

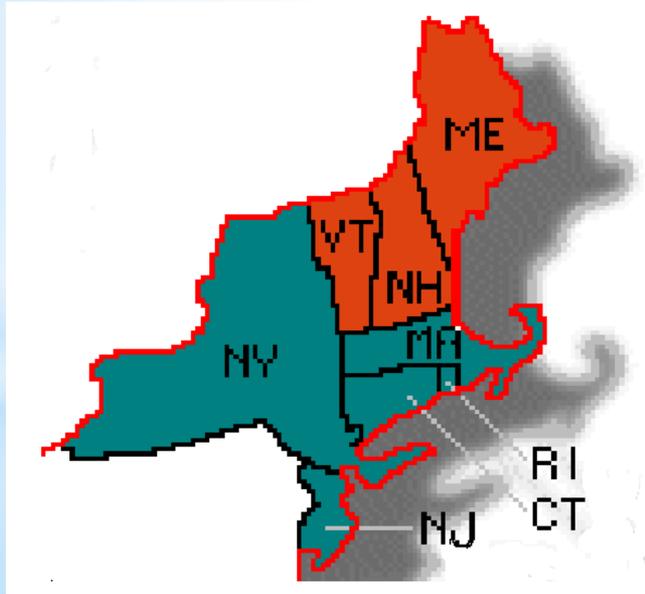
# Firearm Injuries By Intent: A Comparison of Data in the Northeast U.S.

Presented at CSTE Conference June 17, 2015

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# New Partnerships for Firearm Safety

- Firearm ownership and death rates vary widely across states in the Northeast.
- Firearm instructors disseminate information to new gun owners and may be valuable injury prevention partners.



## % of Households with Firearms

VT	44%
ME	40%
NH	31%
NY	19%
CT	18%
RI	12%
NJ	11%
MA	11%

(2004 BRFSS)



# New Partnerships for Firearm Safety

At the suggestion of the Harvard Injury Center, the Northeast & Caribbean Injury Prevention Network and the New England Injury and Violence Prevention Research Collaborative initiated a project to:

- \* Receive firearm training from master firearm trainers
- \* Audit a convenience sample of firearm trainings in the Northeast to catalogue topics covered
- \* Initiate a partnership with the SAFE Network (Shooting and Firearms Educators) in the Northeast to share data and promote firearm safety



# Sharing Firearm Injury Statistics

- \* To inform this partnership, NCIPN members assembled regional data on fatal and nonfatal firearm injury.
- \* Harvard Injury Center plans to work with NCIPN members on developing data fact sheets for use by SAFE firearm instructors and others, highlighting:
  - \* Suicide, homicides, assaults, and nonfatal unintentional injuries
  - \* Comparison of state data to the region and US
- \* Given the prominence of firearm suicide, the Harvard group is developing a brief suicide prevention module to disseminate to instructors.



# Methodology: Data Sources

- \* State Death, Inpatient Hospital and Emergency Department Discharge Databases
- \* US fatal and nonfatal data from Centers for Disease Control and Prevention, National Center for Injury Prevention and Control Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [cited 2015, May]. Available from URL: [www.cdc.gov/injury/wisqars](http://www.cdc.gov/injury/wisqars)(<http://www.cdc.gov/injury/wisqars>)
- \* Nonfatal US and State-specific data sources are not directly comparable

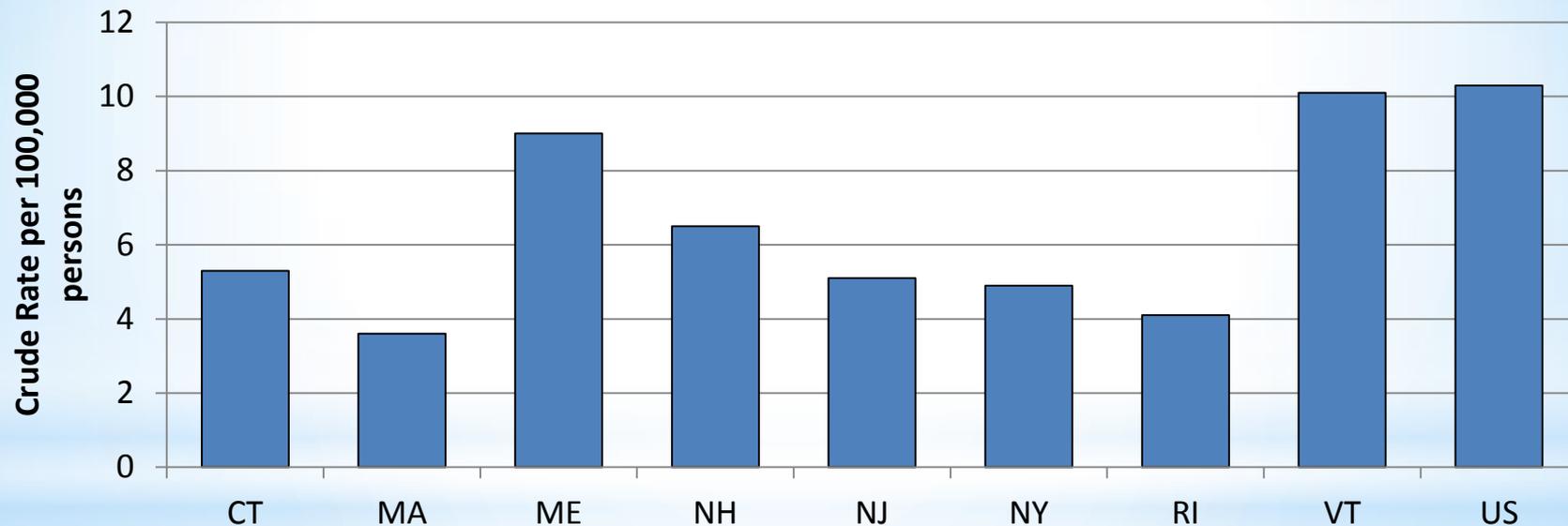
# Methodology: Case Definition

- \* CDC Injury Indicator Definitions for Firearm Injury Deaths, Inpatient Hospitalizations and ED Visits (ICD-10 and ICD-9-CM based)
- \* Calendar Years 2007-2011 aggregated counts/crude rates, except NH where 2005-2009 data are presented
- \* Rates based on counts less than 20 are not presented
- \* In-hospital (or Emergency Department) deaths were excluded from counts. ED cases with disposition “admitted” were excluded.
- \* Only state residents (resident deaths anywhere) (inpatient hospitalizations and ED visits in-state)
- \* Further analyzed by intent of firearm injury

