

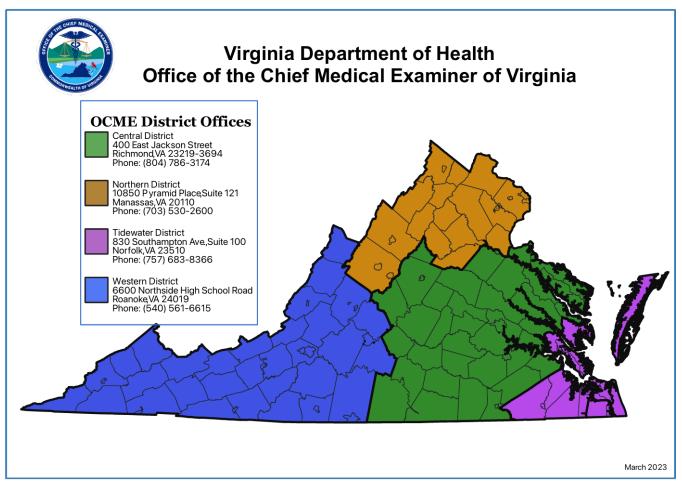


# Gun-Related Deaths in Virginia

Rosie Hobron, MPH
State Forensic Epidemiologist
VDH, Office of the Chief Medical Examiner



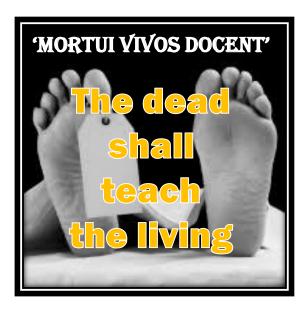
# 'Provide state of the art, high quality, professional medicolegal death investigation for all citizens of the Commonwealth regardless of their geographic location'





## **OCME** Mission

- Conduct medicolegal death investigations
- Perform exams to certify cause and manner of death
- Provide medical insight/findings in court proceedings of OCME cases
- Educate peers and professionals on subjects related to death investigation
- Mass fatality planning
- Provide statistics on unnatural death in the Commonwealth
- Reduce violent death by conducting surveillance and fatality review
  - Provide support and technical assistance to local fatality review teams
- Administer the State Anatomical Program





### What Makes a Death an OCME Case?

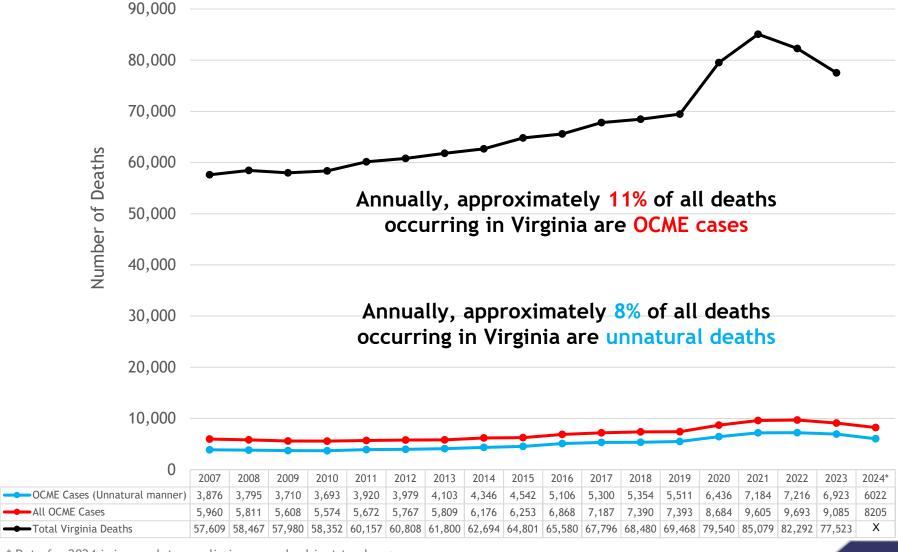
#### Death must have occurred in VA

Pursuant to § 32.1-283 of the Code of Virginia, all of the following deaths are investigated by the OCME:

