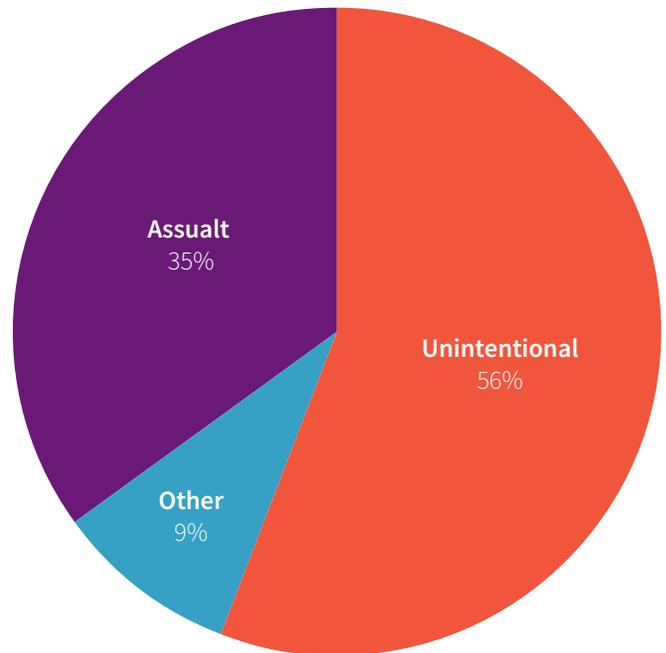
**Figure 23.** Non-fatal firearm injury-related emergency department visits by intent, Santa Clara County residents, 2016-20



Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2016-20

During 2016-20, more than 3 in 4 non-fatal firearm injury-related emergency department visits were unintentional (77%, 469 visits), followed by 18% (108) visits due to assault. Visits due to self-inflicted, legal intervention and undetermined intent combined accounted for 5% (33 visits) of total non-fatal firearm injury-related emergency department visits among county residents.<sup>50</sup>

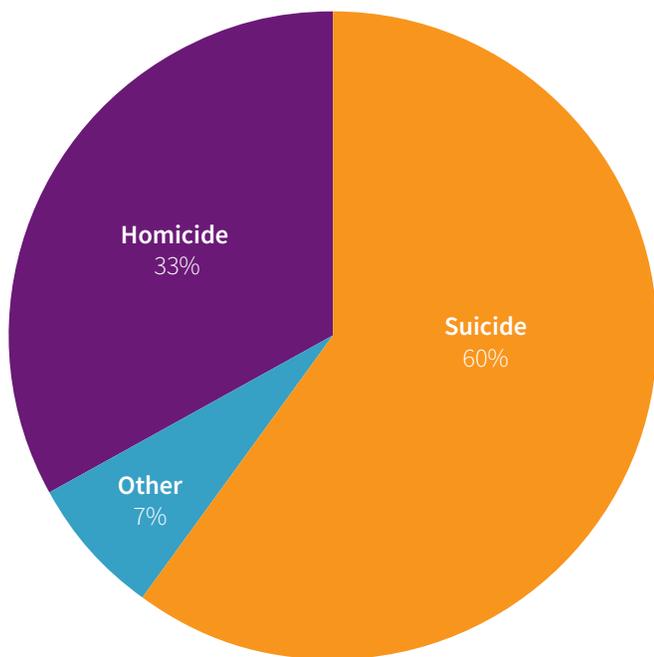
**Figure 24.** Non-fatal firearm injury-related hospitalizations by intent, Santa Clara County, 2016-20



Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2016-20.

During 2011-15, firearm assault (66%) accounted for two-thirds of the non-fatal firearm injury-related hospitalizations, followed by 23% due to unintentional firearm injuries. However, in 2016-20, more than 1 in 2 (56%) of the non-fatal firearm injury-related hospitalizations were due to unintentional firearm injuries, followed by 1 in 3 (35%) due to firearm assaults.<sup>51</sup>

**Figure 25. Firearm deaths by intent, Santa Clara County, 2016-20**



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death data, 2016-20

The most common cause for firearm deaths among county residents was self-inflicted firearm injuries (suicide). During 2016-20, 6 in 10 firearm deaths among county residents were suicide (60%, 238 deaths) and 1 in 3 were assault/homicide (33%, 130). Firearm deaths due to legal intervention, unintentional and undetermined intent combined accounted for 7% (26 deaths) of total firearm deaths among county residents.<sup>52</sup>

### Intentional self-inflicted firearm injuries

Suicide is death caused by injuring oneself with the intent to die. A suicide attempt is when someone harms themselves with any intent to end their life, but they do not die from their actions.<sup>53</sup>

