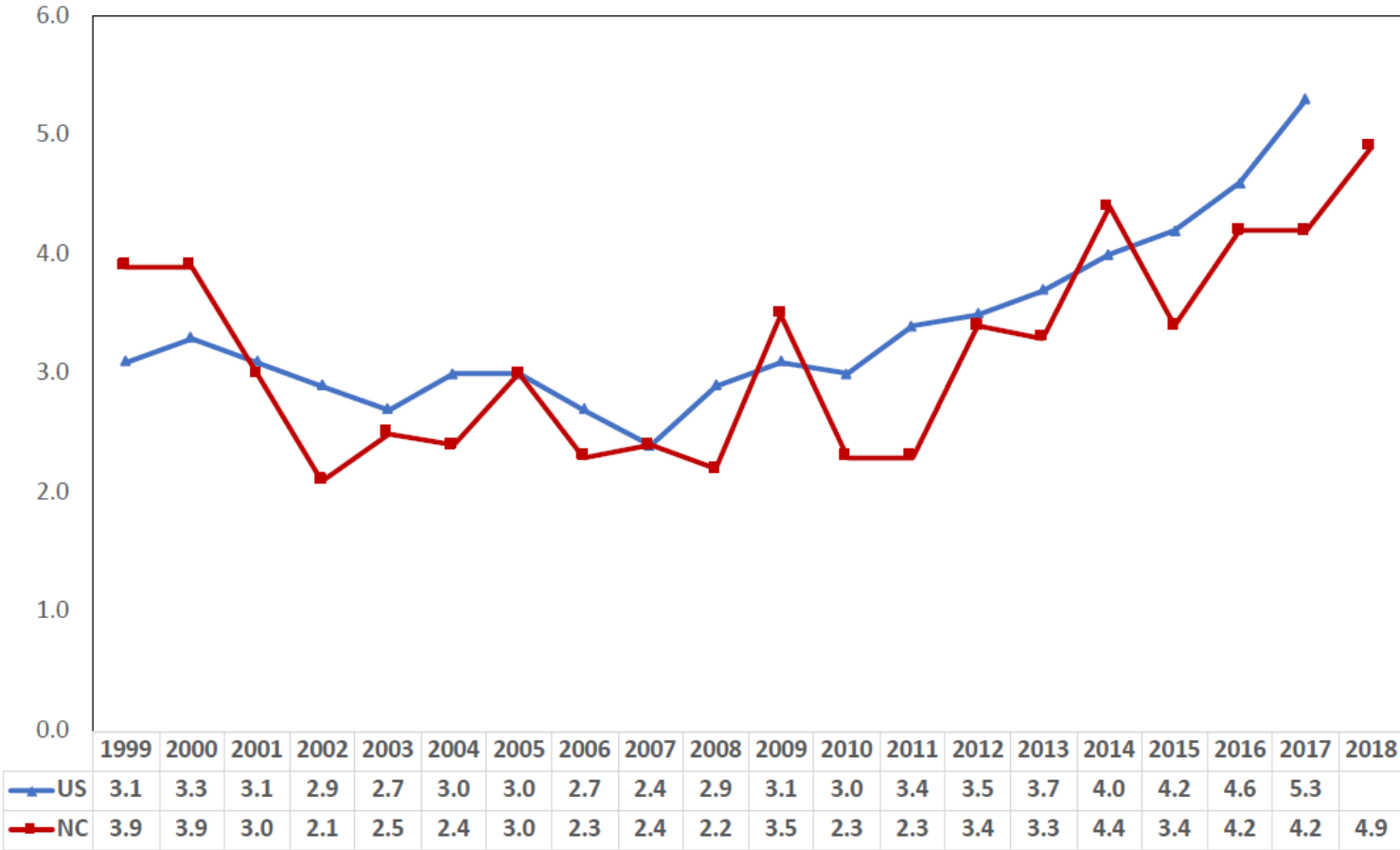


Firearm Deaths and Injuries among Youth in North Carolina

Scott K. Proescholdbell, MPH

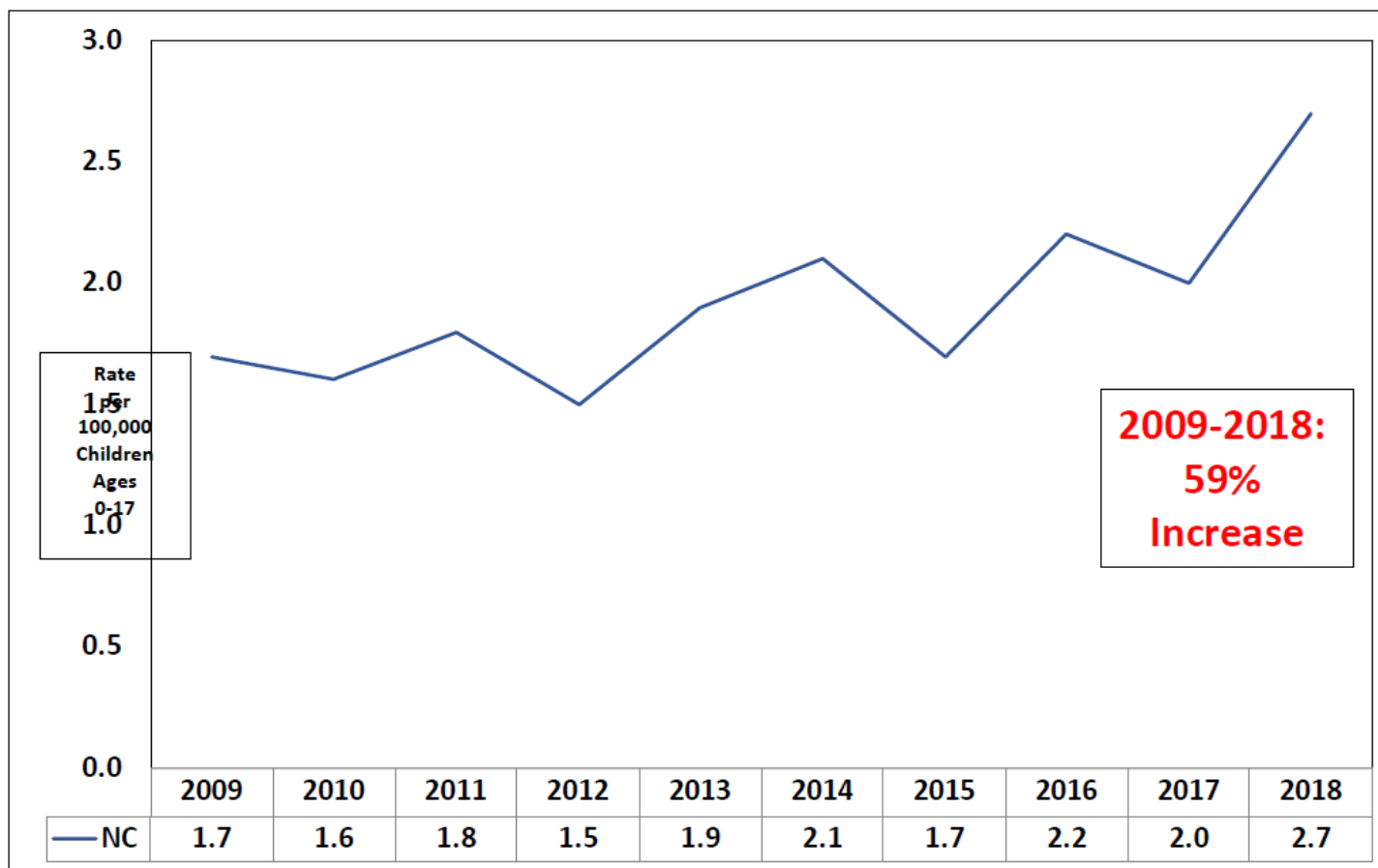
North Carolina Division of Public Health
Chronic Disease and Injury Section
Injury and Violence Prevention Branch

NC Resident Suicide Mortality Rates, Ages 10 to 17: 1999-2018



Source: NC State Center for Health Statistics

NC Resident Firearm-related Mortality Rates, Children Ages 0 to 17: 2009-2018

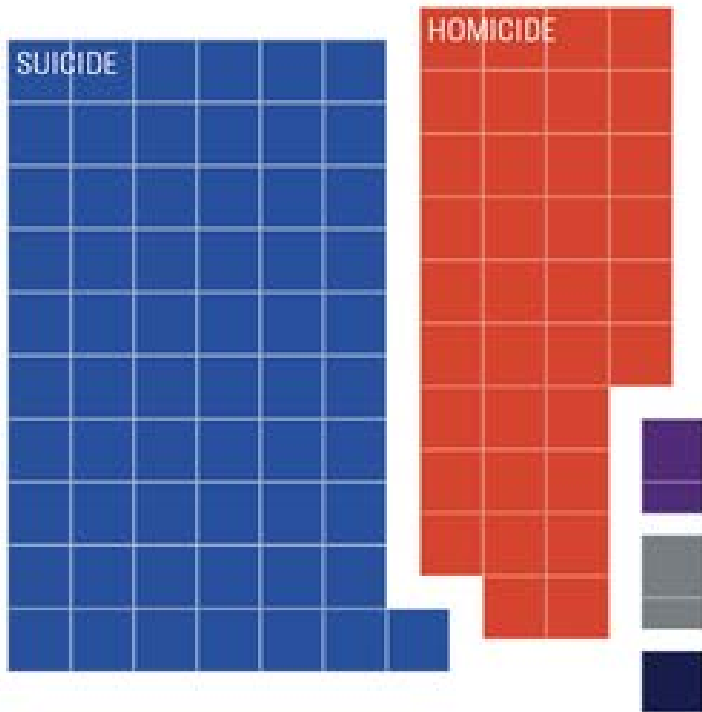


* Firearm deaths included the following ICD-codes : Unintentional W32-W34; Suicide X72-X74 , Homicide X93-X95, U014