- any death from trauma, injury, violence, or poisoning attributable to accident, suicide or homicide;
- sudden deaths to persons in apparent good health or deaths unattended by a physician;
- deaths of persons in jail, prison, or another correctional institution, or in police custody (this includes deaths from legal intervention);
- deaths of patients/residents of state mental health facilities;
- the sudden death of any infant less than eighteen months of age whose death might be attributable to SIDS or SUID
- any other suspicious, unusual, or unnatural death



# Number of All OCME Deaths and All Unnatural Deaths Compared to All Deaths in Virginia by Year, 2007-2024\*



<sup>\*</sup> Data for 2024 is incomplete, preliminary, and subject to change



## Different Sources of Mortality Data

Office of Information Management (OIM)

#### Office of Vital Records (OVR)

- 1.Death certificates
- 2. All deaths
- 3.ICD-10 coding
- 4. Residents of VA that die in VA
- 5. Reports geography based on residence location

Office of the Chief Medical Examiner (OCME)

#### Under OCME Jurisdiction

- 1.Internal database
- 2.Deaths under OCME jurisdiction per Code
- 3.Internal coding schema
- 4. Anyone that dies in VA (doesn't need to be resident of VA)
- 5. Reports geography based on where event leading to death occurred (event/injury location)

#### Division of Death Prevention

- 1.Internal/web-based database
- 2.Death specific (ex. maternal mortality)
- 3. Mixed coding
- 4. Residents of VA that die in VA
- 5. Reports geography based on residence location



# OCME Data Methods, Considerations, and Limitations

- Deaths that occur in VA, not based on state of residence
- Unique internal OCME coding schema; no ICD-10 codes
- Date elements based on date of death
- Delayed deaths (deaths that occur months or years after injury/event)



## CDC: Provisional Leading Causes of Death, 2024

|      | Provisional Leading 15 Causes of Death in United                      | States, 2024 |                     |
|------|---|--------------|---------------------|
| Rank | Leading Causes of Death   | # of Deaths  | Crude Rate per 100k |
| 1    | Diseases of heart (100-109,111,113,120-151)                           | 683,501      | 204.1               |
| 2    | Malignant neoplasms (C00-C97)   | 619,874      | 185.1               |
| 3    | Accidents (unintentional injuries) (V01-X59,Y85-Y86)                  | 197,445      | 59.0                |
| 4    | Cerebrovascular diseases (160-169)                                    | 166,850      | 49.8                |
| 5    | Chronic lower respiratory diseases (J40-J47)                          | 145,642      | 43.5                |
| 6    | Alzheimer disease (G30)   | 116,023      | 34.6                |
| 7    | Diabetes mellitus (E10-E14)   | 94,443       | 28.2                |
| 8    | Nephritis, nephrotic syndrome and nephrosis (N00-N07,N17-N19,N25-N27) | 55,081       | 16.4                |
| 9    | Chronic liver disease and cirrhosis (K70,K73-K74)                     | 52,273       | 15.6                |
| 10   | Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)                  | 48,821       | 14.6                |
| 11   | Influenza and pneumonia (J09-J18)                                     | 48,142       | 14.4                |
| 12   | Essential hypertension and hypertensive renal disease (I10,I12,I15)   | 42,343       | 12.6                |
| 13   | Parkinson disease (G20-G21)   | 40,919       | 12.2                |
| 14   | Septicemia (A40-A41)  | 40,057       | 12.0                |
| 15   | COVID-19 (U07.1)  | 31,424       | 9.4                 |

Note: Accidents and Suicides (manners of death) highlighted here include all causes of death and are not restricted to one specific cause of death (ex. gun-related deaths)