During 2016-20, firearm self-inflicted injuries represented less than 1% of total non-fatal self-

inflicted injuries among county residents being treated in the emergency department.<sup>54</sup>

Data for non-fatal self-inflicted firearm injury-related emergency department visits and hospitalizations is not presented per data deidentification guidelines. Data are not presented when the number of events is 15 or fewer to minimize risk of record identification.<sup>54</sup>

During 2016-20, 3 in 10 suicide deaths were firearm suicides (31%, 236 firearm suicide deaths). The number of firearm suicides increased in the county from 214 in 2006-10 to 236 in 2016-20; similar to the increase in total suicide deaths. The proportion of suicides that involved a firearm (30%) stayed stable during this time period.<sup>55</sup>

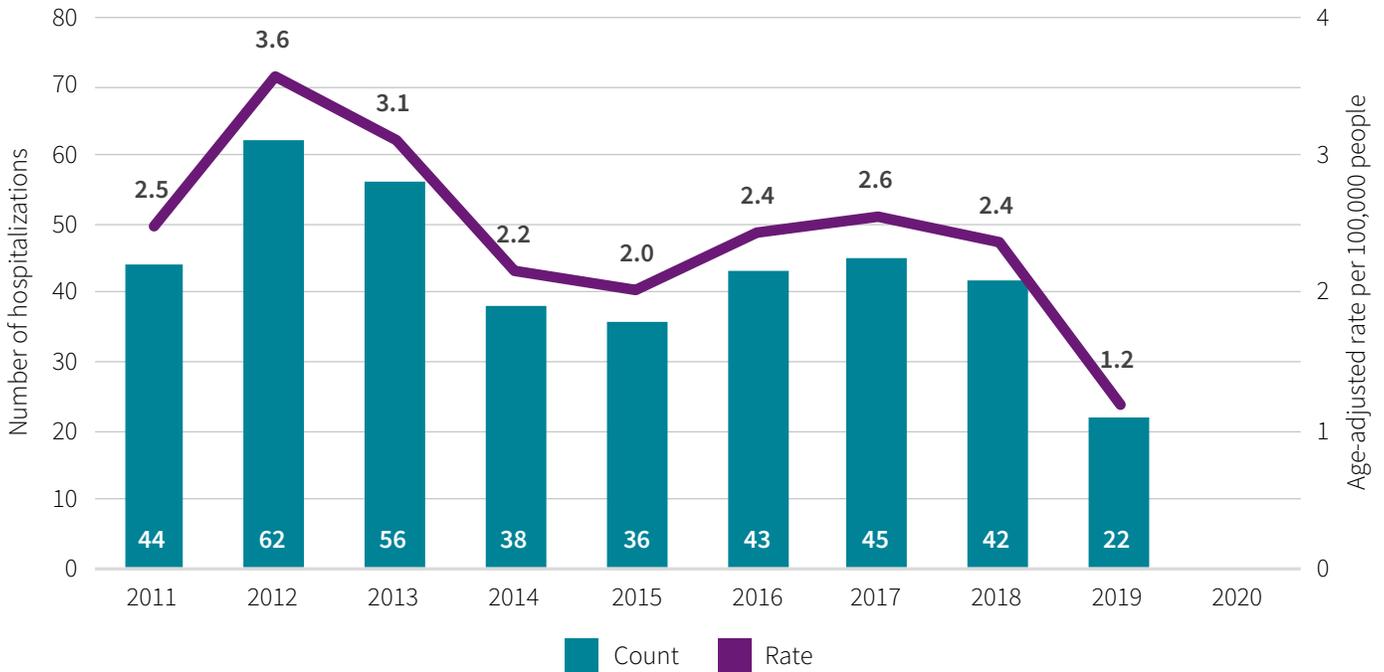
### Intentional assault firearm injuries – Interpersonal violence

Homicide is fatal injury inflicted by another person with intent to injure or kill, by any means. Injuries due to legal intervention and operations of war are not included in homicide data.<sup>56</sup>

During 2016-20, firearm assault injuries represented less than 1% of total non-fatal assault injuries among county residents being treated in the emergency department.<sup>57</sup>

During 2016-20, there were 108 non-fatal firearm assault-related emergency department visits among county residents. Latinos accounted for more than half of these visits (54%) followed by Whites (17%) and African/African Ancestry (16%). The age-adjusted rate of non-fatal firearm assault related emergency department visits was highest among African/African Ancestry (8.8 visits per 100,000 people) followed by Latinos (2.0) and Whites (0.8). Adults ages 18 to 34 years (67%) accounted for 2 in 3 visits related to non-fatal firearm assaults.<sup>57</sup>