# Methodology: Firearm Injury Intent

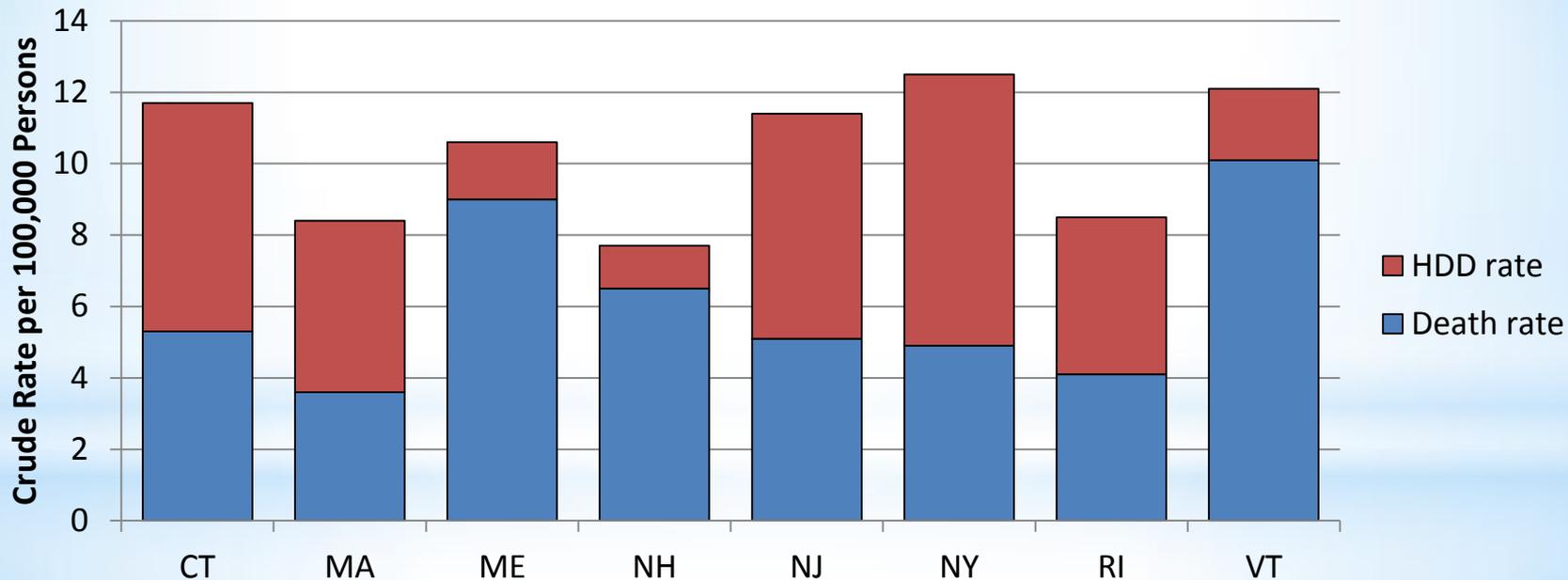
Intent	ICD-10	ICD-9-CM
Unintentional	W32-W34	E922.0-E922.3; E922.8; E922.9
Suicide/Self-injury	X72-X74	E955.0-E955.4
Homicide/Assault	X93-X95	E965.0-E965.4
Undetermined Intent	Y22-Y24	E985.0-E985.4
Legal Intervention	Y35.0	E970