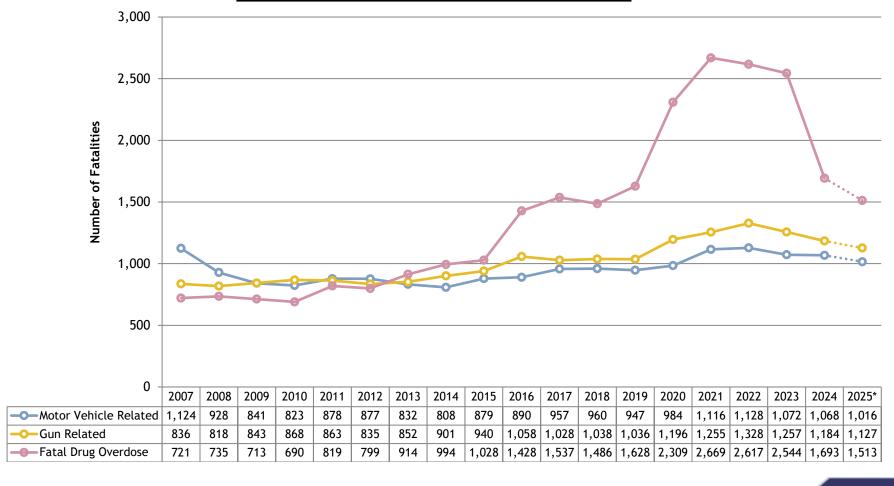
Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Provisional Mortality on CDC WONDER Online Database. Data are from the final Multiple Cause of Death Files, 2018-2023, and from provisional data for years 2024 and later, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/mcd-icd10-provisional.html on Sep 3, 2025 3:30:17 PM



## Top 3 Methods of Unnatural Death (All Manners) in VA

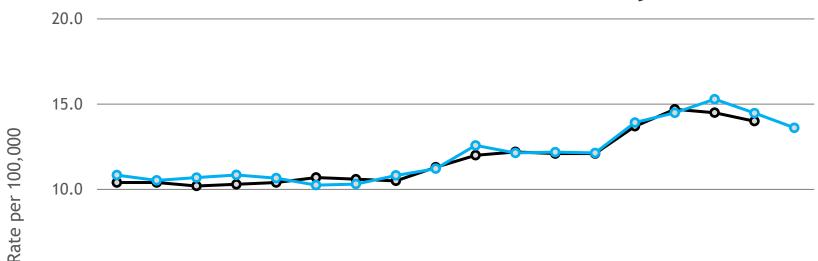
Total Number of Motor Vehicle, Gun, and Drug Related Fatalities by Year of Death, 2007-2025\*

Data for 2025 is a Predicted Total for the Entire Year





## Rates of Gun-Related Death Nationally vs. VA



| $\cap$ $\cap$          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 0.0                    | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024* |
| <b>─</b> National Rate | 10.4 | 10.4 | 10.2 | 10.3 | 10.4 | 10.7 | 10.6 | 10.5 | 11.3 | 12.0 | 12.2 | 12.1 | 12.1 | 13.7 | 14.7 | 14.5 | 14.0 | *     |
| <b>─</b> VA Rate       | 10.8 | 10.5 | 10.7 | 10.8 | 10.7 | 10.3 | 10.3 | 10.8 | 11.2 | 12.6 | 12.1 | 12.2 | 12.1 | 13.9 | 14.5 | 15.3 | 14.5 | 13.6  |

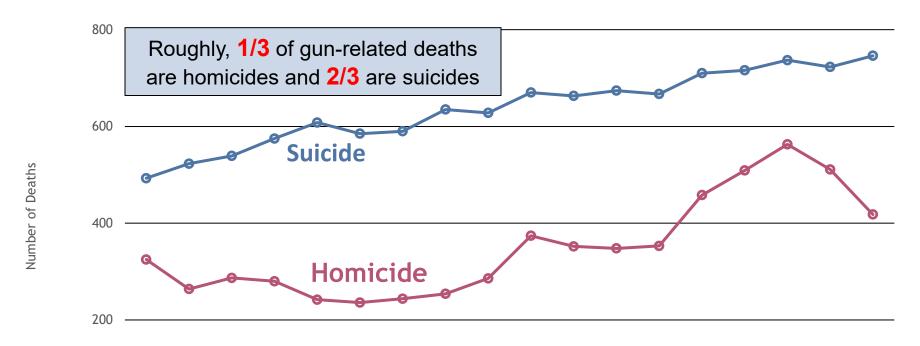
<sup>\*</sup> Virginia rates for 2024 are preliminary and subject to change. Rate calculations for 2024 use 2023 population estimates. At the time of this analysis, national rates from the US Census are not available for 2024.

Source: National rate (crude rates, not age-adjusted): https://wonder.cdc.gov

Note: Rate calculations are based upon Virginia population estimates. From 2007 to 2020, Bridged-Race Population Estimates from the National Center for Health Statistics were used for rate calculations; however, these estimates were discontinued in 2020. From 2021 forward, rates were calculated using Single-Race Population Estimates from the US Census.