**Figure 26. Non-fatal firearm assault-related hospitalizations, Santa Clara County, 2011-2020**



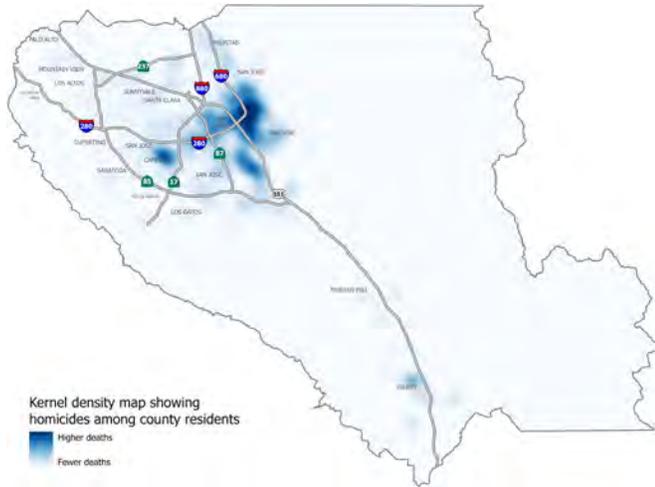
Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2011-2020

Note: Data are not presented when the number of hospitalizations is 15 or less. Data for 2011 to Q3 2015 are summarized using ICD-9-CM classification. Data for Q4 2015 to 2020 are summarized using ICD-10-CM classification. Any differences in data measures should be interpreted with caution, as these may be partially due to changes in the classification system.

During the past decade, the number of non-fatal firearm assault-related hospitalizations ranged from a high of 62 in 2012 to a low of 22 in 2019. During 2016-20, there were 167 non-fatal firearm assault-related hospitalizations among county residents, with an age-adjusted rate of 1.9 per 100,000 people. Latinos accounted for nearly 6 in 10 (58%) of these hospitalizations followed by Whites (16%) and African/African Ancestry (13%). The age-adjusted rate of non-fatal firearm assault-related hospitalizations was highest among African/African Ancestry (9.1 per 100,000 people) followed by Latinos (3.5) and Whites (0.9). Adults ages 18 to 34 years (62%) accounted for more than 6 in 10 hospitalizations-related to non-fatal firearm assaults.<sup>58</sup>

During 2016-20, more than half of the homicide deaths among county residents were firearm homicides (54%, 129 firearm homicide deaths). The number of firearm homicides increased in the county from 113 in 2006-10 to 129 in 2016-20; similar to the increase in total homicide deaths. During this time period, firearm homicides continue to account for more than half of total homicide deaths.<sup>59</sup>

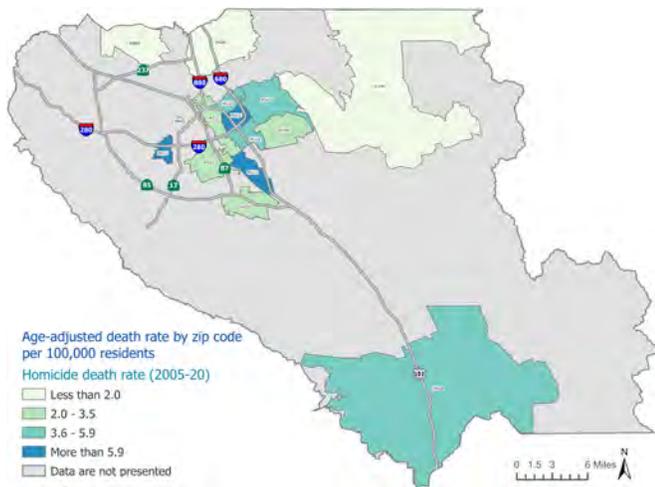
**Figure 27. Homicide density**



Source: Santa Clara County Public Health Department, Vital Records Business Intelligence System (VRBIS), 2005-2020. Data as of 7/1/2021

The homicide density map above shows San José, Campbell, and Gilroy had relatively higher density of homicide deaths among county residents.<sup>60</sup>

**Figure 28. Homicide rate**



Source: Santa Clara County Public Health Department, Vital Records Business Intelligence System (VRBIS), 2005-2020. Data as of 7/1/2021

Note: Data are not presented when the death count is between 1 to 20. Age-adjusted death rates per 100,000 people are mapped.