# Firearm Injury Death Rates (5-Year Average Annual), Northeastern States and U.S., 2007-2011\*



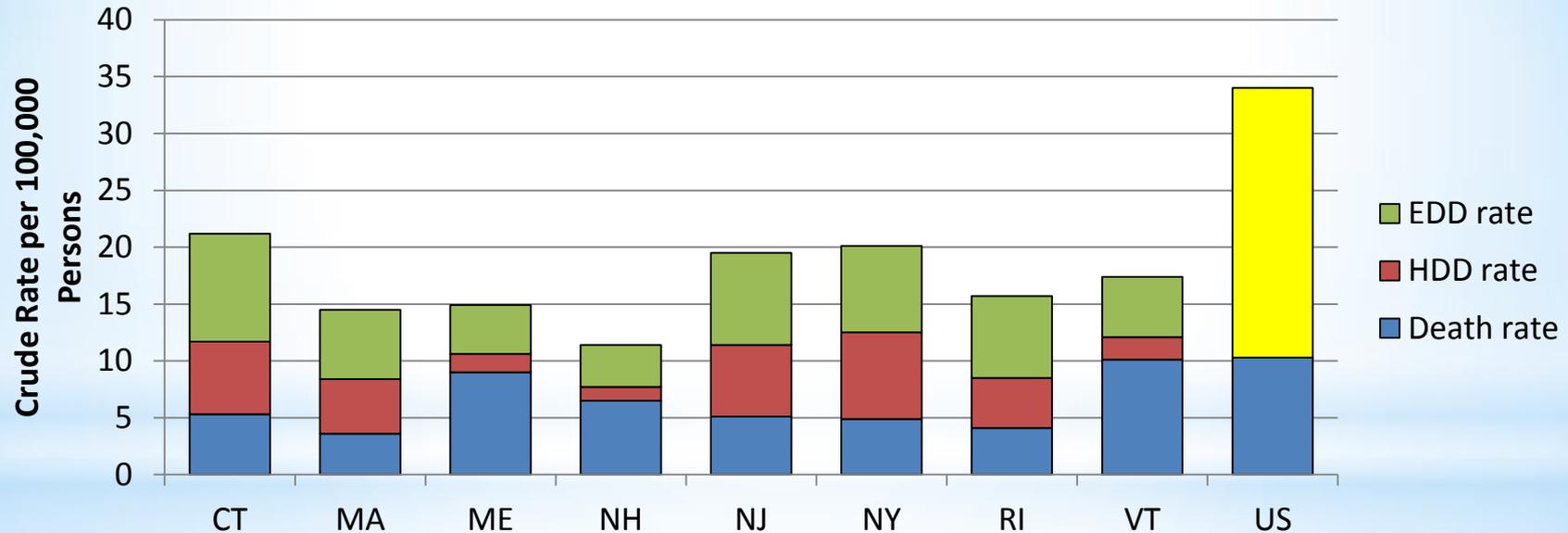
\*NH data are 2005-2009

# Firearm Injury Death and Inpatient Hospital Rates (5-Year Average Annual), Northeastern States, 2007-2011\*



\*NH data are 2005-2009

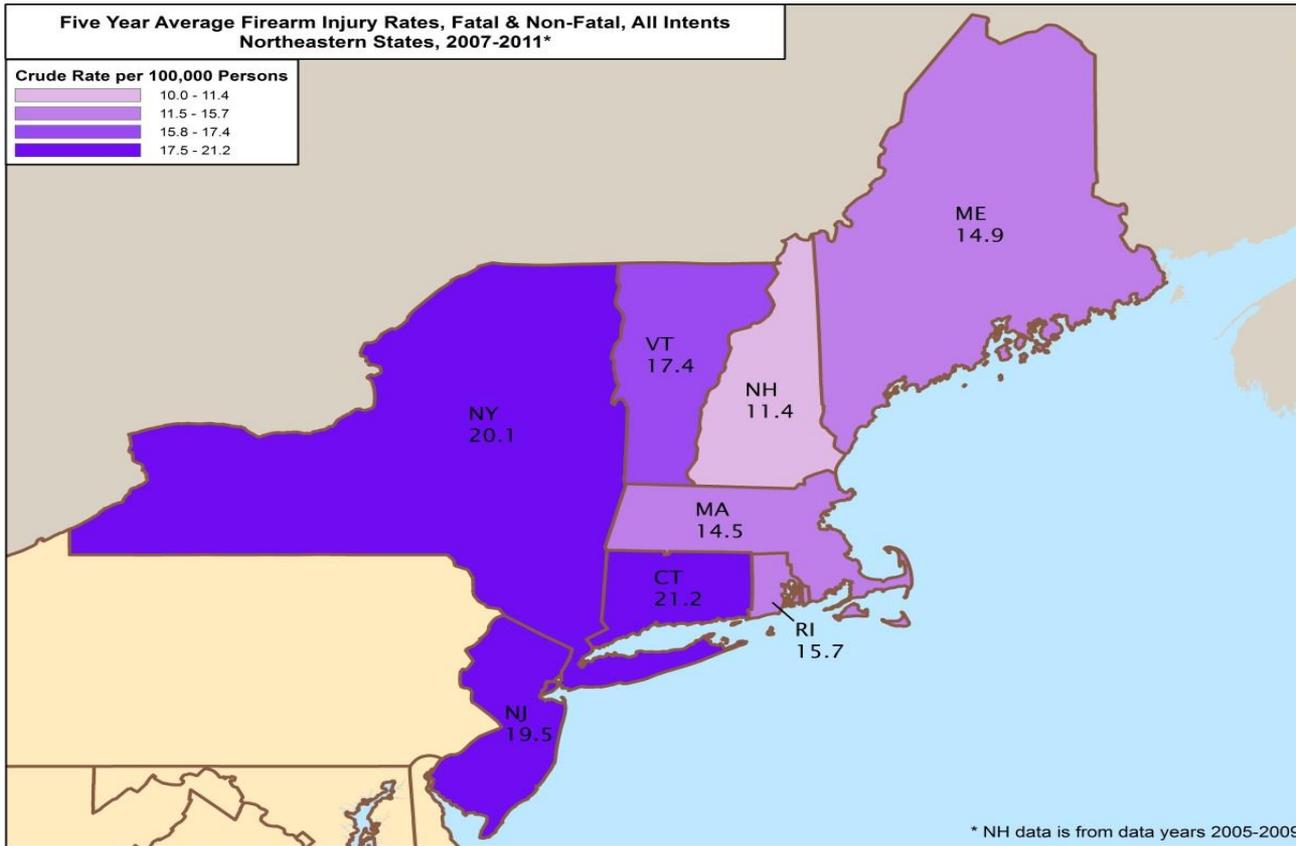
# Firearm Injury Death, Inpatient Hospital and Emergency Department Visit Rates (5-Year Average Annual), Northeastern States and US\*\*, 2007-2011\*



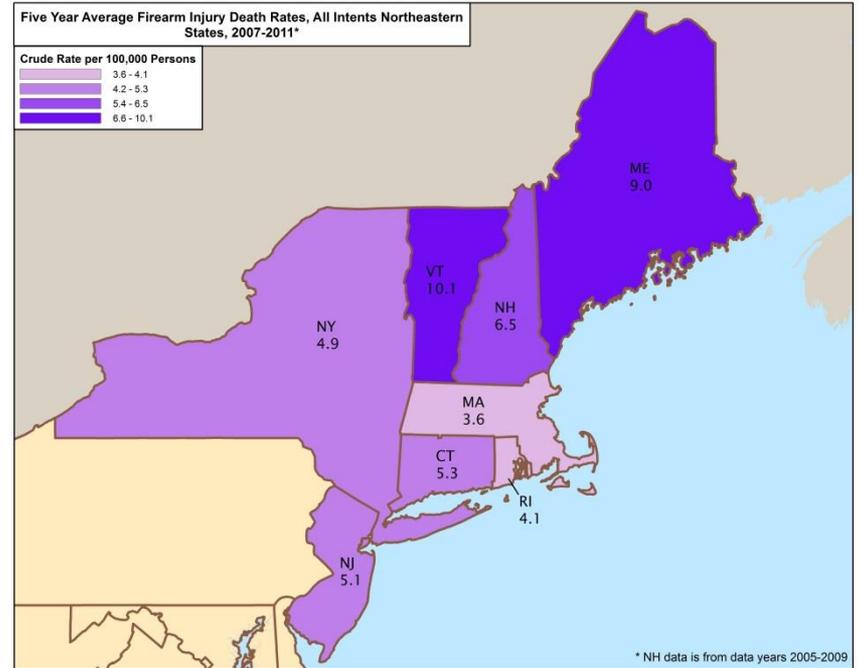
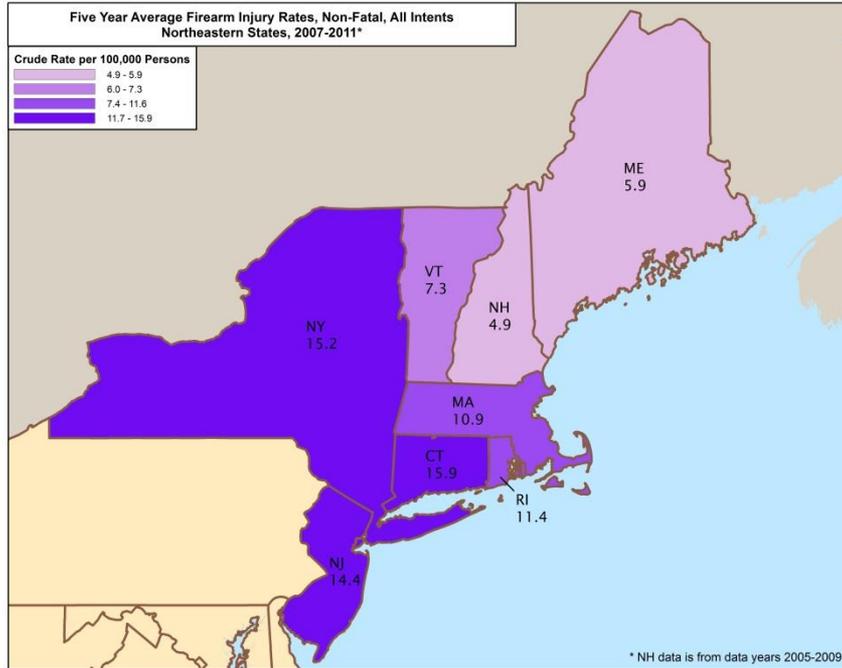
\*NH data are 2005-2009