# VA Gun-Related Deaths by Manner



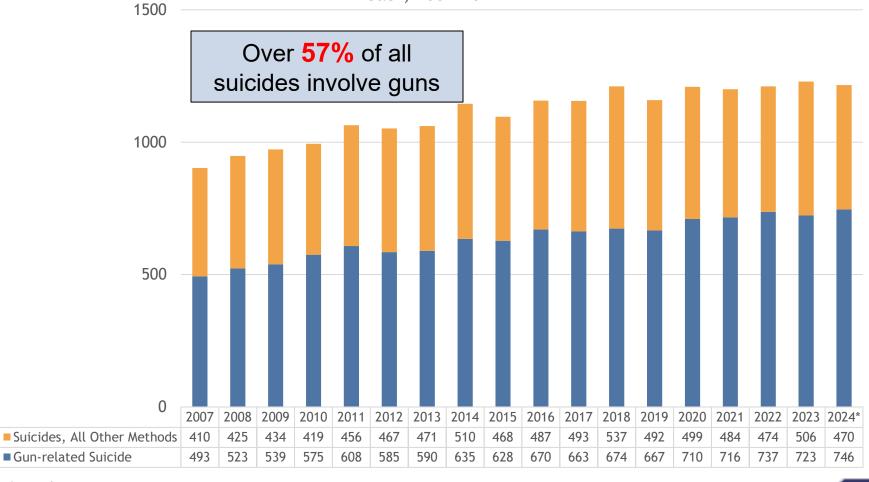
| 0        | 0-   |      | 0    |      |      |      |      |      | _0_  |      |      |      |      |      | -9-  |      | _9_  |       |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| U        | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024* |
| Accident | 7    | 12   | 10   | 5    | 7    | 8    | 5    | 7    | 10   | 8    | 5    | 6    | 6    | 12   | 9    | 9    | 5    | 9     |
| Homicide | 325  | 264  | 287  | 280  | 242  | 236  | 244  | 254  | 286  | 374  | 352  | 348  | 353  | 458  | 509  | 563  | 511  | 418   |
| Suicide  | 493  | 523  | 539  | 575  | 608  | 585  | 590  | 635  | 628  | 670  | 663  | 674  | 667  | 710  | 716  | 737  | 723  | 746   |
|          | 11   | 19   | 7    | 8    | 6    | 6    | 13   | 5    | 16   | 6    | 7    | 10   | 10   | 15   | 21   | 18   | 18   | 9     |

<sup>\*</sup> Data for 2024 are preliminary and subject to change



## Gun-Related Suicides vs All Other Methods of Suicide

Number of Gun-Related Suicide Compared to All Other Methods of Suicide by Year of Death, 2007-2024\*

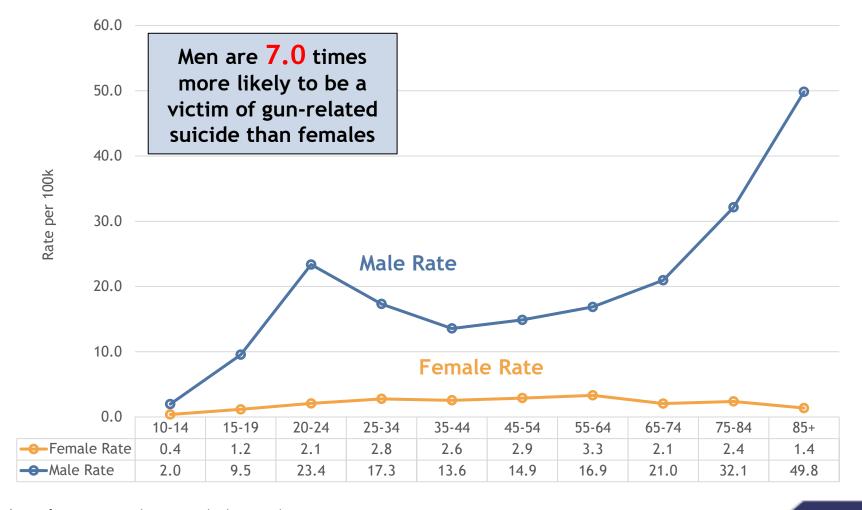


<sup>\*</sup> Data for 2024 are preliminary and subject to change



## Gun-Related Suicide Demographics (Sex-Age)

Aggregated Five Year Rate of Gun-Related Suicide by Gender and Age Group, 2020 - 2024\*