Source: NC State Center for Health Statistics

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 in 2017

NC= 1,403

NC ages 0-17= 42

NC Firearm-related deaths in 2018*

NC= 1,345

NC ages 0-17= 61

* 2018 data is provisional

Analysis by Injury Epidemiology and Surveillance Unit (as of Nov 2019)

North Carolina
Injury & Violence
PREVENTION Branch

North Carolina Violent Death Reporting System (NC-VDRS)

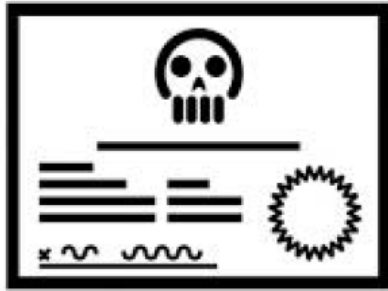
Data and Surveillance

- 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

Types of Information Gathered

- Demographics (victim and suspect)
- Circumstances of the event
- Alcohol/drug use by the victim
- Type of location where the event happened
- Type of weapon used
- Relationship between the victim and suspect

North Carolina Violent Death Reporting System



Death Certificates



LE Reports



C/ME Reports



600+ data fields



Injury characteristics



Demographics



Circumstances



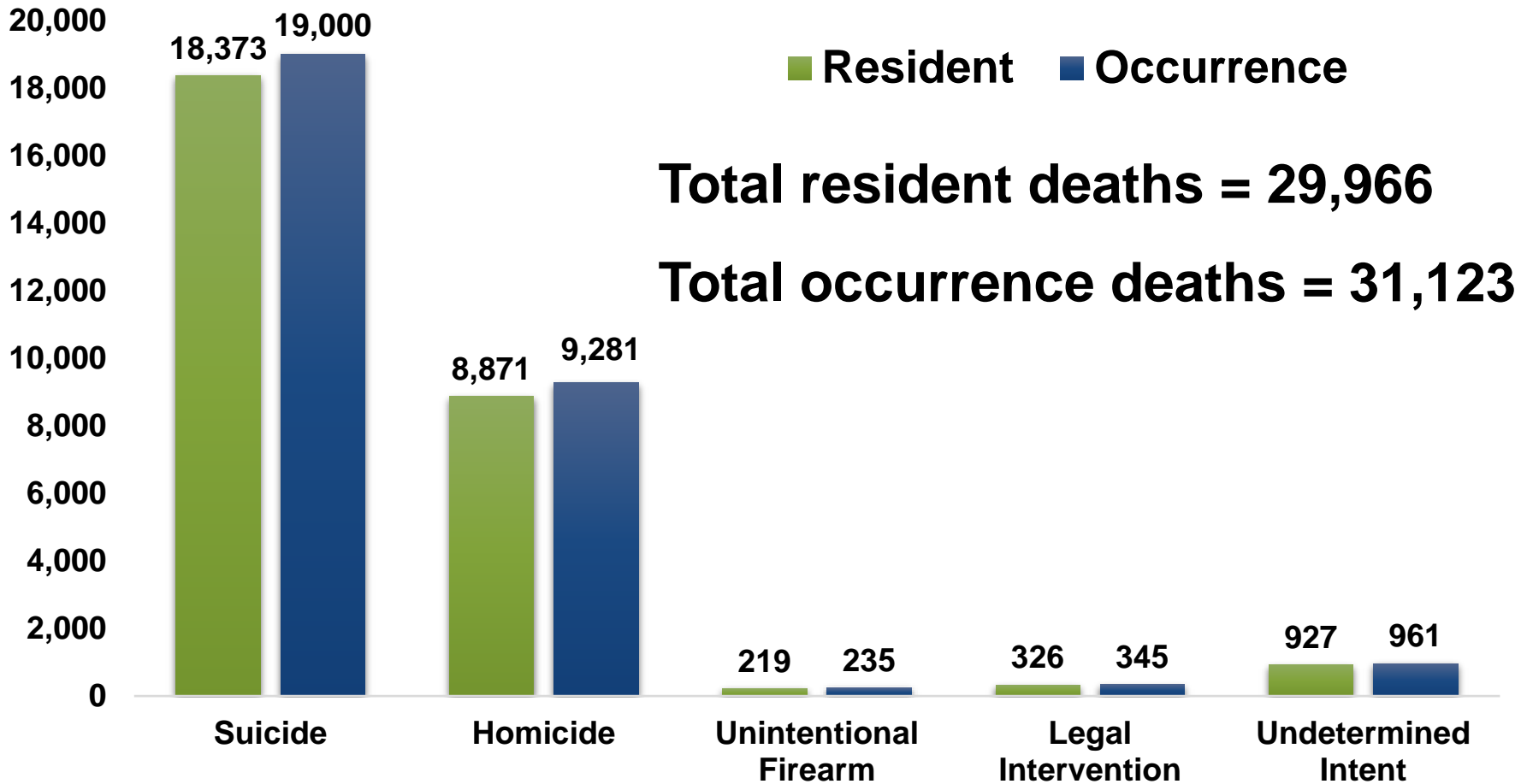
Mental Health Diagnoses



Toxicology



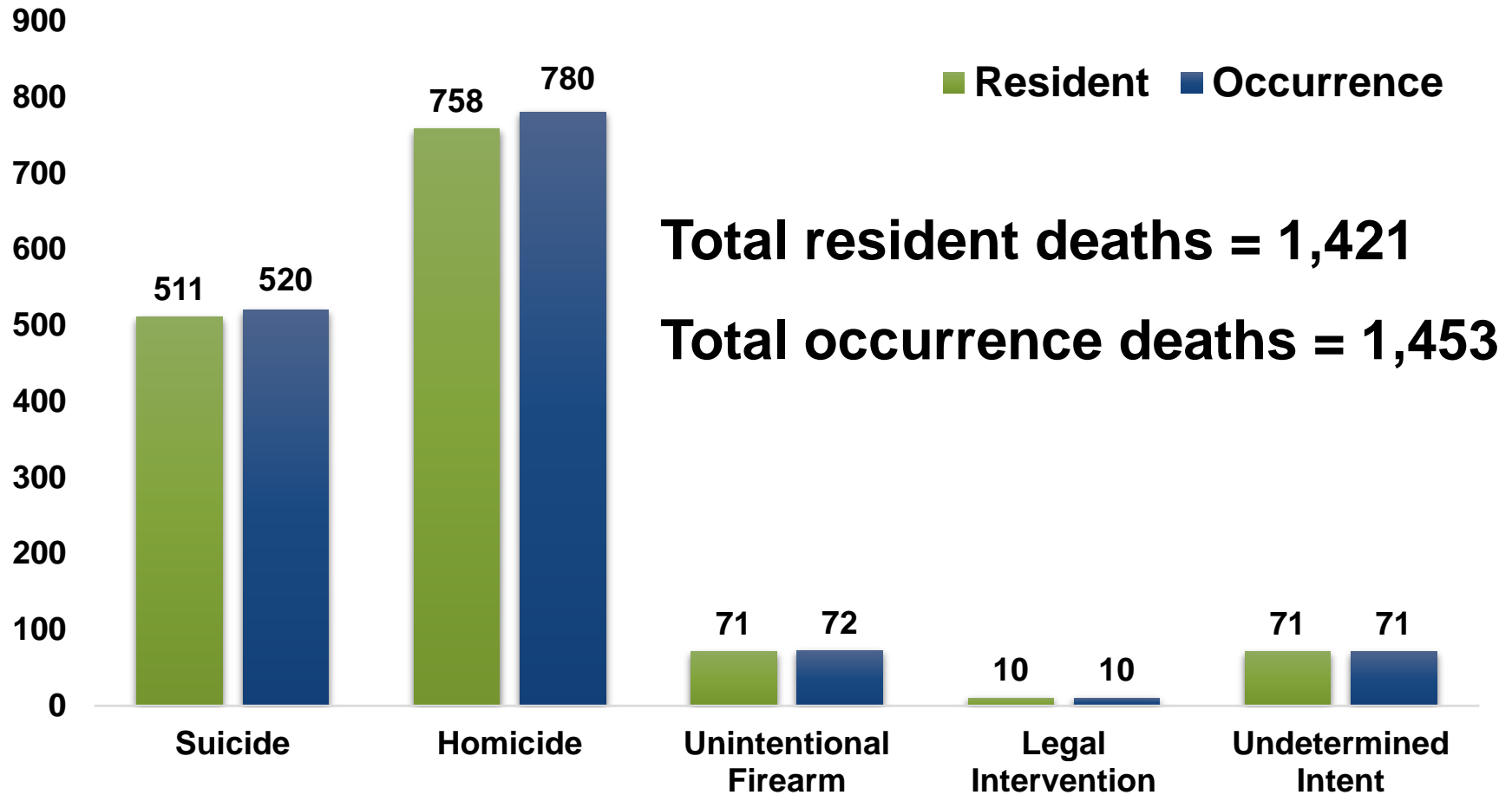
Deaths by Manner/Intent: Resident and Occurrence Deaths North Carolina Violent Death Reporting System, 2004-2018*



* 2018 data is provisional
Analysis by Injury Epidemiology and Surveillance Unit (as of Nov 2019)