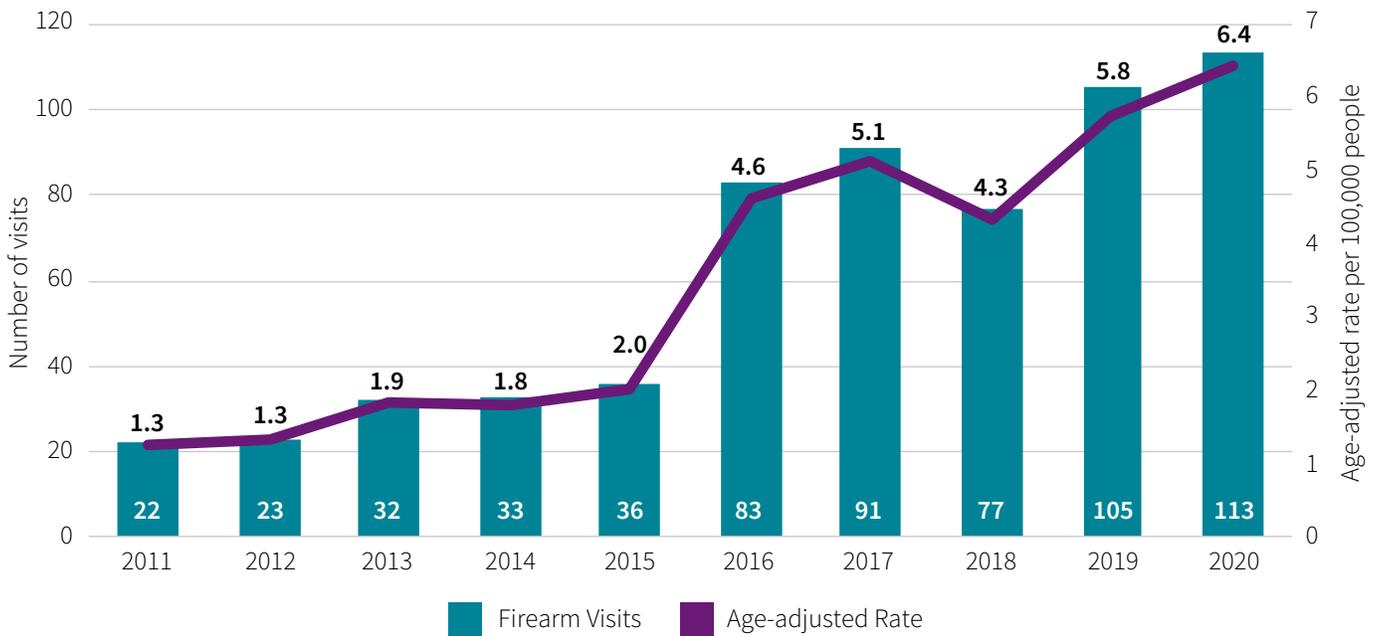
The age-adjusted homicide rate map in figure 28 shows zip codes located in the cities of San José and Gilroy had higher rates compared to other zip codes.<sup>60</sup>

### Unintentional Firearm Injuries

Unintentional injuries are accidental injuries. Unintentional firearm injuries include fatal or nonfatal firearm injuries that happen while someone is cleaning or playing with a firearm or other incidents of an accidental firing without evidence of intentional harm.<sup>61</sup>

Unintentional firearm injuries accounted for 3 in 4 (75%) of the total non-fatal firearm injury-related emergency department visits among county residents during 2016-20. The increase in total non-fatal firearm injury-related emergency department visits is mostly driven by the increase in the unintentional firearm injuries which increased five-fold from 2011 (n=22) to 2020 (113).<sup>62</sup>

**Figure 29. Non-fatal unintentional firearm injury-related emergency department visits, Santa Clara County, 2011-2020**



Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2011-2020

Note: Data for 2011 to Q3 2015 are summarized using ICD-9-CM classification. Data for Q4 2015 to 2020 are summarized using ICD-10-CM classification. Any differences in data measures should be interpreted with caution, as these may be partially due to changes in the classification system.