<sup>\*</sup> Data for 2024 are preliminary and subject to change



## Gun-Related Suicide Demographics (Sex-Race)

Aggregated Five Year Rate of Gun-Related Suicide by Sex and Race/Ethnicity, 2020 - 2024\*



<sup>\*</sup> Data for 2024 are preliminary and subject to change

Note: 'Other' race/ethnicity categories are excluded from this analysis due to unknown population denominators



# Gun-Related Suicide #s by Locality of Residence

Annual Top Five Localities with Largest Number of Gun-Related Suicides by Locality of Residence and Year of Death, 2020 - 2024\*

| Locality of Residence | 2020 | 2021 | 2022 | 2023 | 2024* | Average per<br>Year |
|-----------------------|------|------|------|------|-------|---------------------|
| Fairfax County        | 44   | 35   | 45   | 42   | 58    | 44.8                |
| Virginia Beach City   | 42   | 35   | 40   | 33   | 39    | 37.8                |
| Chesterfield County   | 36   | 41   | 27   | 35   | 21    | 32.0                |
| Out of State          | 33   | 31   | 33   | 28   | 33    | 31.6                |
| Henrico County        | 23   | 26   | 30   | 15   | 29    | 24.6                |
| Prince William County | 14   | 33   | 13   | 26   | 23    | 21.8                |
| Loudoun County        | 13   | 10   | 15   | 29   | 15    | 16.4                |
| Spotsylvania County   | 9    | 7    | 16   | 11   | 25    | 13.6                |

| Ranking |  |
|---------|--|
| 1st     |  |
| 2nd     |  |
| 3rd     |  |
| 4th     |  |
| 5th     |  |



<sup>\*</sup> Data for 2024 are preliminary and subject to change

## Gun-Related Suicide Rates per 100K by Locality of Residence

| Annual Top Five Highe | st Rates of Gu | n-Related Sui | icide by Local | ity of Residen | ce and Year o | f Death, 2020 - 2024*                     |
|-----------------------|----------------|---------------|----------------|----------------|---------------|---|
| Locality of Residence | 2020           | 2021          | 2022           | 2023           | 2024*         | Aggregated Five-Year<br>Rate (2020-2024*) |
| Galax City            | 63.5           | 30.0          | 29.7           | 29.8           | 14.9          | 33.2                                      |
| King and Queen County | 43.2           | 45.0          | 14.9           | 44.6           | 0.0           | 29.6                                      |
| Middlesex County      | 37.8           | 37.1          | 27.4           | 9.2            | 36.6          | 29.6                                      |
| Charlotte County      | 8.5            | 43.4          | 8.7            | 35.3           | 35.3          | 26.1                                      |
| Dickenson County      | 28.4           | 21.7          | 14.6           | 44.0           | 0.0           | 21.8                                      |
| Northumberland County | 0.0            | 16.6          | 32.5           | 32.3           | 16.1          | 19.6                                      |
| Rappahannock County   | 41.3           | 0.0           | 0.0            | 40.5           | 13.5          | 18.9                                      |
| Craig County          | 39.4           | 41.0          | 0.0            | 0.0            | 0.0           | 16.3                                      |
| Nelson County         | 6.8            | 0.0           | 20.5           | 13.6           | 40.8          | 16.3                                      |
| Surry County          | 15.7           | 15.3          | 30.6           | 0.0            | 15.2          | 15.3                                      |
| Lunenburg County      | 16.3           | 33.3          | 8.3            | 8.3            | 8.3           | 14.9                                      |
| Floyd County          | 19.0           | 6.4           | 32.0           | 6.4            | 6.4           | 14.1                                      |
| Warren County         | 2.5            | 9.8           | 16.9           | 4.8            | 31.1          | 13.1                                      |
| Greene County         | 0.0            | 14.3          | 9.5            | 9.4            | 28.2          | 12.4                                      |
| Norton City           | 0.0            | 0.0           | 27.7           | 0.0            | 0.0           | 5.5                                       |