Deaths by Manner/Intent: Resident and Occurrence Deaths

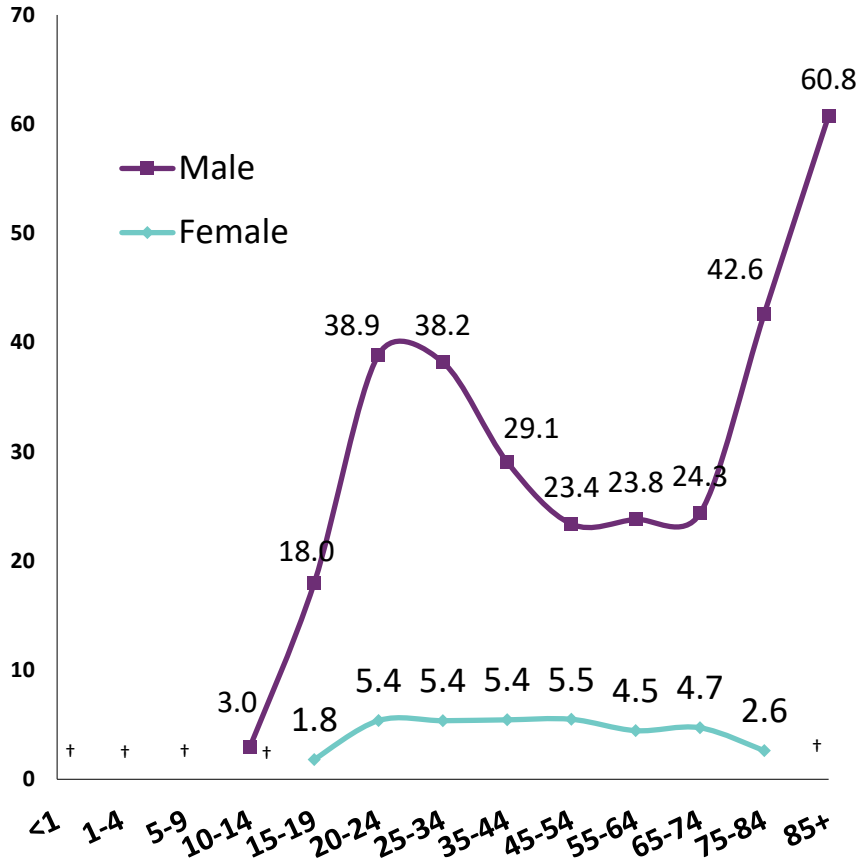
North Carolina Violent Death Reporting System, age 0-17, 2004-2018



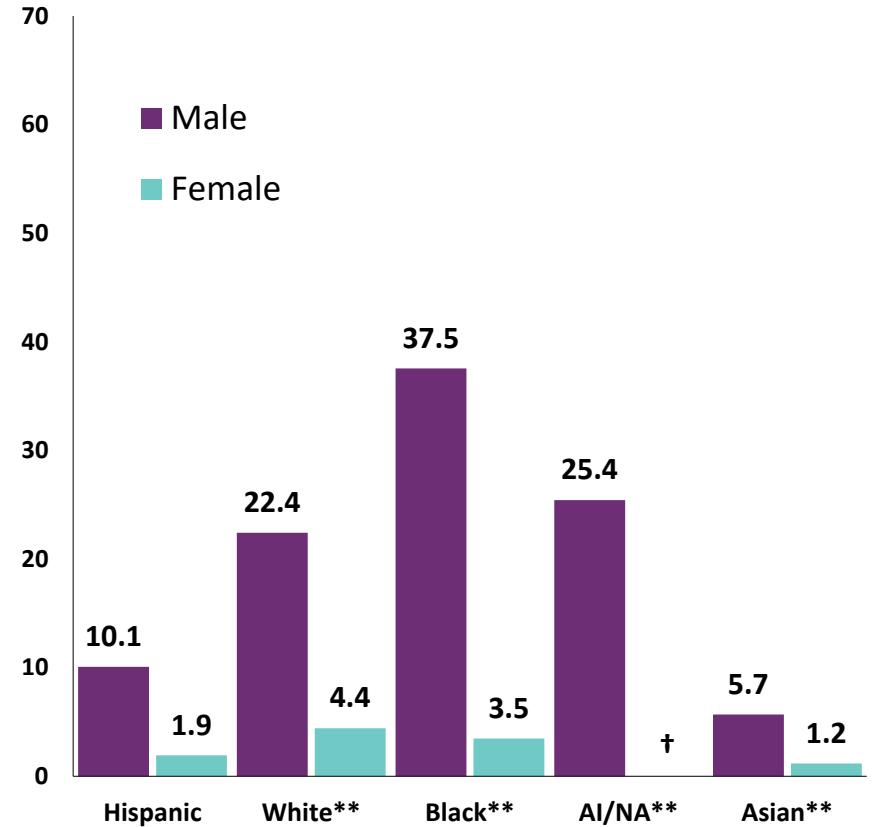
* 2018 data is provisional
 Analysis by Injury Epidemiology and Surveillance Unit (as of Nov 2019)

Firearm Deaths in North Carolina

Firearm Death Rates by Sex, Age, and Race: NC-VDRS, 2017



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



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

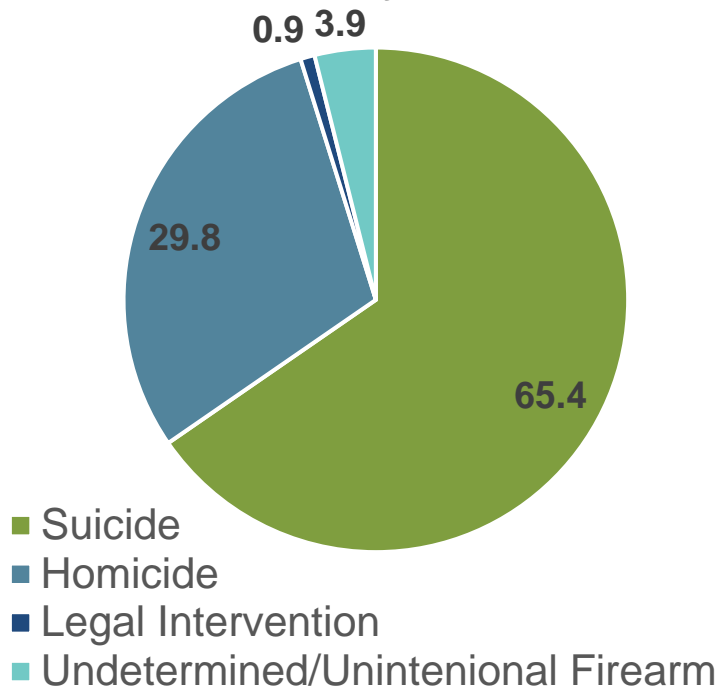
** Non-Hispanic

***Technical Note:** 1,403 violent deaths caused by firearms in 2017- using May 2019 datafile

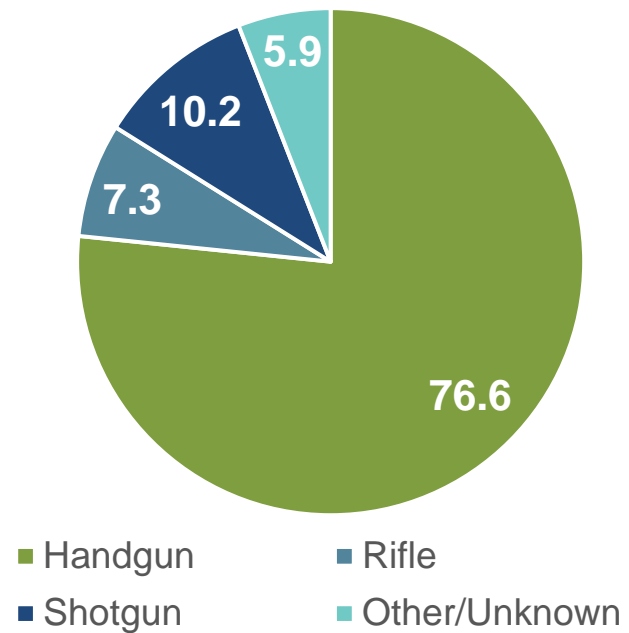
Data Source: North Carolina Violent Death Reporting System, 2017 ; Analysis conducted by Injury Epidemiology and Surveillance Unit

Firearm-Related Deaths by Manner and Firearm Type: NC-VDRS, 2017

Manner by Percent



Firearm Type by Percent

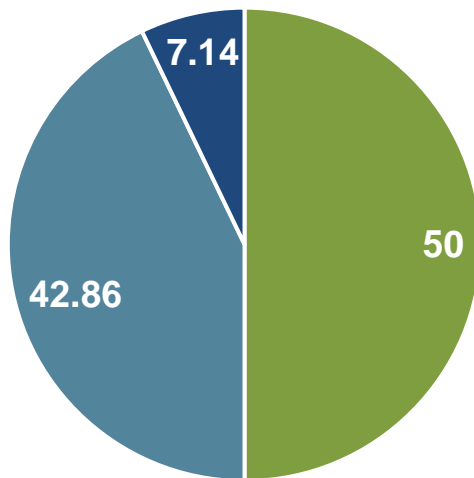


Technical Note: 1,403 violent deaths caused by firearms in 2017- using may 2019 datafile

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

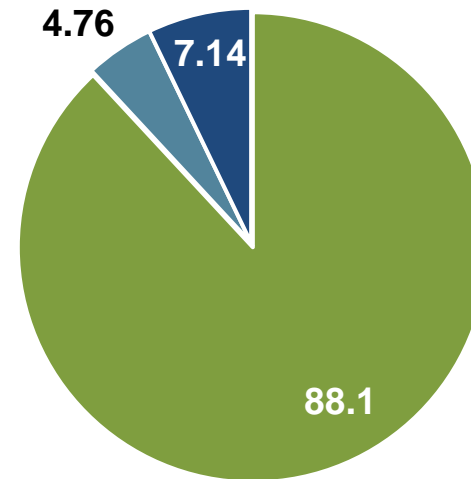
Firearm-Related Deaths by Manner and Firearm Type, ages 0-17: NC-VDRS, 2017

