Firearm Deaths and Injuries among Youth in North Carolina

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Firearm-related Violence in US & NC

Each year, 36,383 Americans die from gun violence.

- Gun Suicides: 22,274 (61%)
- Gun Homicides: 12,830 (35%)
- Law Enforcement Shootings: 496 (1.4%)
- Unintentional Shootings: 487 (1.3%)
- Undetermined: 295 (0.8%)

**NC Firearm-related deaths, 2018**
- NC all ages = 1,345
- NC ages 0-17 = 61

*2018 data are provisional
Analysis by Injury Epidemiology and Surveillance Unit (as of Dec 2019)
North Carolina Violent Death Reporting System (NC-VDRS)
Data and Surveillance

• Since 2004, abstract approximately 2,000 violent deaths per year (homicides, suicides, firearm deaths)

• Data Sources and Collaborators
  – Death certificate data- State Center for Health Statistics
  – NC Office of the Chief Medical Examiner (OCME)
  – NC-IBRS (SBI)
  – Decentralized law enforcement
    • More than 650 law enforcement agencies in NC
    • ~250 in a given year experience violent death

• Data can differ slightly due to case definition, data closeout dates, and other factors
North Carolina Violent Death Reporting System

- Death Certificates
- LE Reports
- C/ME Reports

600+ data fields

- Injury characteristics
- Demographics
- Circumstances
- Mental Health Diagnoses
- Toxicology
Deaths by Manner/Intent: Resident and Occurrence Deaths
North Carolina Violent Death Reporting System, age 0-17, 2004-2018*

Total resident deaths = 1,421
Total occurrence deaths = 1,459

* 2018 data is provisional
Analysis by Injury Epidemiology and Surveillance Unit (as of Dec 2019)
Firearm Deaths in North Carolina: 2014-2018*

NC all ages = 6,477
NC ages 0-17 = 239
Firearm Death Counts/Rates by Race ages 0-17: NC-VDRS, 2014-2018*

**Data Source:** North Carolina Violent Death Reporting System, 2017; Analysis conducted by Injury Epidemiology and Surveillance Unit

*Technical Note: 239 violent deaths caused by firearms among 0-17: 2014-2018; using May 2019 datafile

2018* data are provisional

Rates per 100,000 NC persons

- **White NH Rate:** 2.1
- **Black NH Rate:** 3.7
- **Hispanic Rate:** 1.1

- **Hispanic:** 16 Male, 2 Female
- **White NH:** 100 Male, 19 Female
- **Black NH:** 76 Male, 18 Female
- **AI/NA NH:** 4 Male, 0 Female
- **Asian NH:** 0 Male, 1 Female
- **Unknown:** 2 Male, 1 Female

NC Division of Public Health | Injury and Violence Prevention Branch | Public Health Leaders Conference | January 23rd, 2020
Firearm Death Rates by Sex and Age (0-17):
NC-VDRS, 2014-2018*

* Rate per 100,000 NC population; † <5 deaths; rate suppressed

2018* data are provisional
Data Source: North Carolina Violent Death Reporting System, 2017; Analysis conducted by Injury Epidemiology and Surveillance Unit
Firearm-Related Deaths by Manner and Firearm Type, ages 0-17:
NC-VDRS, 2014-2018*

Data Source: North Carolina Violent Death Reporting System, 2017; Analysis conducted by Injury Epidemiology and Surveillance Unit

Technical Note: 239 violent deaths caused by firearms for ages 0-17: 2014-2018 using Dec 2019 datafile
2018 data are provisional

*2018 data are provisional
Circumstances
Firearm-related Suicide Circumstances
Firearm Suicides: Percent of Circumstances:
NC-VDRS ages 0-17, 2014-2018*

N= 102: total number suicide firearm deaths 0-17
N= 92: At least 1 known circumstance (90.2%)

Analysis by Injury Epidemiology and Surveillance Unit - using Dec 2019 datafile
*2018 data are provisional
Firearm-related Homicide Circumstances
Firearm-related Homicide: Percent of Circumstances for ages 0-17: NC-VDRS, 2016-2017