\*\*US nonfatal rate shown is in yellow includes EDD and hospitalization rate

**Five Year Average Firearm Injury Rates, Fatal & Non-Fatal, All Intent  
 Northeastern States, 2007-2011\***

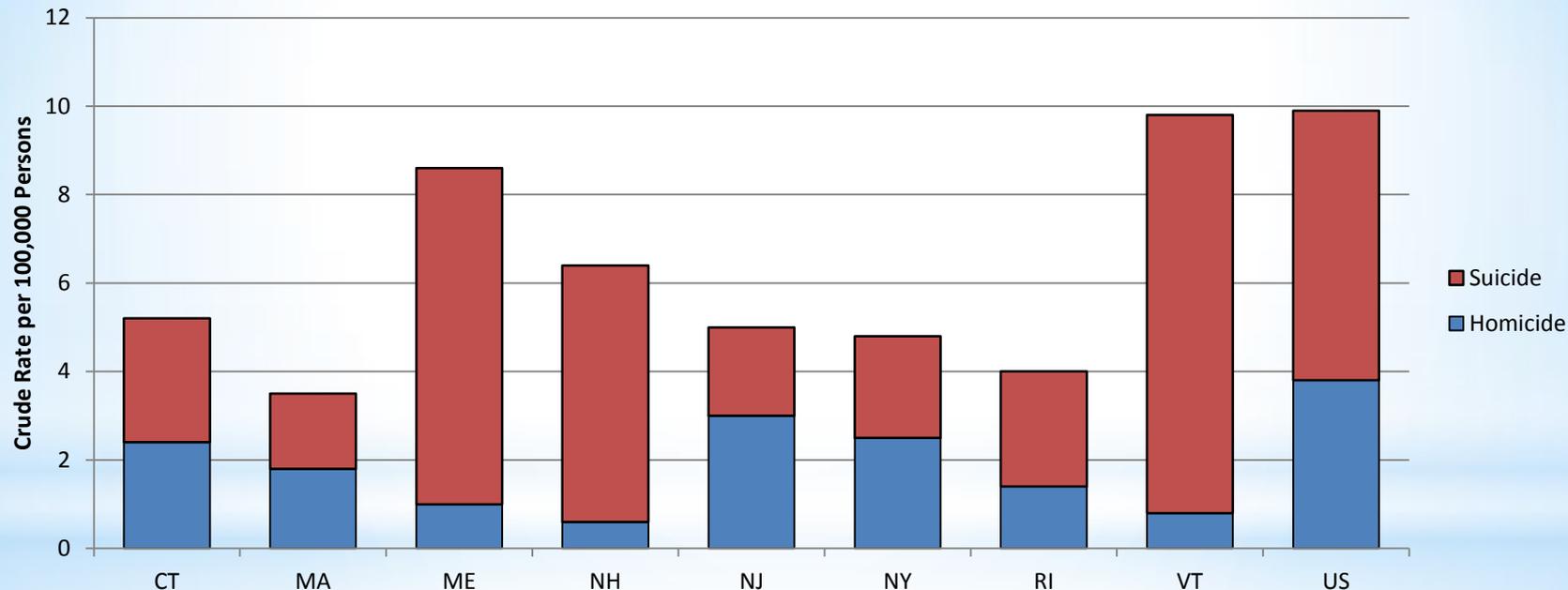


\* NH data is from data years 2005-2009

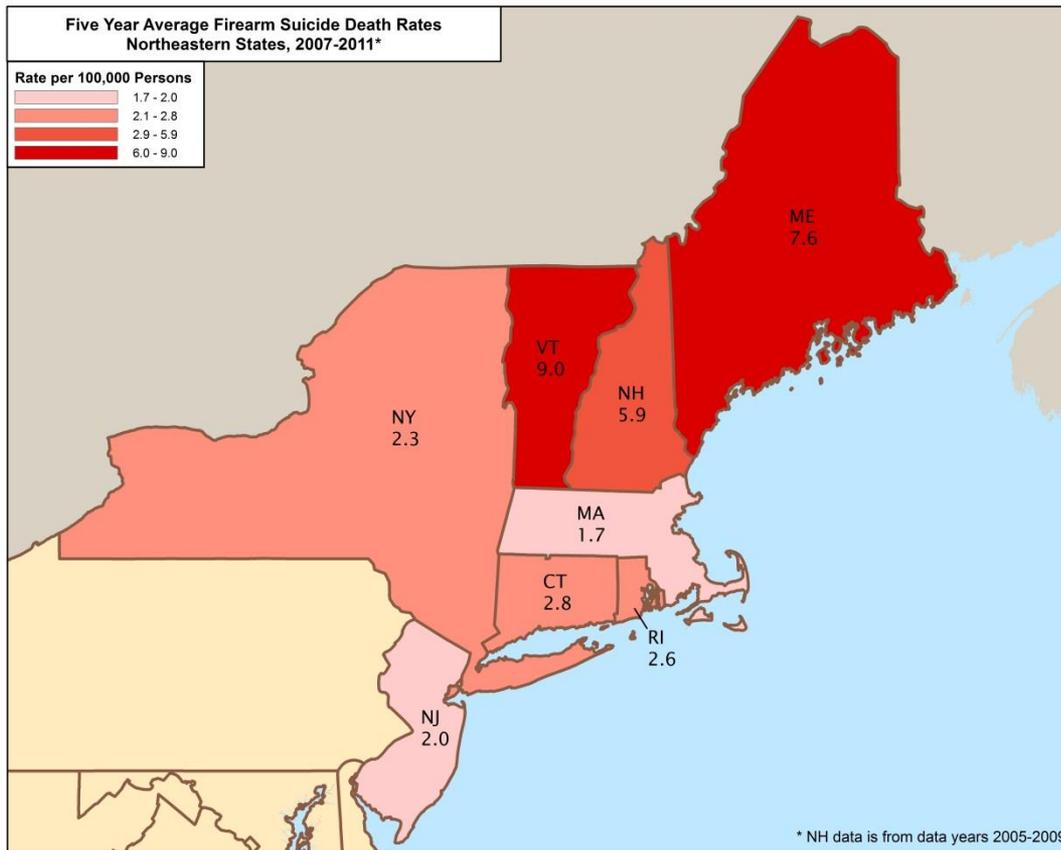


It appears that the overall injury rates in the Northeast states are driven by non-fatal firearm injuries, whereas the death rates are higher in the more rural states.