Manner by Percent



■ Homicide ■ Suicide ■ Unintentional firearm

Firearm Type by Percent



■ Handgun ■ Rifle ■ Shotgun

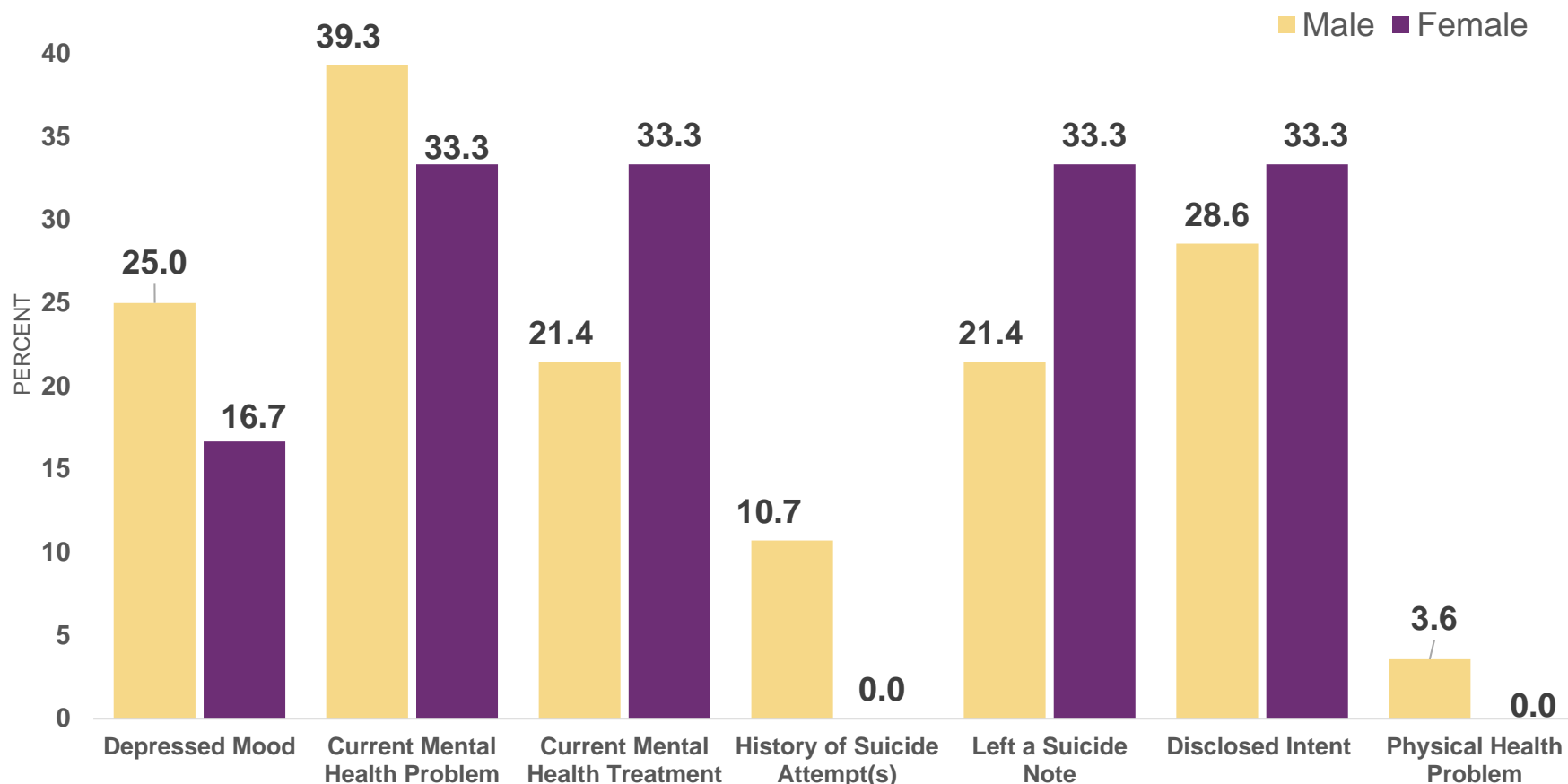
Technical Note: 42 violent deaths caused by firearms in 2017 for ages 0-17- using Dec 2019 datafile

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

Circumstances

Firearm-related Suicide Circumstances

Firearm Suicides: Percent of Circumstances: NC-VDRS age 0-17, 2016-2017



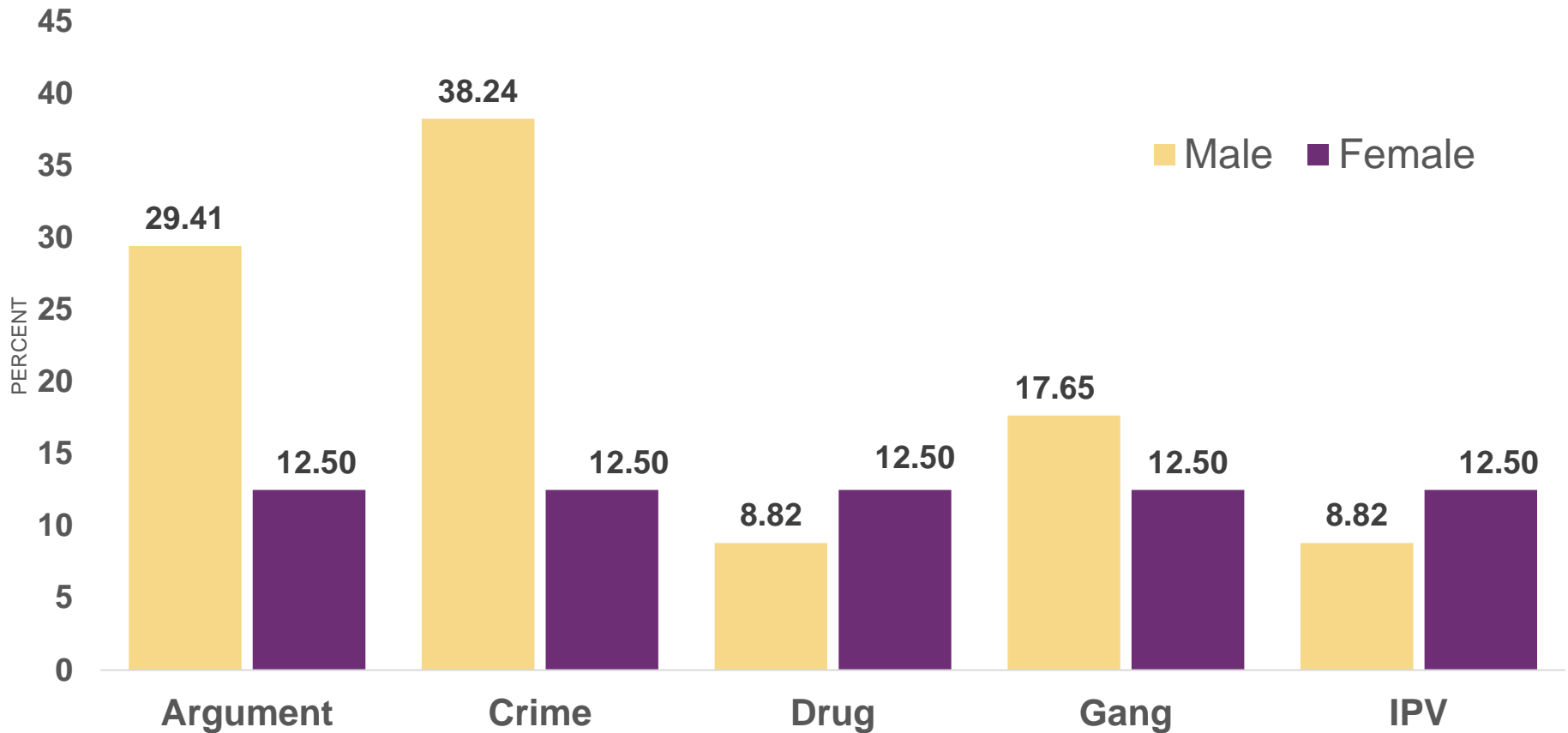
N= 38: total number suicide firearm deaths 0-17

N= 34: At least 1 known circumstance (89%)

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

Firearm-related Homicide Circumstances

Firearm-related Homicide: Percent of Circumstances for age 0-17: NC-VDRS, 2016-2017



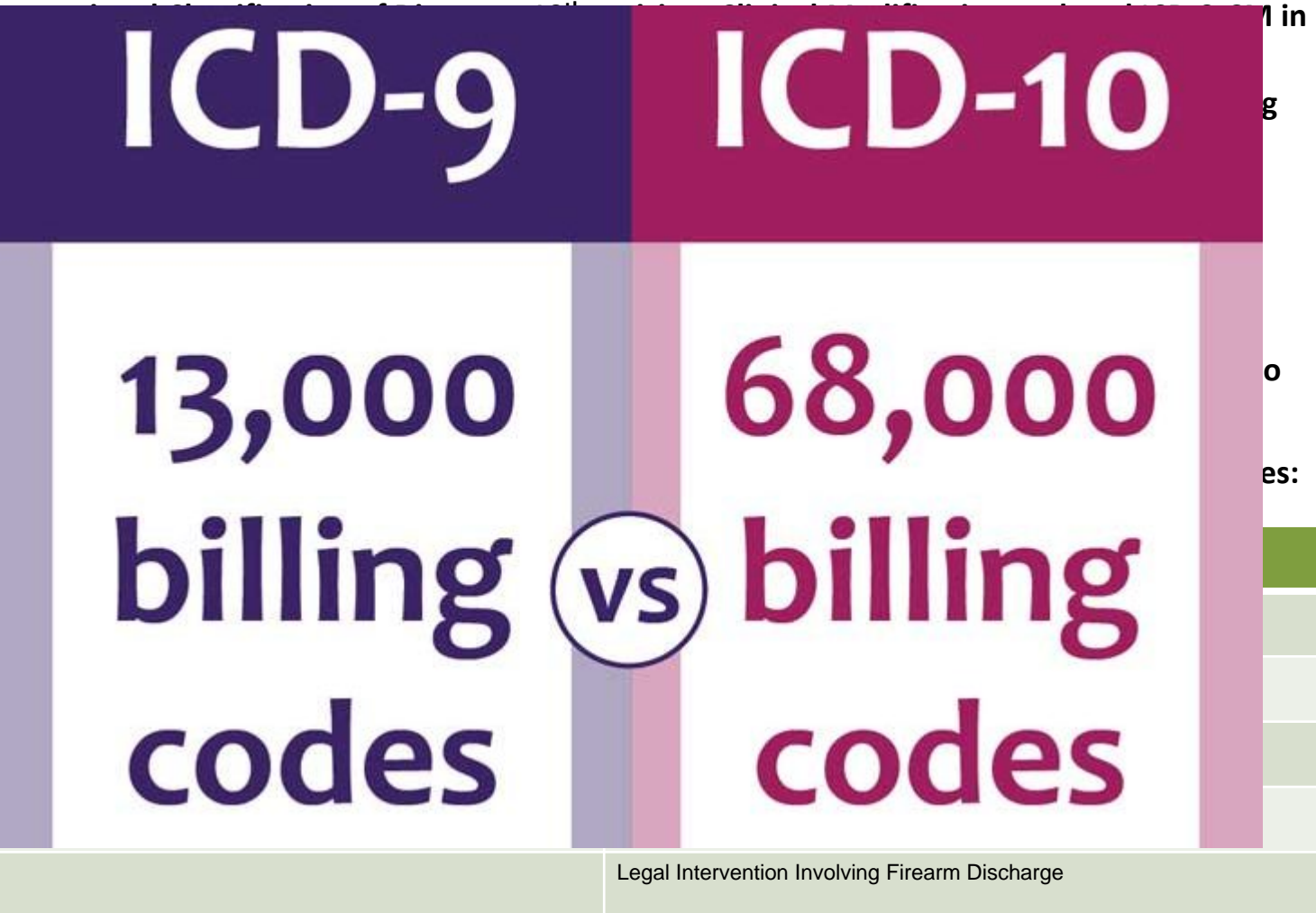
N= 47: total number homicide firearm deaths 0-17