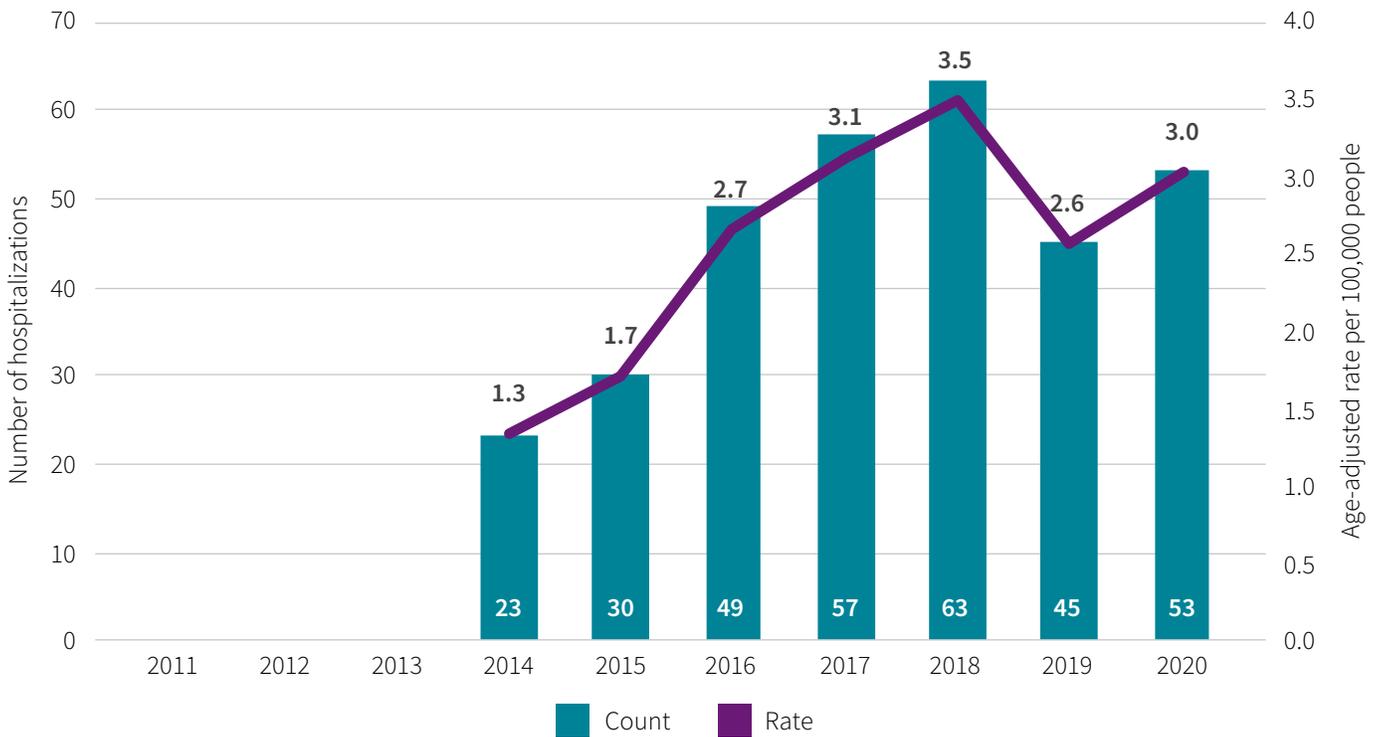
During 2016-20, 9 in 10 non-fatal unintentional firearm injury-related emergency department visits were among males (90%, 423 visits) residing in the county. Age-adjusted rate of these visits was 8 times higher among males (9.2 visits per 100,000) than among females (1.1).<sup>62</sup>

During 2016-20, Latinos (58%, 274 visits) accounted for more than half of the non-fatal unintentional firearm injury-related emergency department visits, followed by Whites (16%, 75), African/African

Ancestry (13%, 62) and Asian/Pis (9%, 41). African/African Ancestry had the highest age-adjusted rate (26.4 visits per 100,000) followed by Latinos (9.7), Whites (2.4) and Asian/Pis (1.3).<sup>62</sup>

During 2016-20, 2 in 3 non-fatal unintentional firearm injury-related emergency department visits were among adults ages 18 to 34 (66%, 306 visits) followed by adults ages 35 to 44 (15%, 70) and 45 to 64 (11%, 51).<sup>60</sup>

**Figures 30.** Non-fatal unintentional firearm injury-related hospitalizations, Santa Clara County, 2011-2020



Source: Santa Clara County Public Health Department, Office of Statewide Health Planning and Development (OSHPD), 2011-2020

Note: Data are not presented when the number of hospitalizations is 15 or less. Data for 2011 to Q3 2015 are summarized using ICD-9-CM classification. Data for Q4 2015 to 2020 are summarized using ICD-10-CM classification. Any differences in data measures should be interpreted with caution, as these may be partially due to changes in the classification system.

The non-fatal unintentional firearm injury-related hospitalizations increased from 23 hospitalizations in 2014 to 53 in 2020. During 2016-20, more than 9 in 10 (94%) of these hospitalizations were among males residing in the county. Age-adjusted rate among males (5.5 hospitalizations per 100,000) was 14 times higher than among females (0.4).<sup>63</sup>

During 2016-20, Latinos (57%, 152 hospitalizations) accounted for more than half of the non-fatal unintentional firearm injury-related hospitalizations, followed by Whites (16%, 44), African/African

Ancestry (16%, 43) and Asian/Pis (7%, 18). African/African Ancestry had the highest age-adjusted rate (19.1 hospitalizations per 100,000) followed by Latinos (5.9), Whites (1.6) and Asian/Pis (0.6). More than half (55%) of the non-fatal unintentional firearm injury-related hospitalizations were among adults ages 18 to 34 (55%, 148 hospitalizations).<sup>63</sup>

Data for unintentional firearm deaths are not presented per data deidentification guidelines. Data are not presented when the number of deaths is between 1 to 10.