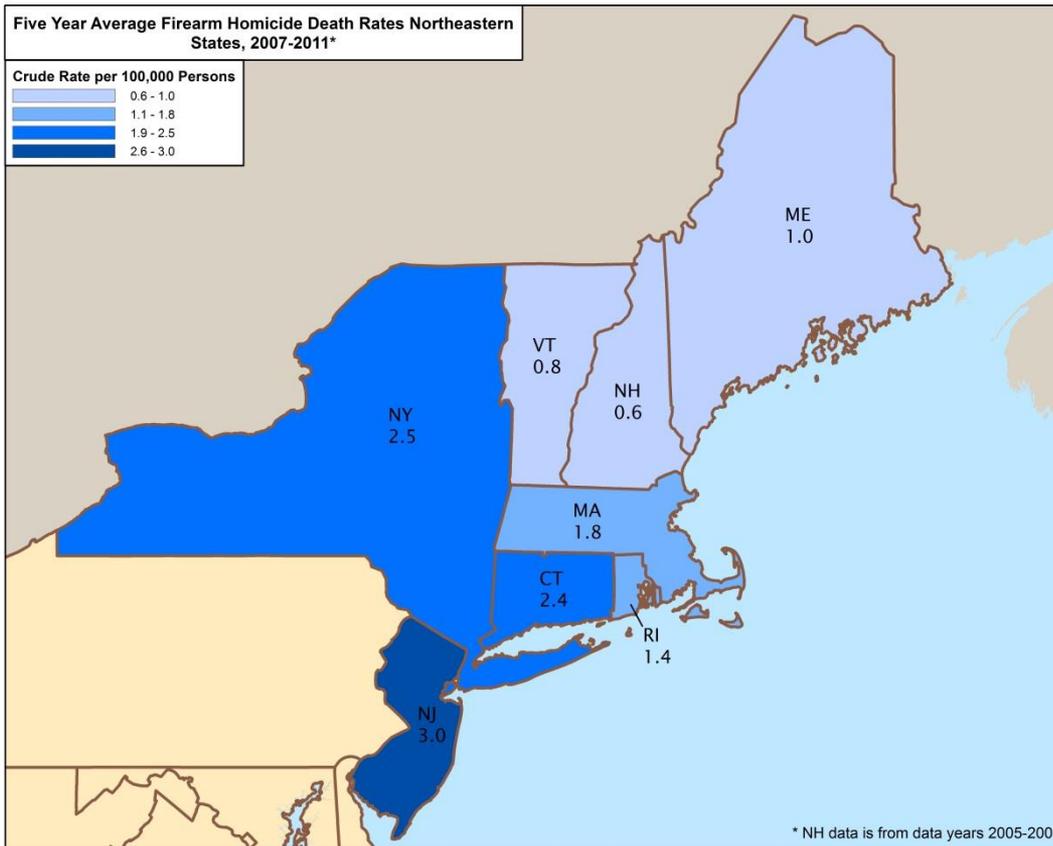
# Suicide and Homicide Firearm Death Rates (5-Year Average Annual), Northeastern States, 2007-2011\*



\*NH data are 2005-2009



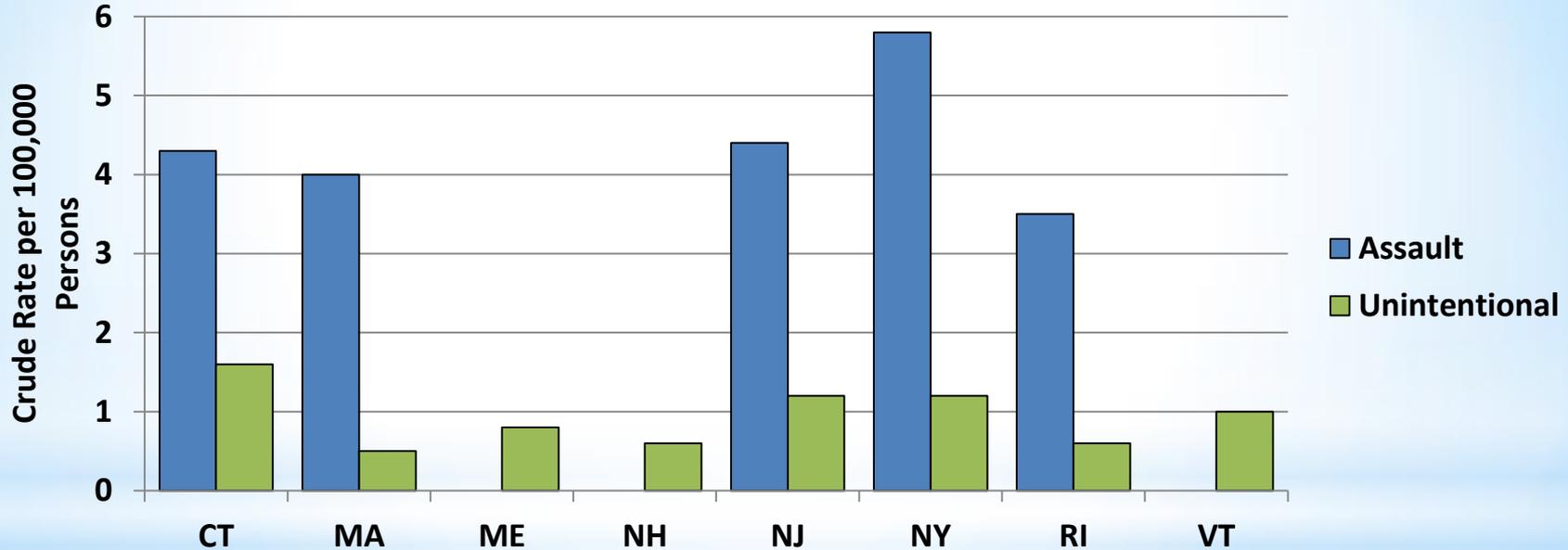
Firearm suicides are highest in ME, VT, and NH; lowest in CT, RI, NY, NJ, MA



Firearm homicides are highest in NJ, NY, and CT; lowest in MA, RI, ME, VT, and NH.

Most gun crimes are not necessarily (or likely) committed with legal firearms, nor by trained shooters.

# Unintentional and Assault-related Firearm Injury Hospitalization Rates (5-Year Average Annual), Northeastern States, 2007-2011\*



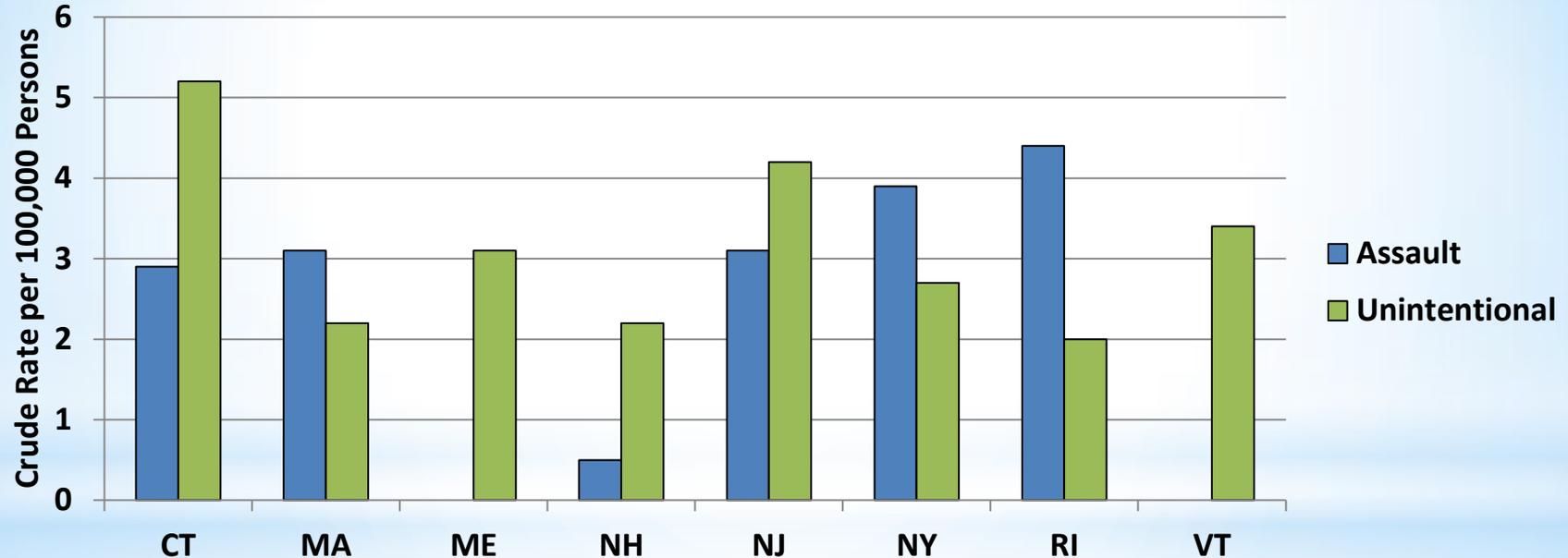
**Other intents are not displayed due to low rates and/or suppressed data.**