N= 42: At least 1 known circumstance (89%)

Firearm-Related Hospitalizations

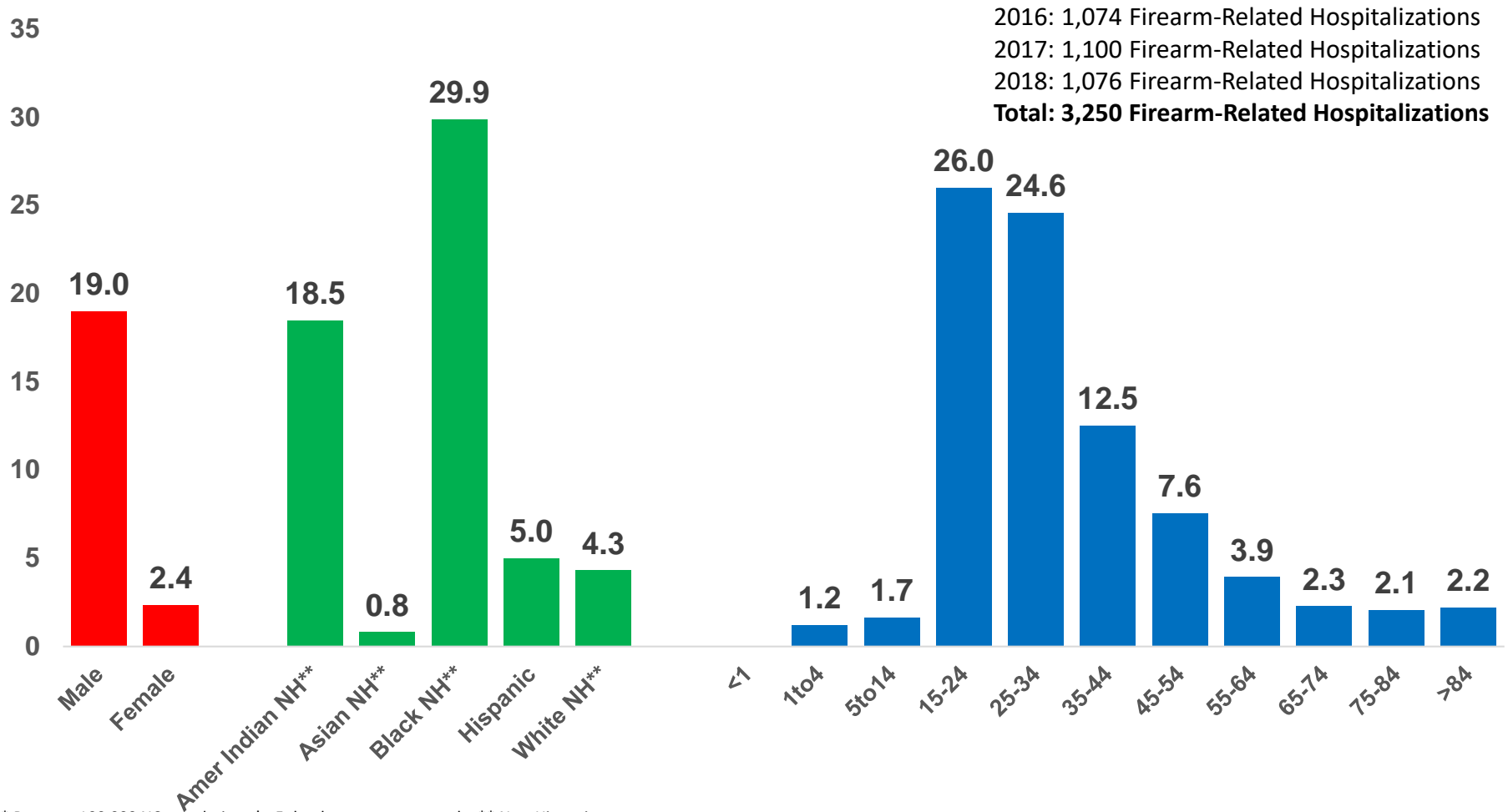
Quick Note: ICD-10-CM Transition

- The In...
- 2015
- Af
- ICD-10
- Co
- Nu
- ICD
- Case c
- chang
- Curren



*With a 7th character of A or missing (Initial encounter/active treatment)

Firearm-Related Hospitalization Rates per 100,000 in North Carolina, all ages (2016-2018)

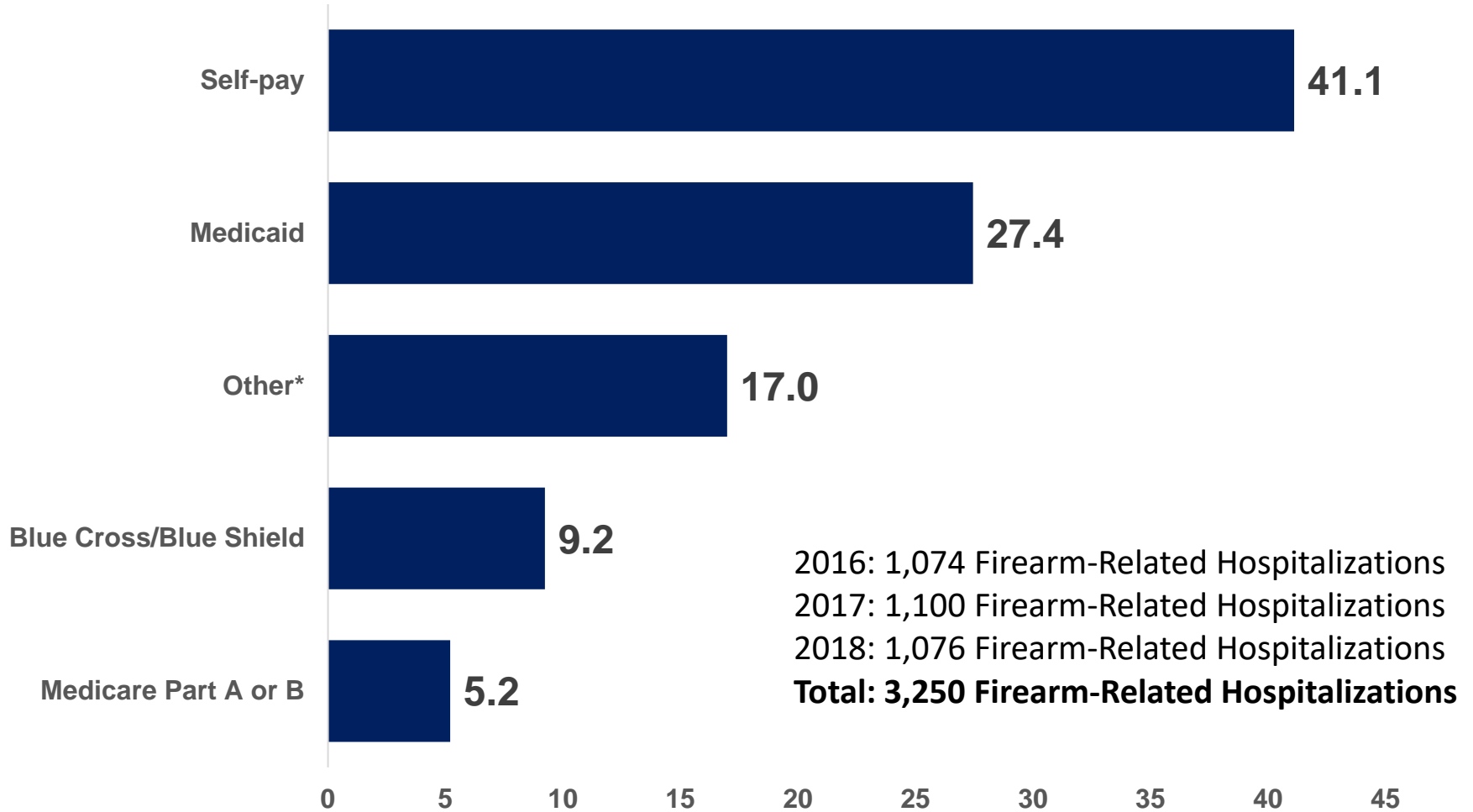


* Rate per 100,000 NC population; † <5 deaths; rate suppressed ** Non-Hispanic

Technical Note: Analysis includes only NC Resident cases WITH a valid NC FIPS code using CDC/CSTE case definitions.