Analysis by Injury Epidemiology and Surveillance Unit - using Dec 2019 datafile

N= 114: total number homicide firearm deaths 0-17
N= 94: At least 1 known circumstance (82.7%)
Firearm-Related ED Visits
Quick Note: ICD-10-CM Transition

• The International Classification of Diseases, 10th revision, Clinical Modification replaced ICD-9-CM in 2015
  − Affects Hospital Discharge (HD), Emergency Department (ED), and outpatient diagnosis coding
• ICD-10-CM captures more detail than ICD-9-CM
  − Contains almost 5 times as many codes
  − Number of relevant injury codes jumped from 2,600 (ICD-9-CM) to 43,000
  − ICD-10-CM data is not comparable to ICD-9-CM data
• Case definitions and external cause of injury categories are still being evaluated and are subject to change
• Current nonfatal firearm-related injury case definition includes any mention of the following codes:

<table>
<thead>
<tr>
<th>Code(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>W32.0, W33.0, W34.00, W.34.09</td>
<td>Accidental Discharge of Firearm</td>
</tr>
<tr>
<td>X72, X73, X74.8, X74.9</td>
<td>Intentional Self-Harm by Firearm</td>
</tr>
<tr>
<td>X93, X94, X95.8, X95.9</td>
<td>Assault by Firearm</td>
</tr>
<tr>
<td>Y38.4</td>
<td>Terrorism Involving Firearms</td>
</tr>
<tr>
<td>Y22, Y23, Y24.8, Y24.9</td>
<td>Firearm Discharge of Undetermined Intent</td>
</tr>
<tr>
<td>Y35.0</td>
<td>Legal Intervention Involving Firearm Discharge</td>
</tr>
</tbody>
</table>

*With a 7th character of A or missing (Initial encounter/active treatment)
**Firearm-Related ED Visit (0-17) Rates, 2016-2018**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>20.5</td>
</tr>
<tr>
<td>Female</td>
<td>3.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4.7</td>
</tr>
<tr>
<td>White, NH</td>
<td>20.3</td>
</tr>
<tr>
<td>Black, NH</td>
<td>4.5</td>
</tr>
<tr>
<td>AI/NA, NH</td>
<td>8.9</td>
</tr>
<tr>
<td>Asian, NH</td>
<td>1.7</td>
</tr>
<tr>
<td>1-4</td>
<td>2.9</td>
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<tr>
<td>5-9</td>
<td>9.4</td>
</tr>
<tr>
<td>10-14</td>
<td>47.7</td>
</tr>
<tr>
<td>15-17</td>
<td></td>
</tr>
</tbody>
</table>

*NC Residents, 2016-2018; NH: Non-Hispanic

**Source:** NC State Center for Health Statistics, Hospitalization Discharge Data (2016-2018) [Excludes Deaths]

Analysis by Injury Epidemiology and Surveillance Unit
Firearm-Related ED Visits Among NC Residents Ages 17 and Younger, 2016-2018

*NC Residents, 2016-2018;
Source: NC State Center for Health Statistics, Hospitalization Discharge Data (2016-2018) [Excludes Deaths]
Analysis by Injury Epidemiology and Surveillance Unit

N = 855 ED Visits
Firearm-Related Hospitalization (0-17) Charges, 2016-2018

• $96,239 average charge

• $3,477 minimum charge

• $1,479,954 maximum charge

N = 275 Hospitalizations

*NC Residents, 2016-2018

Source: NC State Center for Health Statistics, Hospitalization Discharge Data (2016-2018) [Excludes Deaths]
Analysis by Injury Epidemiology and Surveillance Unit
Prevention
4.6 MILLION CHILDREN LIVE IN HOMES WHERE GUNS ARE UNLOCKED AND LOADED

1,500 CHILDREN ARE KILLED WITH GUNS EVERY YEAR
Percent of NC Parents Firearm Practices
(Do you use a gun or chamber lock?)
NC CHAMP (ages 0-17), 2011

- 32.8% Have firearm in or around home
- 25.4% Keep firearms **loaded**
- 29.2% Keep firearms **unlocked**
- 17.3% Unlocked & loaded

Data Source: NC Child Health Assessment and Monitoring Program (NC CHAMP), 2011
Analysis by Injury Epidemiology and Surveillance Unit
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