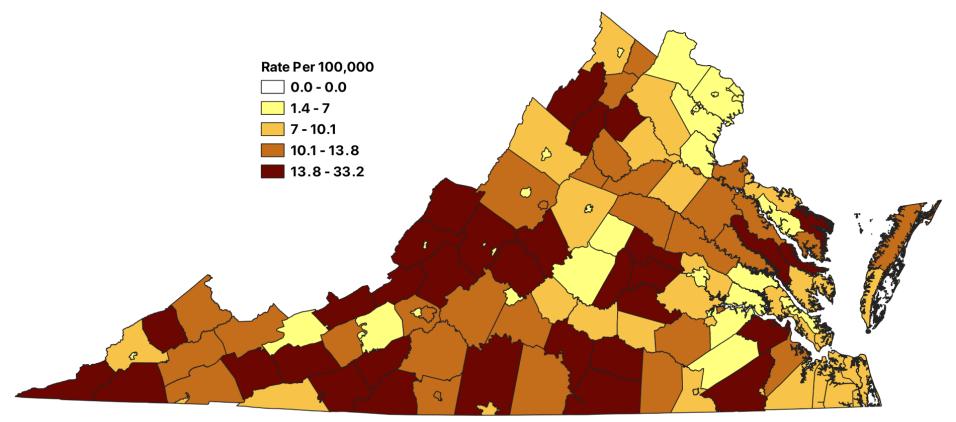
| Ranking |
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Note: Many of the individual annual rates calculated by year in sparsely populated localities are often based on low case counts (1-4 deaths/year) and are thus, statistically unstable and unreliable for interpretation. Therefore, the top five aggregated five-year rates are more appropriate and stable to be used for the interpretation of gun-related suicide risk by residence.

<sup>\*</sup> Data for 2024 are preliminary and subject to change. Rate calculations for 2024 use 2023 population estimates. At the time of this analysis, national rates from the US Census are not available for 2024.



#### Five Year Aggregated Rate of Gun-Related Suicide by Locality of Residency, 2020-2024



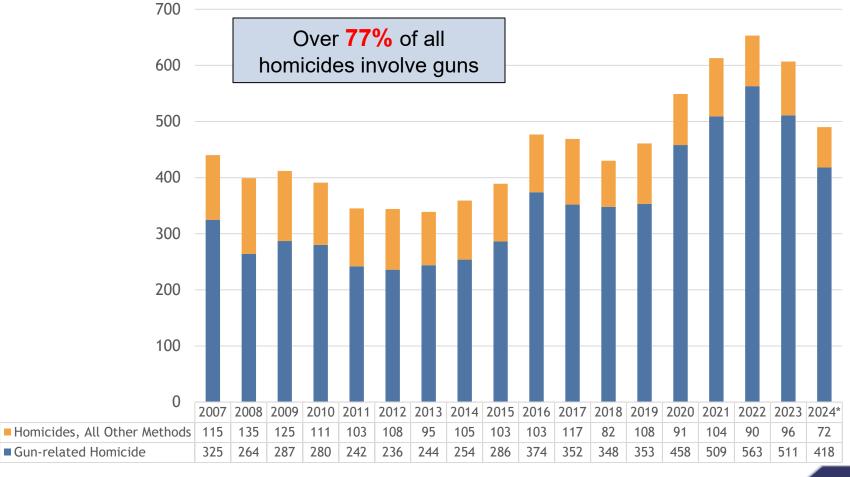
Source: Virginia Department of Health, Office of the Chief Medical Examiner