## Legal Intervention-Involved Firearm Injuries

Legal intervention-involved firearm injuries are those inflicted by the police or other law enforcement agents acting in the line of duty. For example, firearm injuries that occur while arresting or attempting to arrest someone, maintaining order, or ensuring safety.<sup>64</sup>

In California, between 2016 and 2021, 838 people died due to legal intervention when an on-duty police officer shot them.<sup>65</sup> Most of the legal intervention-involved firearm deaths were among males (95%, 1051 deaths), Latinos (36%, 399) and adults ages 18 to 44 (69%, 768). Nearly 1 in 2 (48%) of the legal intervention-involved firearm deaths were among young adults ages 18 to 34, followed by people ages 35 to 44 (21%), 45 to 54 (12%), 55 to 64 (6%), 65 years and older and less than 18 years (2% each). Nearly 1 in 3 (36%) of the legal intervention-involved firearm deaths were among Latinos, followed by Whites (24%, 265 deaths), African/ African Ancestry people (15%, 163) and Asians (3%, 37). African/ African Ancestry people had the highest rate of the legal intervention-involved firearm deaths (7.6 deaths per 100,000 people); four times higher than Whites (1.8 per 100,000) and three times higher than Latinos (1.4 per 100,000).<sup>66</sup>



Based on the Fatal Force database, 22 legal intervention-involved firearm deaths occurred in the county during 2016-20; matching with the death data from the County Vital Statistics data. Among the county residents, there were 17 legal intervention-involved firearm deaths during 2016-20.<sup>66, 67, 68</sup>

Among the county residents, there were 41 legal intervention-involved firearm deaths during the past decade (2011-20). Most of these deaths were among males (93%), adults ages 18 to 44 (76%) and Latinos (44%) residing in the county.<sup>68</sup>

Data for legal intervention involved-firearm injury-related emergency department visits and hospitalizations are not presented in the report per data deidentification guidelines. Data are not presented when the number of events is 15 or fewer.<sup>69</sup>

## Firearm Injuries With Undetermined Intent

Firearm injuries with undetermined intent are those where there is not enough information to determine whether the injury was intentionally self-inflicted, unintentional, the result of legal intervention, or from an act of interpersonal violence.<sup>70</sup> During 2016-20, there were 16 non-fatal firearm injury-related hospitalizations that were of undetermined intent with an age-adjusted rate of 0.2 hospitalizations per 100,000 people residing in the county.<sup>71</sup>

Data for firearm deaths and non-fatal firearm injury-related emergency department visits with undetermined intent are not presented per data deidentification guidelines. Data are not presented when the number of emergency department visits is 15 or fewer and death data are not presented when the count is between 1 to 10.

## Appendix B: Methods

The societal cost assessment used a peer-reviewed framework for costing firearm violence. The framework was developed by PIRE more than 20 years ago and periodically updated.<sup>72</sup> This framework consists of an economic analysis of direct out-of-pocket costs across the continuum of public services, employer responses associated with injury and death, and indirect cost data following an event. Direct costs include police, emergency response, hospital-related expenses, healthcare claims, family mental health services, court, criminal justice, and employer costs. Indirect costs include victim loss of wages and the estimated value of lost quality of life, typically captured through established metrics and benchmarks. Costs can also include the vast array of prevention and intervention efforts in response to firearm violence across different public sectors.

Original estimates are built from mortality data, hospital data on charges for initial visits multiplied by hospital-specific cost to charge ratios; a published injury cost model (Zonfrillo et al., 2018) that provided diagnosis-specific ratios of physician and other professional payments to hospital costs and of lifetime medical costs post-discharge to the costs of the initial hospital visit, as well as work loss and quality of life loss; and a combination of county data on police and criminal justice processing combined with two national studies (Miller et al. 2021, Hunt et al. 2019), California State budget data, and a California Sentencing Institute (2021) study of cost per case.