Rates not displayed if counts <20 (ME, NH, VT assault rates)

\*NH data are 2005-2009



# Unintentional and Assault-related Firearm ED Discharge Rates (5-Year Average Annual), Northeastern States, 2007-2011\*



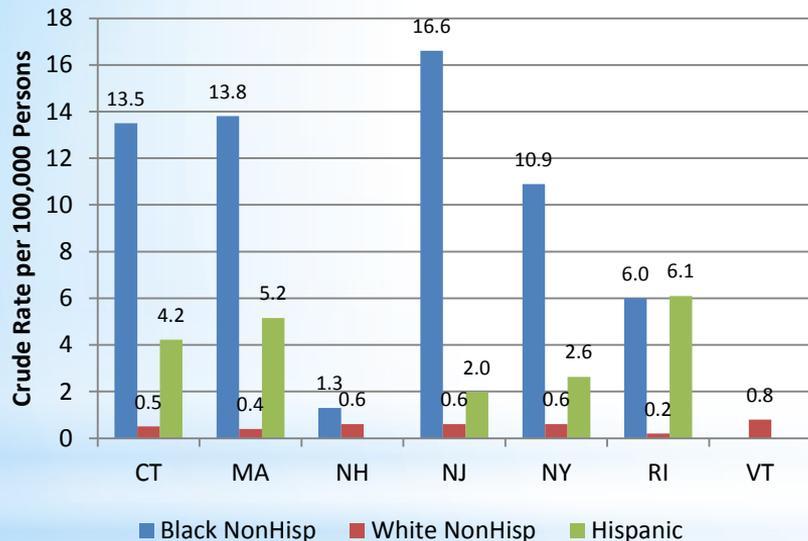
**Other intents are not displayed due to low rates and/or suppressed data.**

Assault Rates not displayed if counts <20 (ME, VT)

\*NH data are 2005-2009

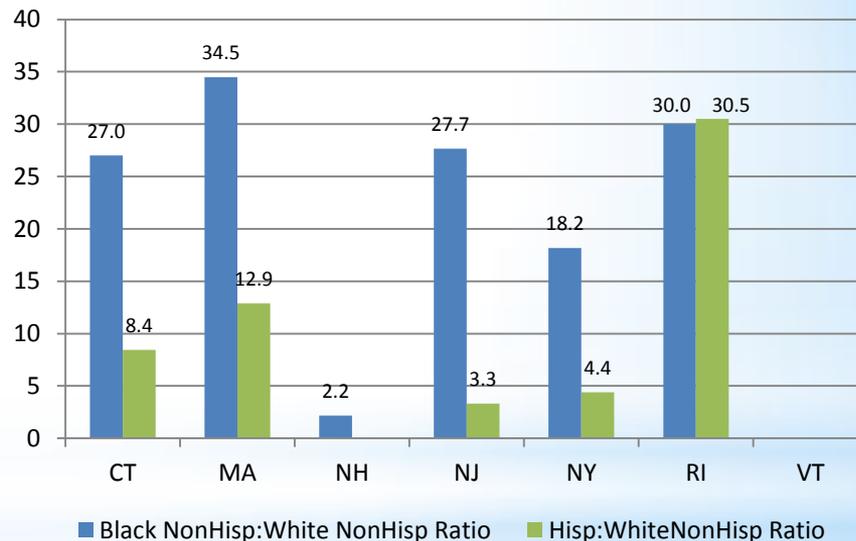
# \*Demographics

# Firearm Homicide Rates (5-Year Average Annual) by Race and Ethnicity, Northeastern States, 2007-2011\*



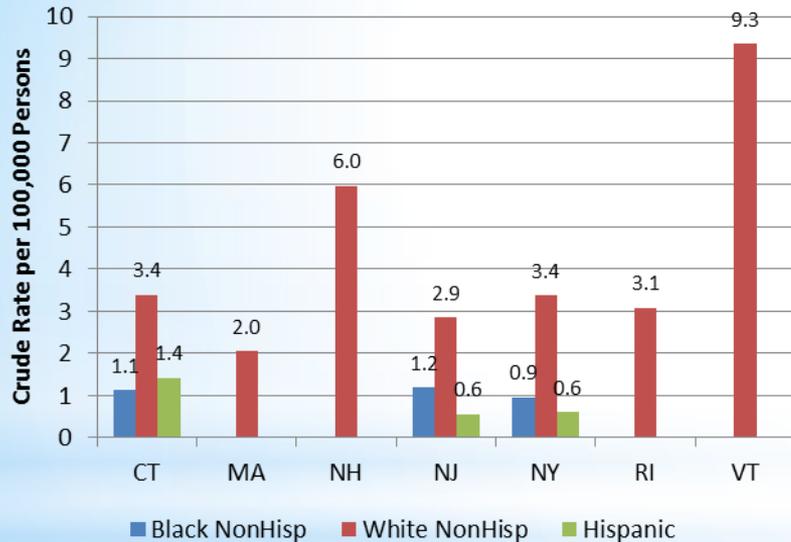
- New York Other Non-Hispanic rate=1.1;
- All other states have Other Non-Hisp counts <20

## Homicide Rate Ratio of Black Non-Hispanics and Hispanics to White Non-Hispanics



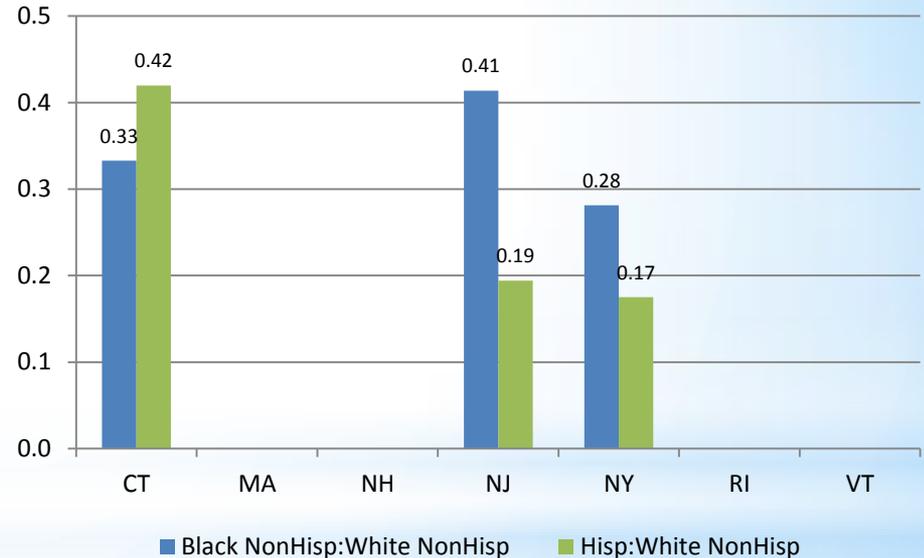
\*NH data are 2005-2009; Maine not included due to no race data available.  
 Rates not displayed if counts <20