<sup>\*</sup> Rate ranges are based upon quartiles

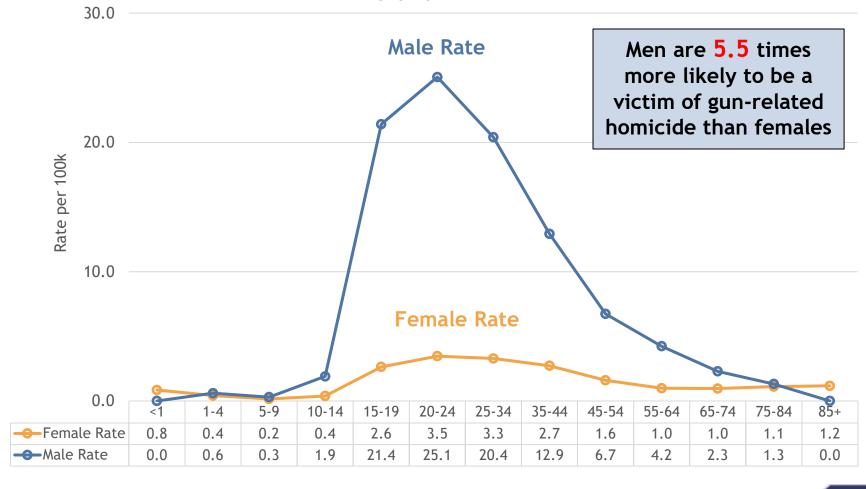
# Gun-Related Homicides vs All Other Methods of Homicide

Number of Gun-Related Homicides Compared to All Other Methods of Homicide by Year of Death, 2007-2024\*



## Gun-Related Homicide Demographics (Sex-Age)

Aggregated Five Year Rate of Gun-Related Homicide by Sex and Age Group, 2020-2024\*

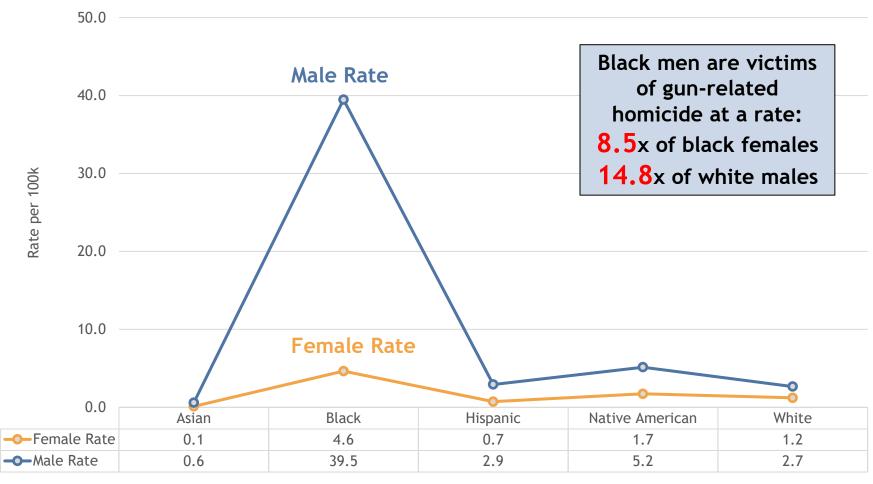


<sup>\*</sup> Data for 2024 are preliminary and subject to change



## Gun-Related Homicide Demographics (Sex-Race)

Aggregated Five Year Rate of Gun-Related Homicide by Sex and Race/Ethnicity, 2020-2024\*



<sup>\*</sup> Data for 2024 are preliminary and subject to change

Note: 'Other' race/ethnicity categories are excluded from this analysis due to unknown population denominators



## Gun-Related Homicide #s by Locality of Event

Annual Top Five Localities with Largest Number of Gun-Related Homicides by Locality of Event (Shooting) and Year of Death, 2020-2024\*

| Locality of Event (Shooting) | 2020 | 2021 | 2022 | 2023 | 2024 | Average per<br>Year |
|------------------------------|------|------|------|------|------|---------------------|
| Richmond City                | 70   | 92   | 61   | 69   | 57   | 69.8                |
| Norfolk City                 | 45   | 59   | 60   | 33   | 32   | 45.8                |
| Portsmouth City              | 29   | 34   | 39   | 34   | 32   | 33.6                |
| Newport News City            | 22   | 25   | 23   | 43   | 27   | 28.0                |
| Hampton City                 | 23   | 28   | 21   | 28   | 15   | 23.0                |
| Henrico County               | 16   | 23   | 23   | 25   | 22   | 21.8                |
| Roanoke City                 | 13   | 15   | 18   | 28   | 13   | 17.4                |
| Prince William County        | 7    | 12   | 16   | 17   | 23   | 15.0                |

| Ranking |
|---------|
| 1st     |
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| 4th     |
| 5th     |