Data Source: State Center for Health Statistics: Hospitalization Discharge Data, 2016-2018; Analyses conducted by Injury and Epidemiology Surveillance Unit

Insurance Type by Percent Among Firearm-Related Hospitalizations, 2016-2018

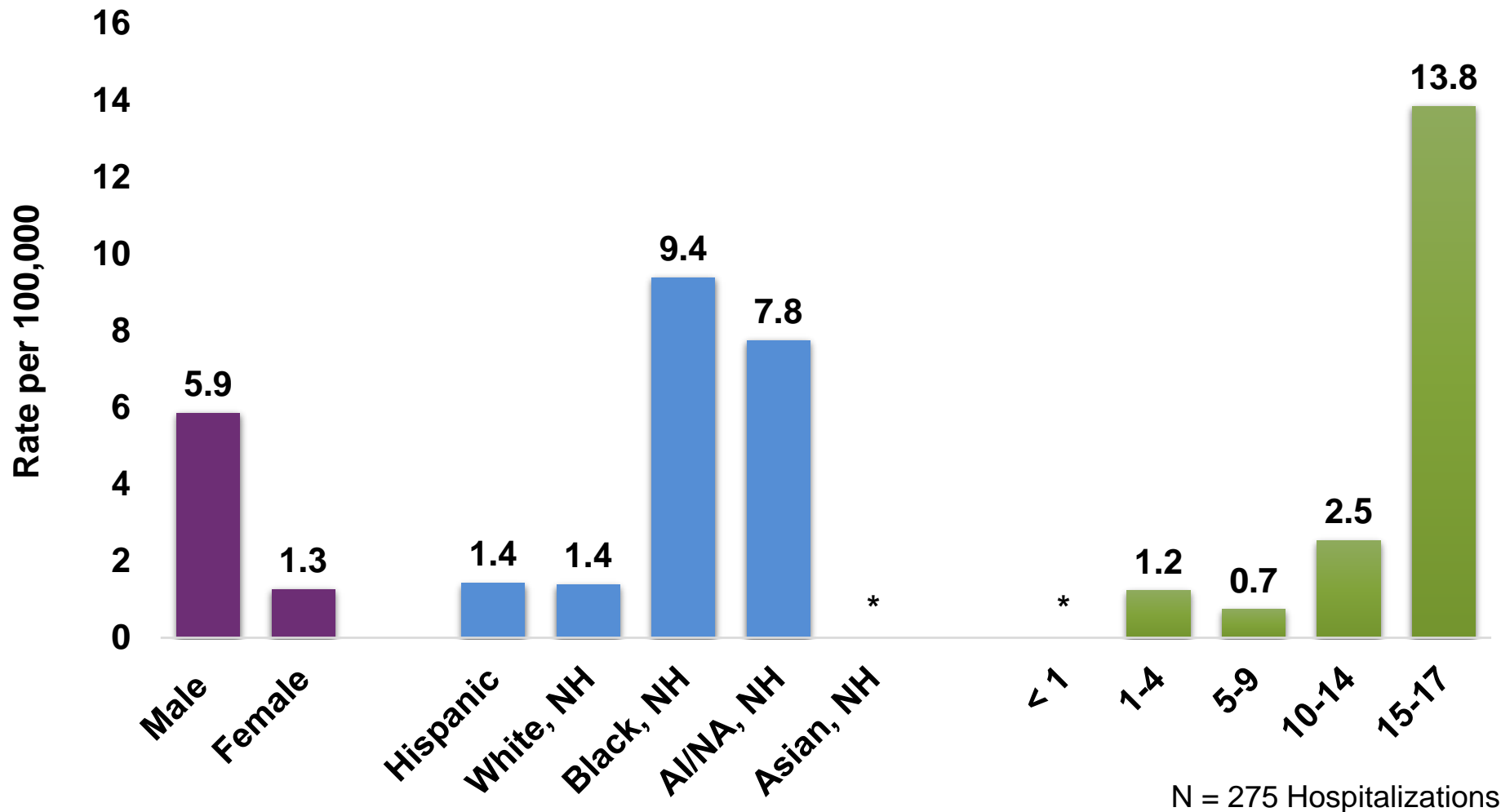


*Other insurance types include but are not limited to: Workers Comp, Veterans Admin, Health Maintenance Organization (HMO), Commercial Insurance Co., Champus

Technical Note: Analysis includes only NC Resident cases WITH a valid NC FIPS code using CDC/CSTE case definitions.

Data Source: State Center for Health Statistics: Hospitalization Discharge Data, 2016-2018; Analyses conducted by Injury and Epidemiology Surveillance Unit

Firearm-Related Hospitalization (0-17) Rates, 2016-2018



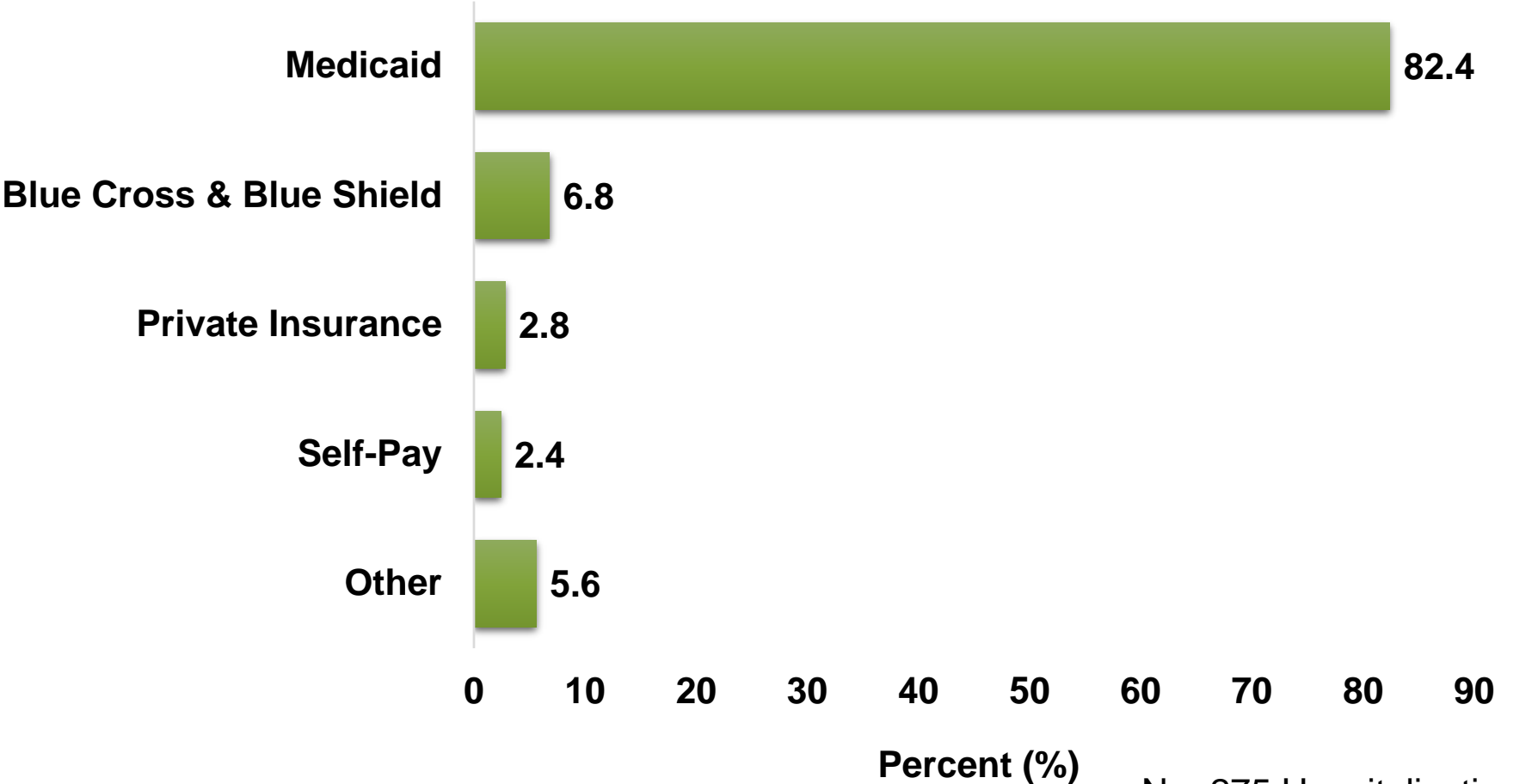
N = 275 Hospitalizations

*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

Primary Payer Information for Firearm-Related Hospitalizations (0-17), 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