# Firearm Suicide Rates (5-Year Average Annual) by Race and Ethnicity, Northeastern States, 2007-2011\*



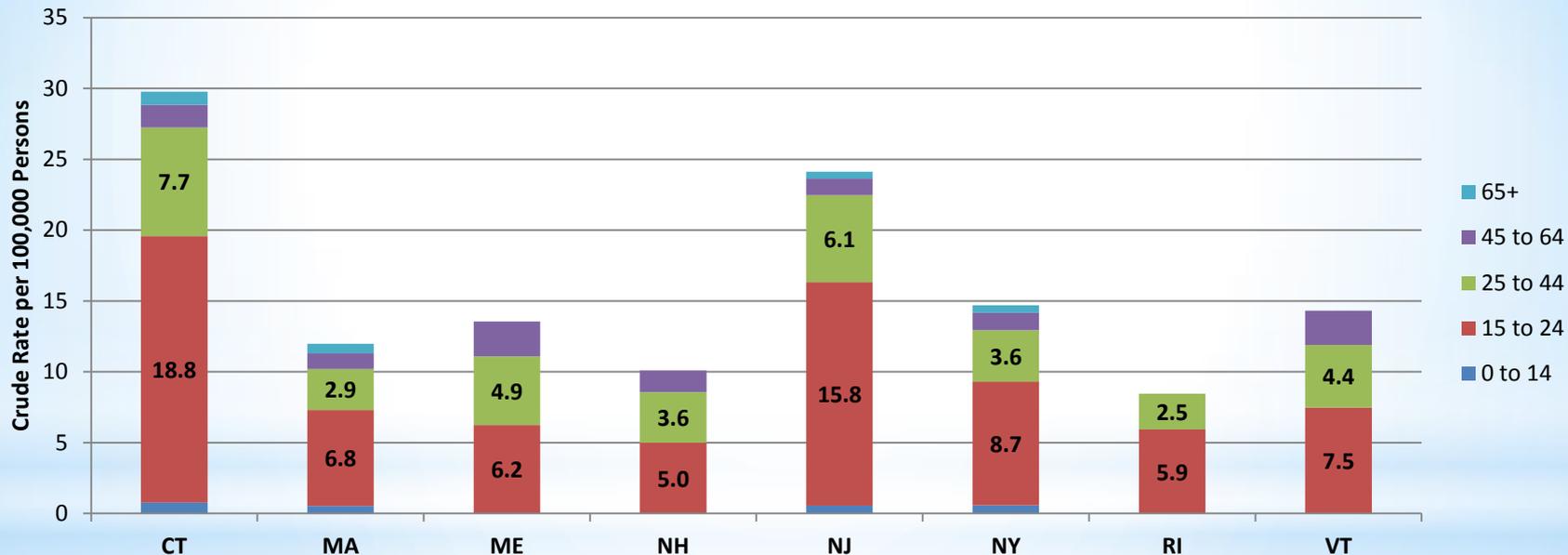
- New York Other Non-Hispanic rate=0.5;
- All other states have Other Non-Hisp counts <20

Suicide Rate Ratio of Black Non-Hispanics and Hispanics to White Non-Hispanics



\*NH data are 2005-2009; Maine not included due to no race data available.  
Rates not displayed if counts <20

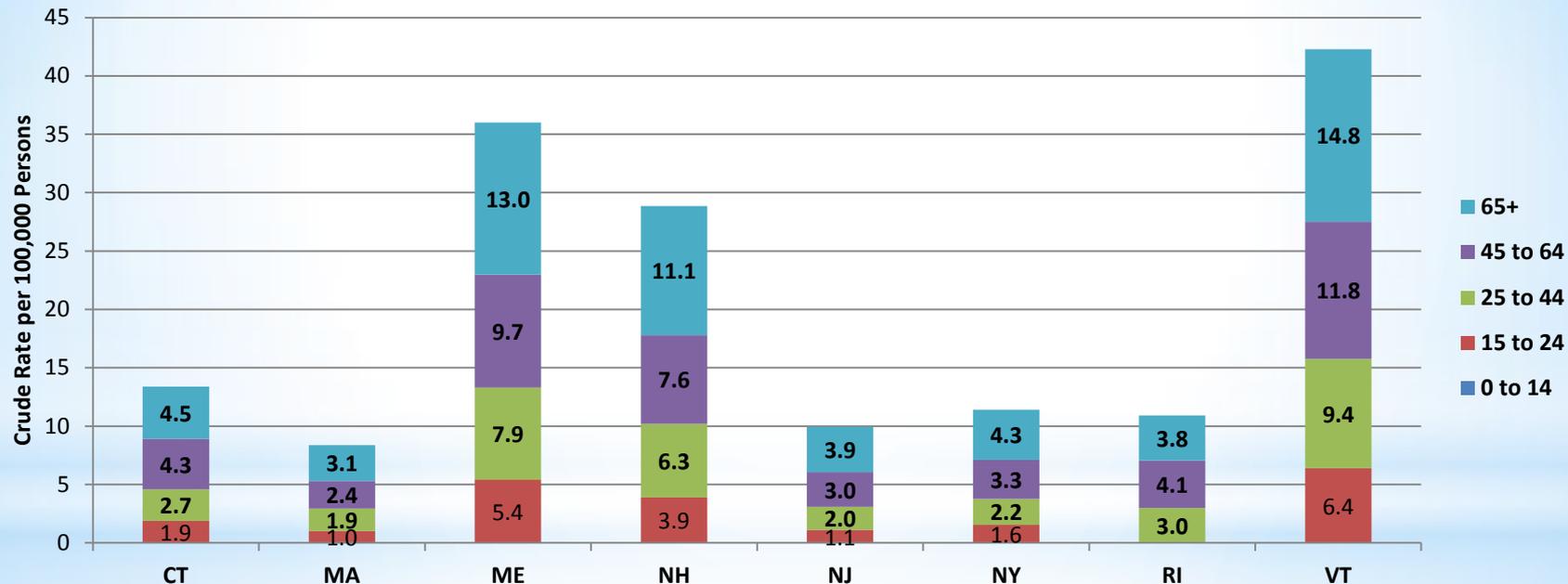
# Unintentional Firearm Injury-Related ED Discharge Rates (5-Year Average Annual) by Age Group, Northeastern States 2007-2011\*