PIRE developed the widely published injury cost models and methods to estimate injury-related costs, including firearm injuries and other causes of injuries. This injury cost model is used for estimating firearm injury-related costs for the report. In summary, initial cost models cover non-fatal firearm injuries admitted as inpatients or treated in the emergency department (ED) without hospital admission using the county's statewide Patient Discharge Database and Emergency

Department Visits Database. For hospitalized patients, medical costs are based on hospital charges that were multiplied by hospital-and-year-specific cost-to-charge ratios. This base cost was multiplied by factors for professional fees associated with the admission, follow-up admissions, and post-discharge medical costs. Additional nursing home or inpatient rehabilitation costs were added for discharges to those settings. Since Kaiser hospitals do not record charges for services, we substituted the mean cost for an initial admission at similar hospitals by diagnosis. For firearm injury-related emergency department visits (treat and release), the initial admission cost by diagnosis was computed based on the Market Scan National Claims Database. Then the initial cost estimate was multiplied by factors for follow-up costs. The mean cost of transport by ambulance was added to all inpatient admissions and emergency department visits.

Work loss and quality of life cost methods include patients' injuries, age, and sex. The calculations used average wages across the 2007-2018 business cycle adjusted to Santa Clara County wage levels. For suicides, the costs of mental health treatment post-discharge were excluded because those costs were costs of suicidality rather than of the firearm injury. Injury costs for year 2015 and later were difficult to calculate due to transition in the diagnosis coding from Clinical Modification of the 9th revision of the International Classification of Diseases (ICD9-CM) to the 10th revision (ICD10-CM) starting October 1, 2015. Therefore, PIRE used average costs per firearm injury by intent in 2014 for later years rather than costing each event. Those estimates are less precise than the costs calculated for 2014 and earlier years.

Police, jail, victim services, and fire department emergency medical service costs are specific to Santa Clara County, while prison, parole, and probation costs are California-specific. PIRE's crime cost model provided mental health care and

criminal adjudication costs per firearm incident. Employer costs per firearm incident by intent/severity and the duration of sanctions are national averages, with costs adjusted to prices in Santa Clara County.

Cost estimation method for firearm deaths was similar to the method used for non-fatal firearm injuries. For fatalities, PIRE determined the medical costs based on place of death, drawing average inpatient and emergency department medical costs for a firearm fatality from Health Care Utilization Program (HCUP) National Inpatient and Nationwide Emergency Department Sample datasets. The indirect costs of fatalities were computed for each victim in the county, taking account of victim's age and sex, then summed up to get overall cost estimates.



Counts of firearms purchased and firearm ownership in the county are estimates derived based on the State of California background check data and firearm sales data. State of California background check data showed 363,725 firearms were purchased/registered in Santa Clara County between 2001 and 2015.<sup>73</sup> Data procured from the State data system indicated that another 140,289 handguns and long guns were purchased in the county during 2017-2021. In 2017-2019, 3.5% of the guns purchased statewide were purchased in the county. Multiplying the 3.5% times firearm sales statewide in 2016 suggests 44,666 firearms were sold in the county in 2016. Annual numbers of firearms sold were summed to yield the county's estimated firearm count over time.

Same method was used to estimate firearm ownership in San José as used at the county level. First, the 11% ownership rate was applied to the 2014 household count of 325,114 for San José, then multiplied times 4.8 to 5.16 firearms per household with firearms.<sup>74</sup> This approach yielded a range of 164,856 to 177,298 firearms in San José in 2014. Alternatively, published literature and research shows that the number of firearms in a jurisdiction tracks the number of suicide by firearm deaths in the jurisdiction. This finding was used along with the survey-based county counts (multiplied times 4.8 to 5.16) and the sales-based county counts separately to yield two estimates. Using this alternative method indicated that San José had an estimated 154,530 to 166,274 firearms in 2015. Across the 5 calculated counts, the mean number of firearms in San Jose during 2014-15 was 165,830, with a range from 154,530 to 177,298. Adding the 98,157 firearms purchased/registered in San José during 2016-2021 to the 165,830 for 2014-2015 yielded the best estimate of 263,987 firearms in San José, with a range from 252,700 to 275,500. The number of estimated firearms was divided by the number of households in San José to derive estimated number of households with firearms in San José.

## Appendix C: Limitations

**Change in classification coding:** For both the inpatient discharge and emergency department datasets, the diagnosis coding changed from ICD9-CM to ICD10-CM in 2015. These two coding classification systems do not crossmatch which makes it difficult to compare data across these time periods and calculate costs for services provided.

**Data access and availability:** County EMS data were not available for 2007 and prior years so the costs were estimated for these years. This might result in underestimating the costs. Cost estimation does not include non-fatal firearm injuries that did not result in any hospital or emergency room encounter, including untreated injuries and injuries treated at physician's offices or urgent care clinics. Data were not available for time spent by law enforcement personnel responding to firearm-related calls without physical injury and were not included in the cost estimation. The county lacked a dataset that indicated whether arraignments for firearm-involved crimes led to a conviction or what sanctions were imposed. The modeled costs based on the sanctioning profile

from aggregated California statewide data has wide uncertainty. Firearm buy-back programs have been implemented in the county. The cost estimates could not include the costs related to the buy-back events and their administration. Behavioral Health Services (BHS) data does not collect information about mental health services provided in the schools and communities after mass shootings. The BHS data system is set up to track services provided and not to track people which makes it impossible to estimate countywide prevalence of mental health needs and accessibility to services. Data could not be accessed for the impact of firearm violence in the education system: student suspensions related to firearms, firearm related incidents on campus, etc. Data were not available to estimate the amount of law enforcement and school staff time spent responding to firearm violence and threats in schools.