Firearm-Related Hospitalization (0-17) Charges, 2016-2018

- **\$96,239** average charge

- **\$3,477** minimum charge

- **\$1,479,954** maximum charge

N = 275 Hospitalizations

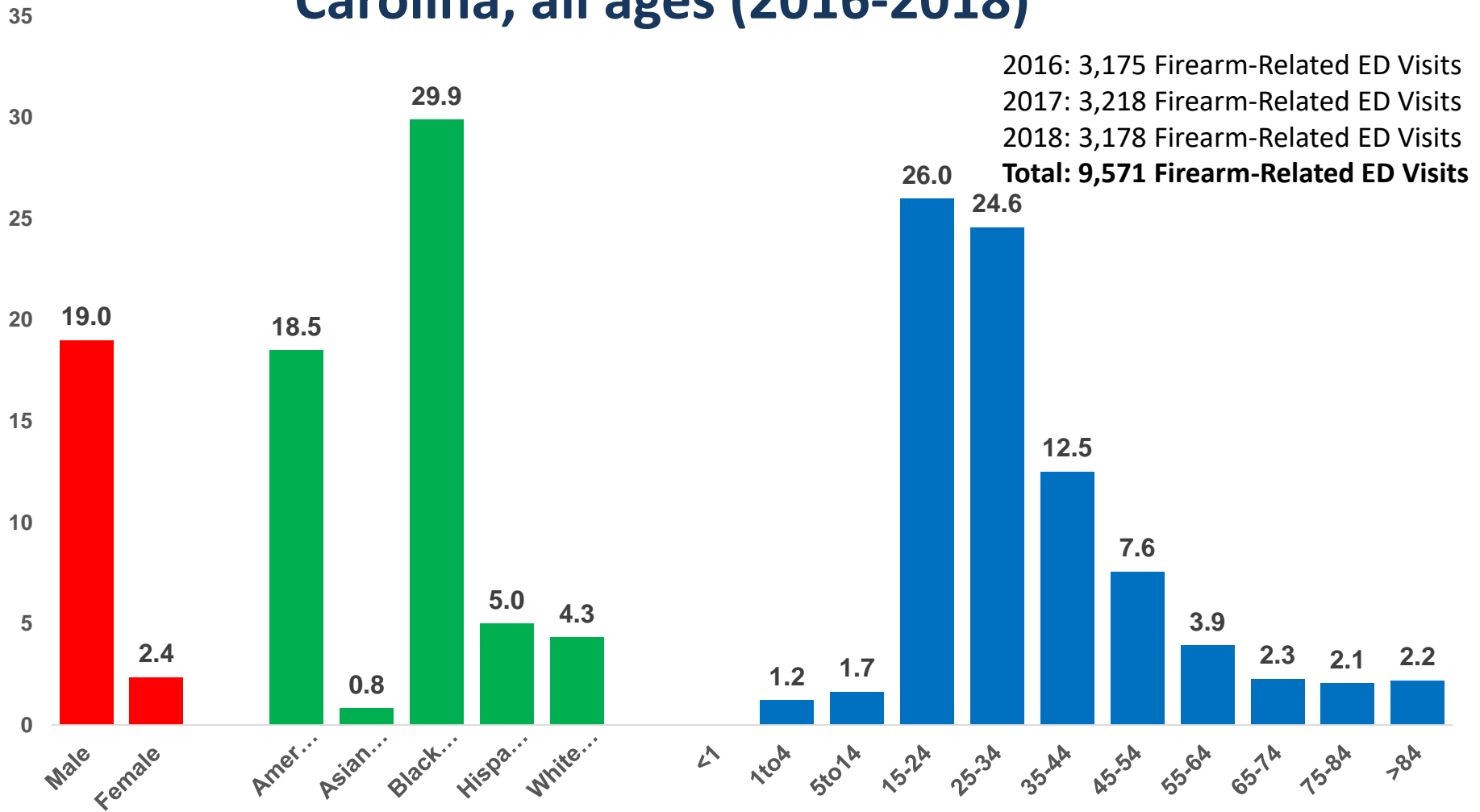
*NC Residents, 2016-2018

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

Analysis by Injury Epidemiology and Surveillance Unit

Firearm-Related ED Visits

Firearm-Related ED Visit Rates per 100,000 in North Carolina, all ages (2016-2018)

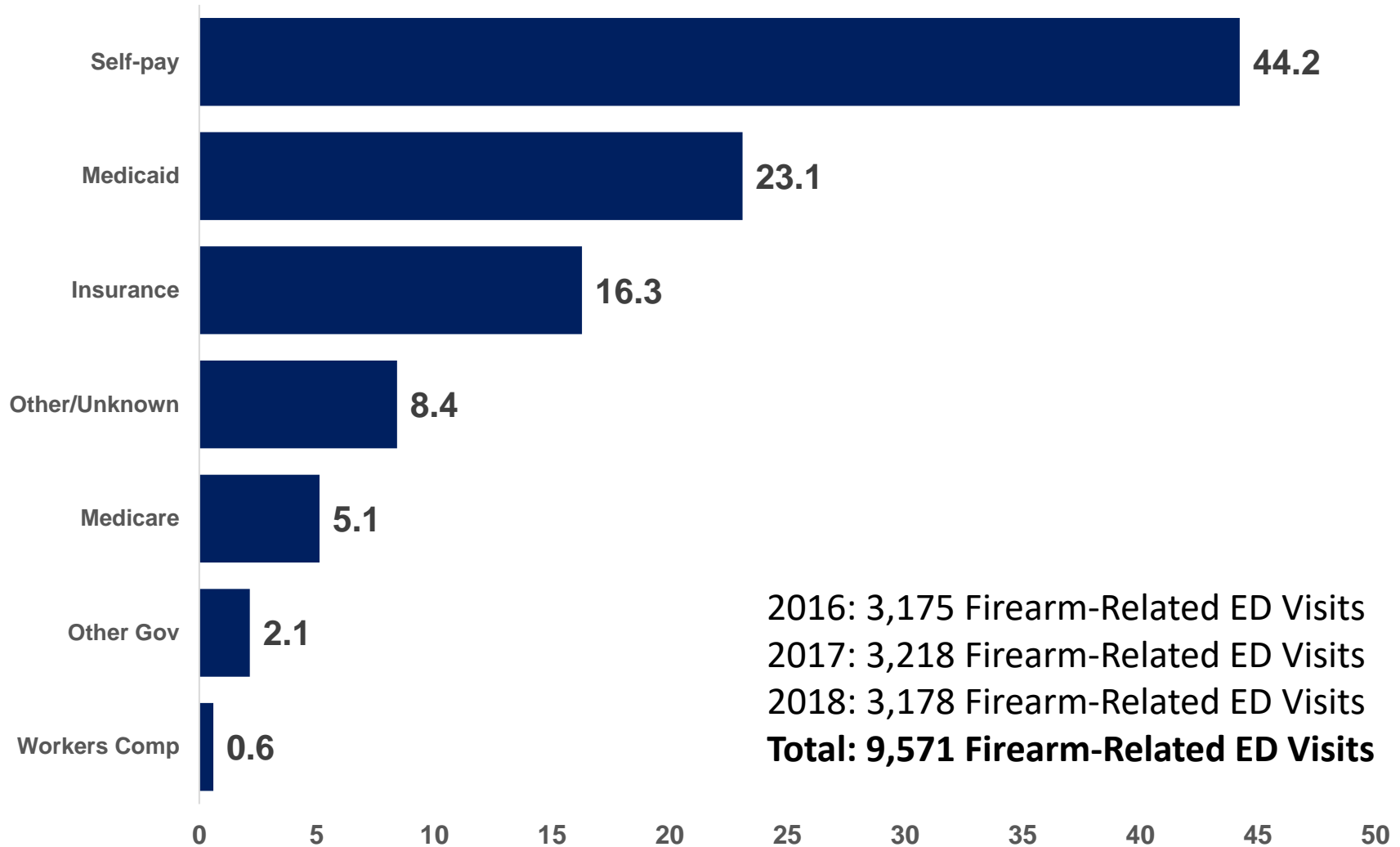


* Rate per 100,000 NC population; † <5 deaths; rate suppressed ** Non-Hispanic

Technical Note: Analysis includes only NC Resident cases WITH a valid NC county FIPS code using CDC/CSTE case definitions.

Data Source: NC DETECT, Emergency Department Visits, 2016-2018; Analysis conducted by Injury Epidemiology and Surveillance Unit

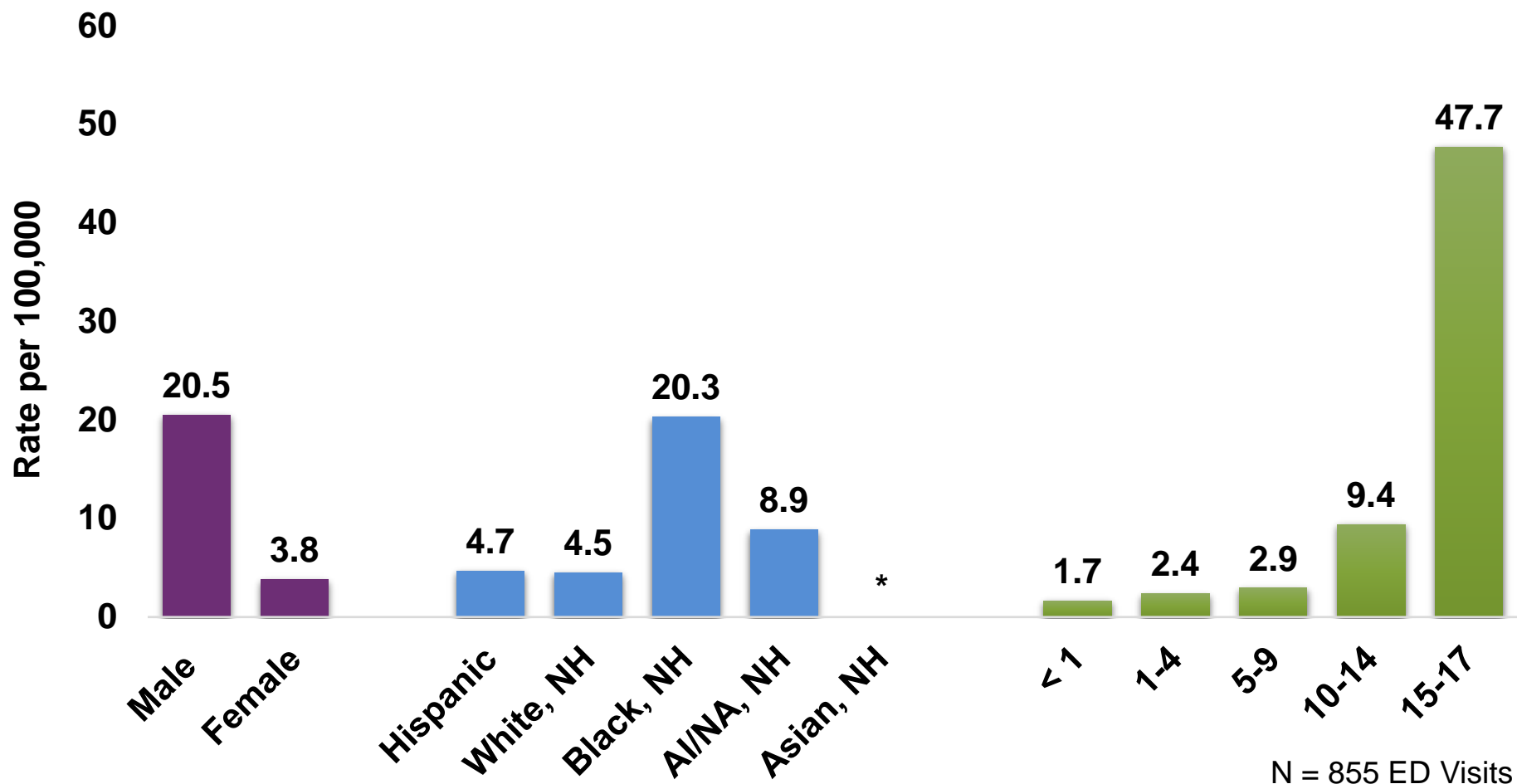
Insurance Type Among Firearm-Related ED Cases, 2016-2018



Technical Note: Analysis includes only NC Resident cases WITH a valid NC FIPS code using CDC/CSTE case definitions.