\*NH data are 2005-2009

Rates not displayed if counts <20

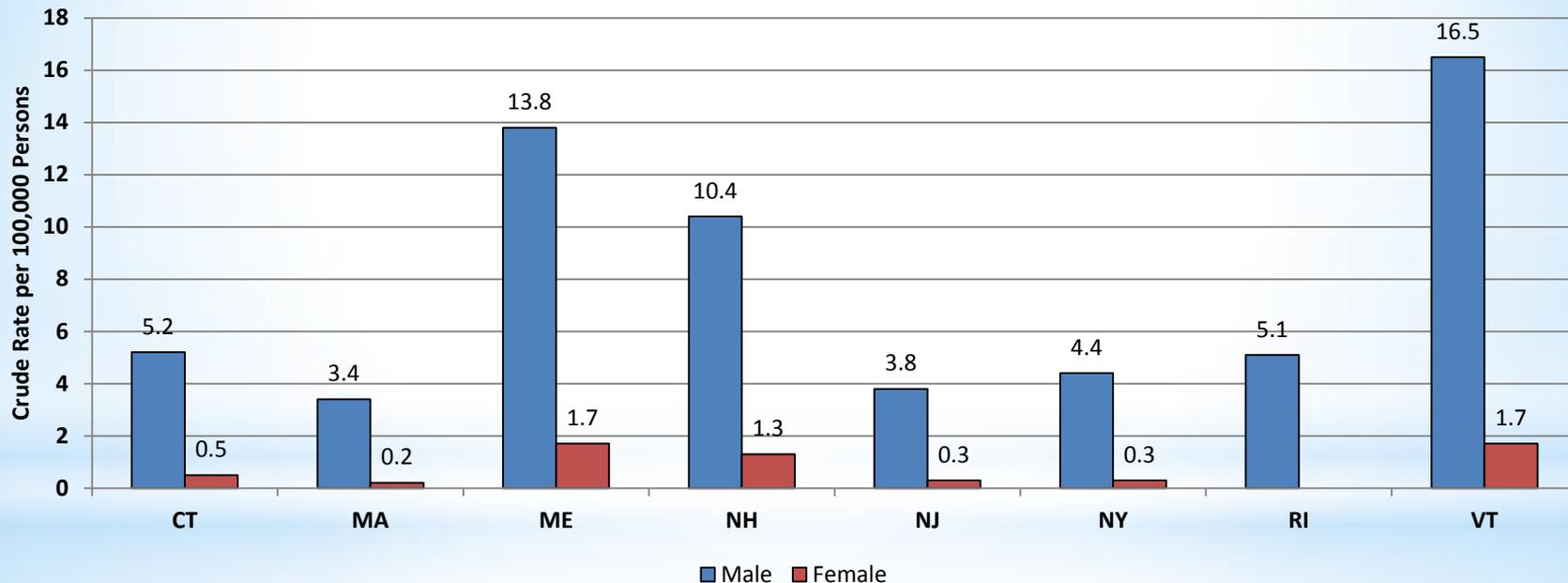
# Firearm Suicide Rates (5-Year Average Annual) by Age Group, Northeastern States 2007-2011\*



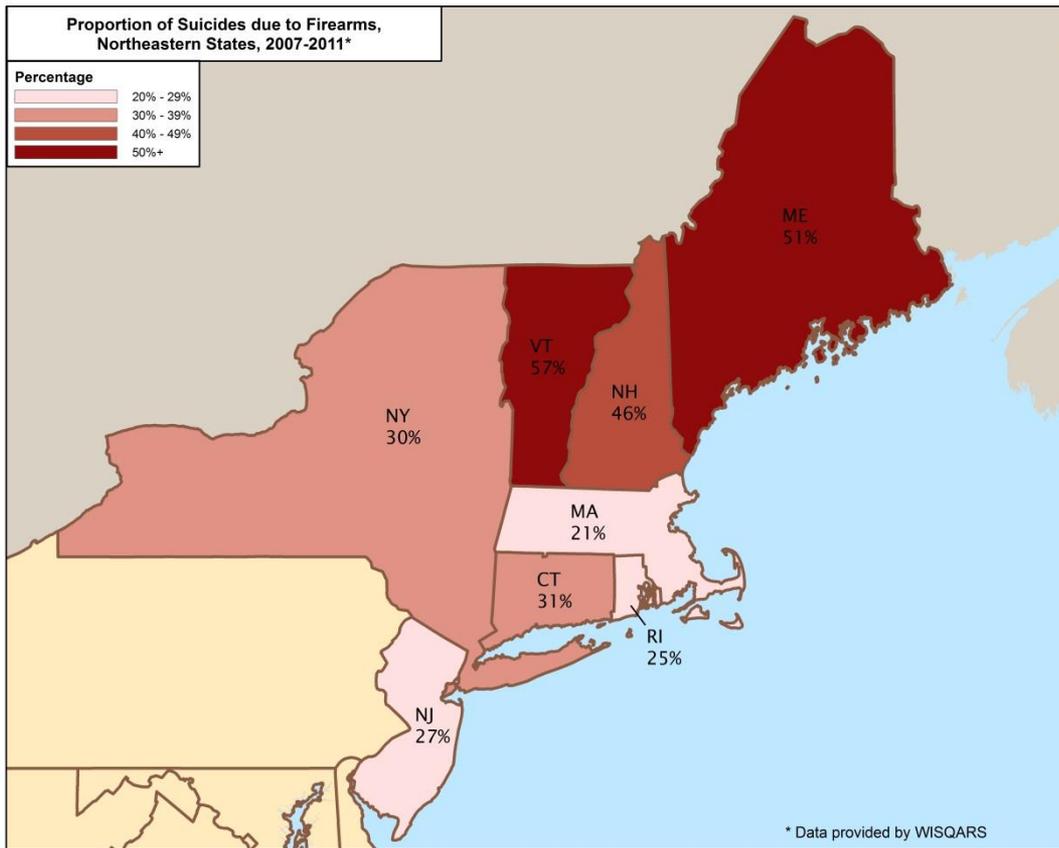
\*NH data are 2005-2009

Rates not displayed if counts <20

# Firearm Suicide Rates (5-Year Average Annual) by Sex, Northeastern States 2007-2011\*



\*NH data are 2005-2009  
Rates not displayed if counts <20



Firearms account for higher proportion of suicides where firearm ownership is more prevalent.

State	% Households w/ Firearms	% Firearm Suicide rate
VT	44%	57%
ME	40%	51%
NH	31%	46%
NY	19%	30%
CT	18%	31%
RI	12%	25%
NJ	11%	27%
MA	11%	21%

# Limitations

- \* Counts of resident admissions treated in bordering states not included (% of total may vary across region)
- \* Suppressed data values posed challenges in presenting “complete picture”
- \* Age-adjusted rates not presented
- \* Administrative databases
- \* Nonfatal data subject to coding variations within and between states
- \* No data on individual firearm ownership status of victims.

# Future Directions

- \* Presentation and discussion of findings with full NCIPN membership at July 2015 in-person meeting
- \* Further analyses by individual states as needed/able
- \* Work with Harvard Injury Research Center to find ways to get this data to firearm safety instructors and others involved in firearm safety