For additional limitations related to the cost methodology used for this study, please refer to the technical paper [\*Medical and Work Loss Cost Estimation Methods for the WISQARS Cost of Injury Module\*](#).<sup>75</sup>



## Appendix D: Firearm Violence Stakeholder Meetings

Between February and July 2022, Prevention Institute and the County Public Health Department jointly conducted a series of stakeholder meetings with communities most impacted by gun violence, as well as with community-based organizations and government agencies working at the forefront of this issue. In total, around 124 individuals participated in 11 meetings. Participants represented the following groups and sectors: community members, resident groups, community-based organizations, criminal justice partners, County Health System and department partners, advocacy groups, subject matter experts, and city agencies. Participants also represented members from African/African Ancestry and Latino communities, youth, working adults, seniors, and residents living in high impacted areas throughout Santa Clara County.

The purpose of the stakeholder meetings was to understand stakeholders' concerns around gun violence and their perspectives on its root causes. Ideas around programmatic solutions and policy recommendations were also solicited for developing the recommendations in the report and for future action planning. The following three main questions were asked to all participants.

- Describe the forms of firearm violence you are most concerned about.
- Describe what you identify as the root causes and other factors that contribute to these forms of firearm violence.
- What ideas do you have for policy, program, and budget-related solutions? We are particularly interested in solutions that advance racial equity, gender, and economic equity.



# Endnotes

- 1 American Public Health Association, <https://www.apha.org/topics-and-issues/gun-violence>
- 2 EFSGV, Public Health Approach to Gun Violence Prevention, <https://efsgv.org/learn/learn-more-about-gun-violence/public-health-approach-to-gun-violence-prevention/>
- 3 Centers for Disease Control and Prevention National Center for Injury Prevention and Control, Division of Violence Prevention, Firearm Violence Prevention, <https://www.cdc.gov/violenceprevention/firearms/fastfact.html>
- 4 Pew Research Center, <https://www.pewresearch.org/fact-tank/2022/02/03/what-the-data-says-about-gun-deaths-in-the-u-s/>
- 5 Centers for Disease Control and Prevention's WISQARS Fatal Injury Reports, <http://www.cdc.gov/injury/wisqars/fatal.html>
- 6 Public Policy Institute of California, 2021, <https://www.ppic.org/blog/gun-deaths-drive-californias-largest-ever-rise-in-homicides/>
- 7 The term "African/African Ancestry" refers to all African people, whether they are recent African immigrants or have been in the U.S. for multiple generations. This terminology was chosen over more commonly used terms "Black" or "African American" to underscore the connectedness among all African people as well as the importance of unique cultural norms, beliefs, and practices among African people in the U.S., from the African continent and throughout the Diaspora.
- 8 U.S. Census Bureau, 2020 Decennial Census, <https://data.census.gov/cedsci/>
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- 10 Miller, T. R., & Cohen, M. A. (1997). Costs of gunshot and cut/stab wounds in the United States, with some Canadian comparisons. *Accident analysis and prevention*, 29(3), 329–341. [https://doi.org/10.1016/s0001-4575\(97\)00007-9](https://doi.org/10.1016/s0001-4575(97)00007-9).
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- 14 Miller G, Florence C, Barnett SB, Peterson C, Lawrence B, Miller TR. Monetized Estimated Quality-adjusted Life Year (QALY) Losses for Non-fatal Injuries, *Injury Prevention*, online ahead of print, 2022.
- 15 Miller TR. The Plausible Range for the Value of Life: Red Herrings Among the Mackerel, *Journal of Forensic Economics*, 3:3, 75-89, 1990. See also Miller TR, Cohen MA. Costs of Gunshot and Cut/Stab Wounds in the United States, with Some Canadian Comparisons, *Accident Analysis & Prevention*, 29:3, 329-341, 1997.
- 16 County of Santa Clara District Attorney's Office meetings
- 17 Daniel W. Webster; Public Health Approaches to Reducing Community Gun Violence. *Daedalus* 2022; 151 (1): 38–48. doi: [https://doi.org/10.1162/daed\\_a\\_01886](https://doi.org/10.1162/daed_a_01886)
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