Data Source: NC DETECT, Emergency Department Visits, 2016-2018; Analysis conducted by Injury Epidemiology and Surveillance Unit

Firearm-Related ED Visit (0-17) Rates, 2016-2018

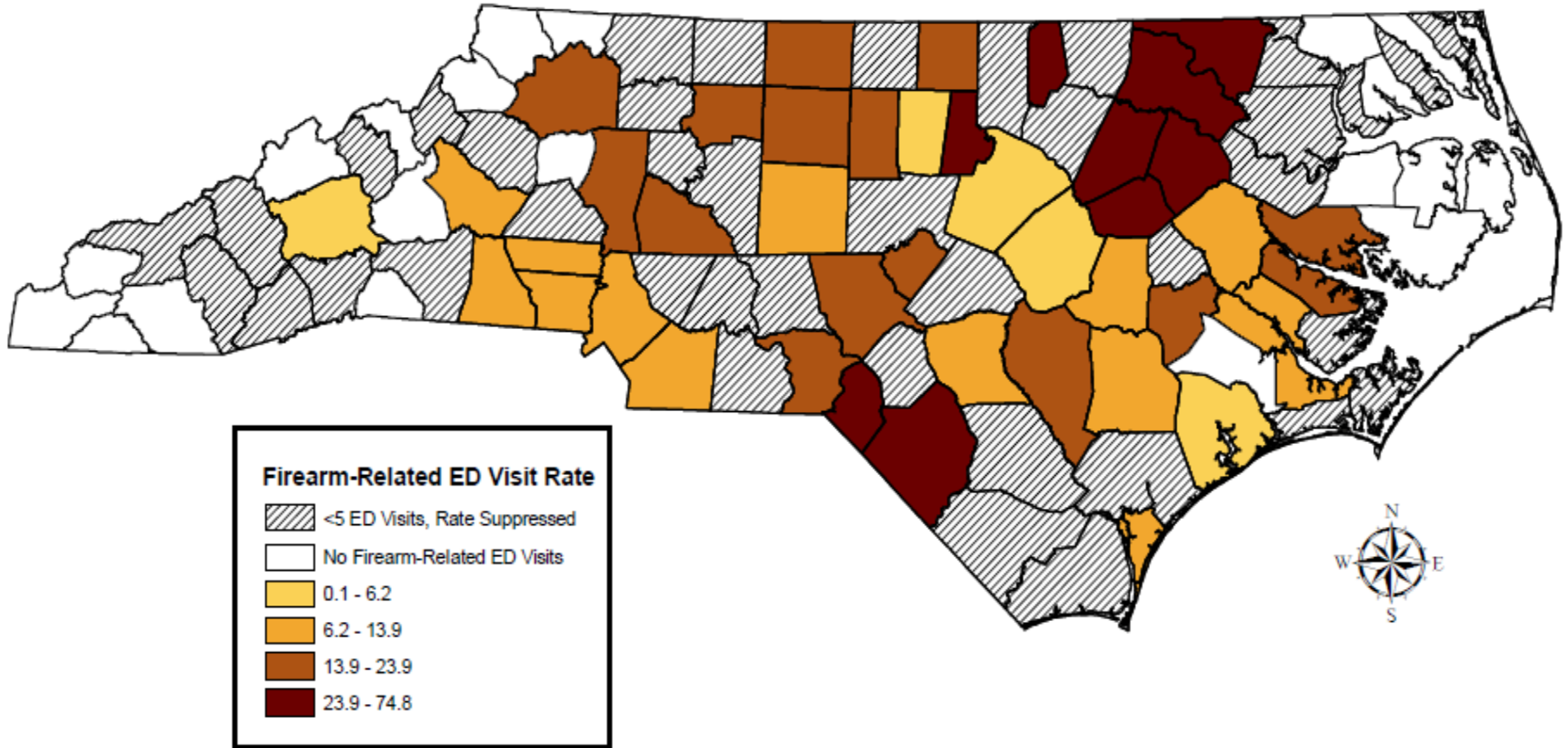


*NC Residents, 2016-2018; NH: Non-Hispanic

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



N = 855 ED Visits

*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

JAMA Pediatrics | [Original Investigation](#)

Association of Increased Safe Household Firearm Storage With Firearm Suicide and Unintentional Death Among US Youths

Michael C. Monuteaux, ScD; Deborah Azrael, PhD; Matthew Miller, MD, MPH, ScD

[Invited Commentary](#) | Psychiatry

Limiting Access to Firearms as a Suicide Prevention Strategy Among Adults What Should Clinicians Recommend?

Joseph A. Simonetti, MD, MPH; Ali Rowhani-Rahbar, MD, MPH, PhD

RESEARCH LETTER

Home Gun Safety Queries in Well-Child Visits

What Is Safe Household Firearm Storage to Prevent Deaths Among US Youths?

[To the Editor](#) In their article,¹ Monuteaux et al propose that “6%

North Carolina
Injury & Violence
PREVENTION Branch

4.6 MILLION CHILDREN

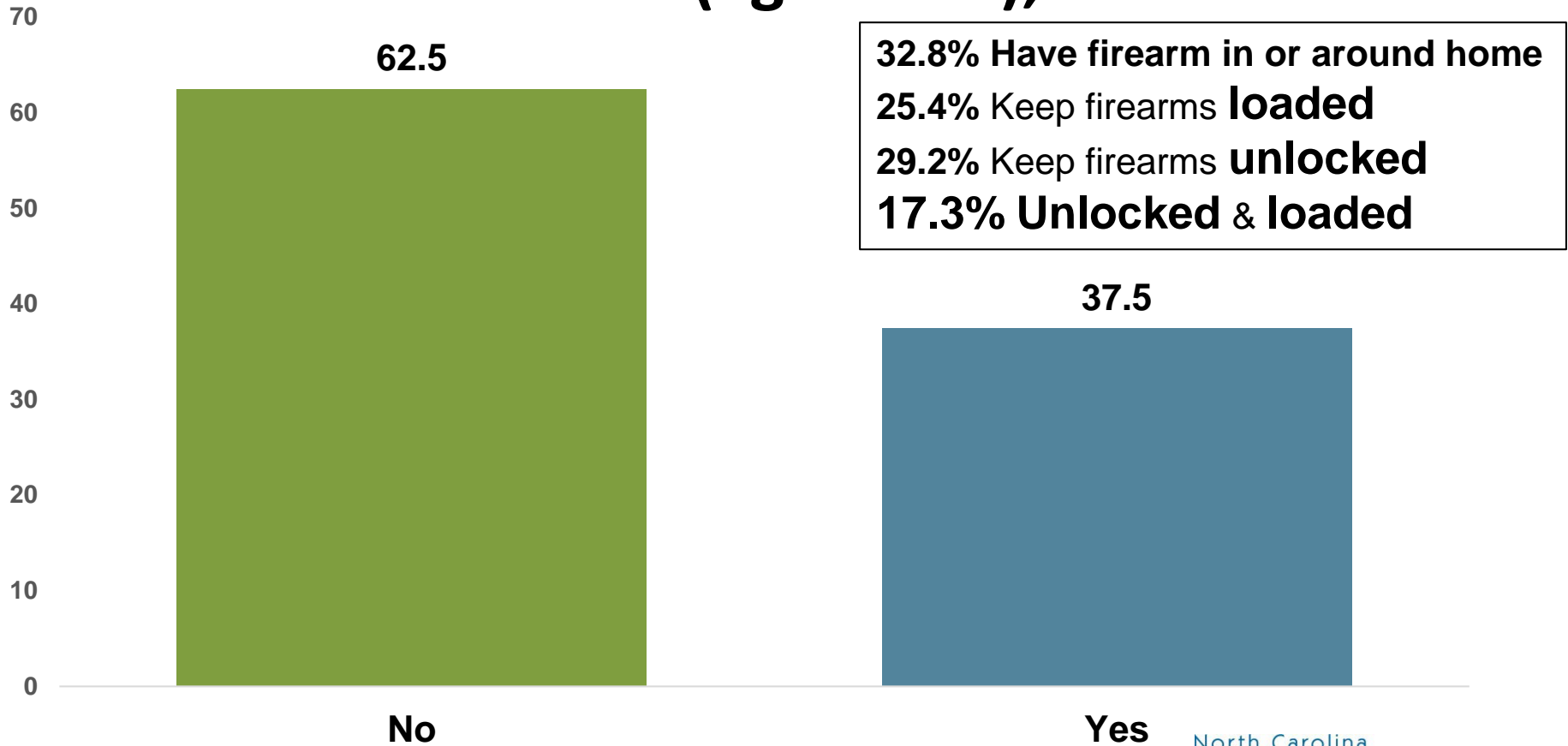


**LIVE IN HOMES WHERE
GUNS ARE UNLOCKED
AND LOADED**



**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



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



NC DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Division of Public Health

Scott Proescholdbell

Injury Epidemiologist, Injury and Violence Prevention Branch

Scott.Proescholdbell@dhhs.nc.gov

Dana Dandeneau

Injury Epidemiology Fellow, Injury and Violence Prevention Branch

Dana.Dandeneau@dhhs.nc.gov

Tammy Norwood

Program Manager, NC-VDRS, Injury and Violence Prevention Branch

Tammy.Norwood@dhhs.nc.gov

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