<sup>\*</sup> Data for 2024 are preliminary and subject to change

## Gun-Related Homicide Rates per 100K by Locality of Event

| Locality of Event (Shooting) | 2020 | 2021 | 2022 | 2023 | 2024* | Aggregated Five-Year<br>Rate (2020-2024*) |
|------------------------------|------|------|------|------|-------|---|
| Petersburg City              | 69.0 | 56.9 | 62.9 | 60.0 | 27.0  | 54.9                                      |
| Portsmouth City              | 30.5 | 34.8 | 40.2 | 35.1 | 33.1  | 34.8                                      |
| Richmond City                | 30.1 | 40.4 | 26.6 | 30.1 | 24.9  | 30.4                                      |
| Emporia City                 | 38.0 | 17.8 | 54.7 | 36.6 | 0.0   | 29.3                                      |
| Hopewell City                | 26.8 | 13.0 | 39.2 | 35.2 | 26.4  | 28.1                                      |
| Franklin City                | 25.5 | 24.6 | 24.3 | 24.0 | 12.0  | 22.0                                      |
| Norfolk City                 | 18.5 | 25.1 | 25.8 | 14.3 | 13.9  | 19.5                                      |
| Covington City               | 17.7 | 0.0  | 70.4 | 0.0  | 0.0   | 17.8                                      |
| Craig County                 | 39.4 | 20.5 | 0.0  | 20.6 | 0.0   | 16.3                                      |
| Norton City                  | 0.0  | 0.0  | 55.4 | 0.0  | 0.0   | 11.0                                      |
| Greensville County           | 8.9  | 8.8  | 0.0  | 9.0  | 26.9  | 10.7                                      |

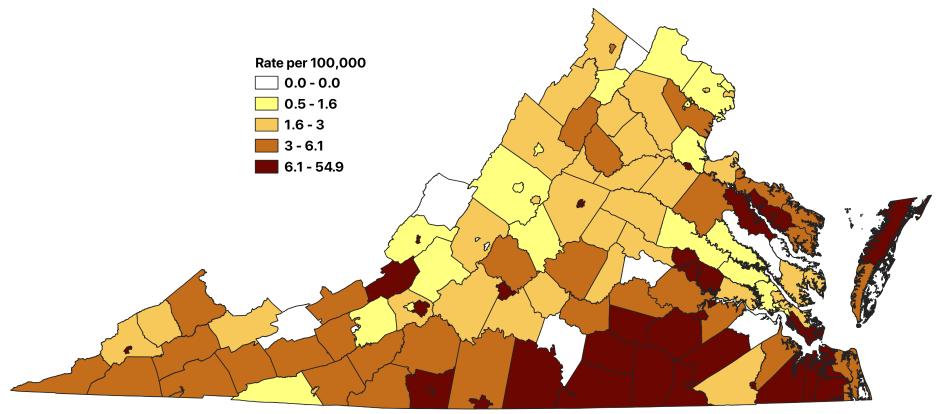
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#### Five Year Aggregated Rate of Gun-Related Homicide by Locality of Event, 2020-2024



Source: Virginia Department of Health, Office of the Chief Medical Examiner



<sup>\*</sup> Rate ranges are based upon quartiles

## Key Points on Gun-Related Death in Virginia

- Rates of gun-related death in Virginia (all manners) are very similar to national rates of gun-related death
- The number of gun-related suicides are increasing slightly each year but the number of gun-related homicides decreased in 2023 and 2024
- Handguns were involved in 62% of gun-related homicides and nearly 85% of gunrelated suicides
- Rates of gun-related suicide among men increase with age
- White men and Black men had the highest rates of gun-related suicide
- Black males and males age 20-24 years of age had the highest rates of gun-related homicide



### **Contact Information**

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Statewide Forensic Epidemiologist
<a href="mailto:kathrin.hobron@vdh.virginia.gov">kathrin.hobron@vdh.virginia.gov</a>

OCME Quarterly Drug Report: <a href="http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/">http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/</a>
Annual Reports: <a href="http://www.vdh.virginia.gov/medical-examiner/annual-reports/">http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/</a>

