



**Department
of Health**

A Comparison of Suicide Rates and Mechanisms in New York State Residents

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Background

- National suicide rates have increased steadily from 1999 through 2015
- The rate of suicide is increasing rapidly among adolescents, young adults, and middle-aged adults
- From 2003 to 2015, the rate of suicide in New York State (NYS) has increased 30% from a low of 6.4 per 100,000 residents in 2004 to 8.3 in 2015
- The NYS rate is lower than the national rate in 2015 (13.8 per 100,000)

Risk Factors for Suicide

- Mental illness
- Alcohol and drug abuse
- History of trauma
- Previous suicide attempts/self-inflicted injury
- Family history of suicide
- Loss (relational, social, work, or financial)
- Local epidemics of suicide
- Easy access to lethal methods

Suicide as a Leading Cause of Death

- Second leading cause of injury deaths among all ages
- Third leading cause of death (COD) among 10-24 year olds
- Second leading COD among 25-34 year olds
- Fourth leading COD among 35-54 year olds
- Ninth leading COD among 55-64 year olds



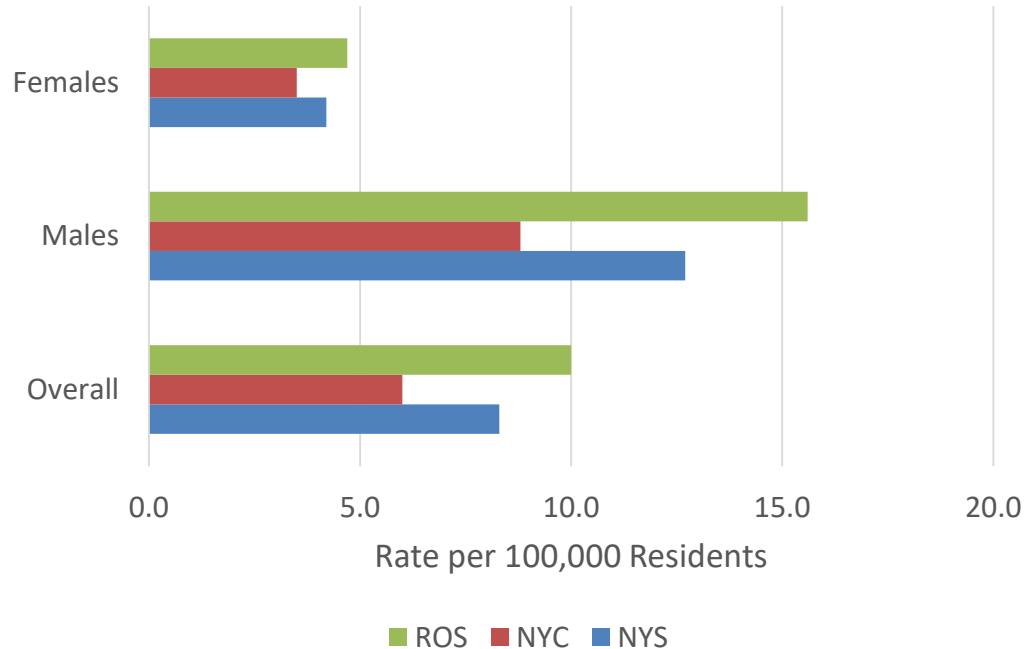
Methods

- Suicides were identified from NYS Vital Records data from 2013-2015, using ICD-10 codes X60 – X84, Y870, and U03
- New York City (NYC) was defined as the counties of Bronx, New York (Manhattan), Kings (Brooklyn), Queens, and Richmond (Staten Island)
- Rest of State (ROS) was defined as the 57 counties outside of NYC

Suicides by Region

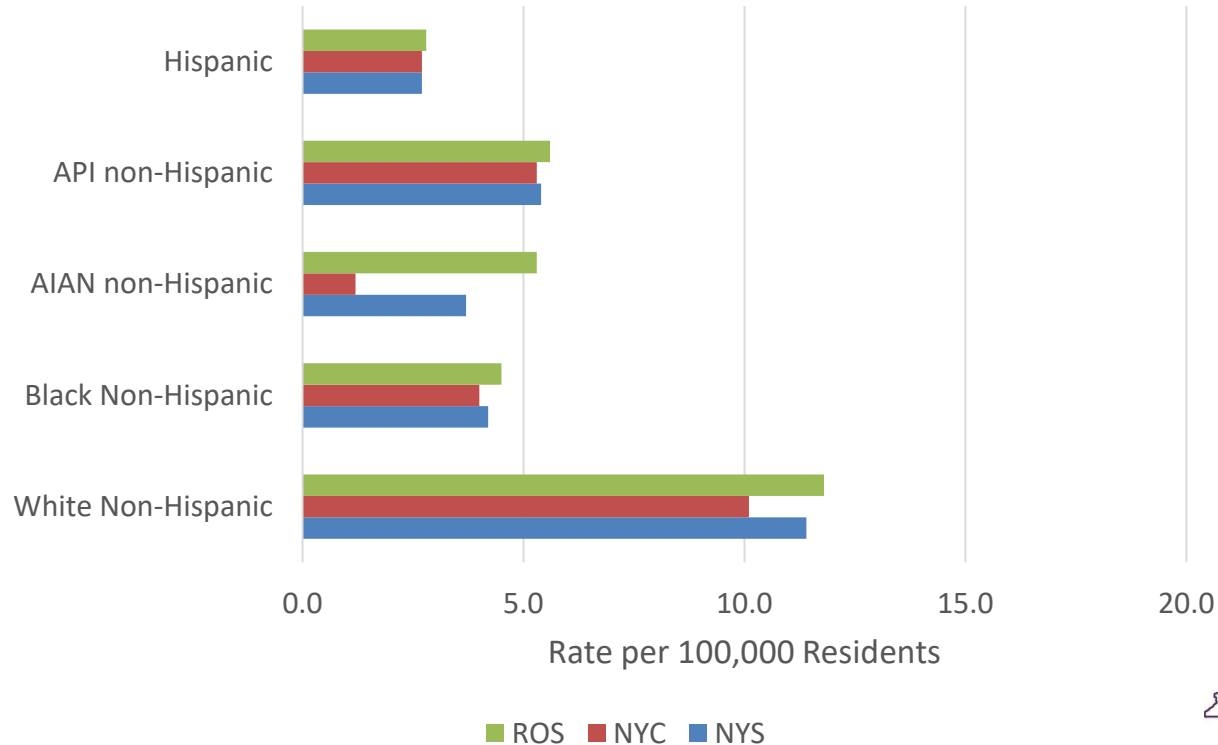
Suicide Rates, Overall and by Gender, 2013-2015

New York State (NYS), New York City (NYC), and Rest of State (ROS)



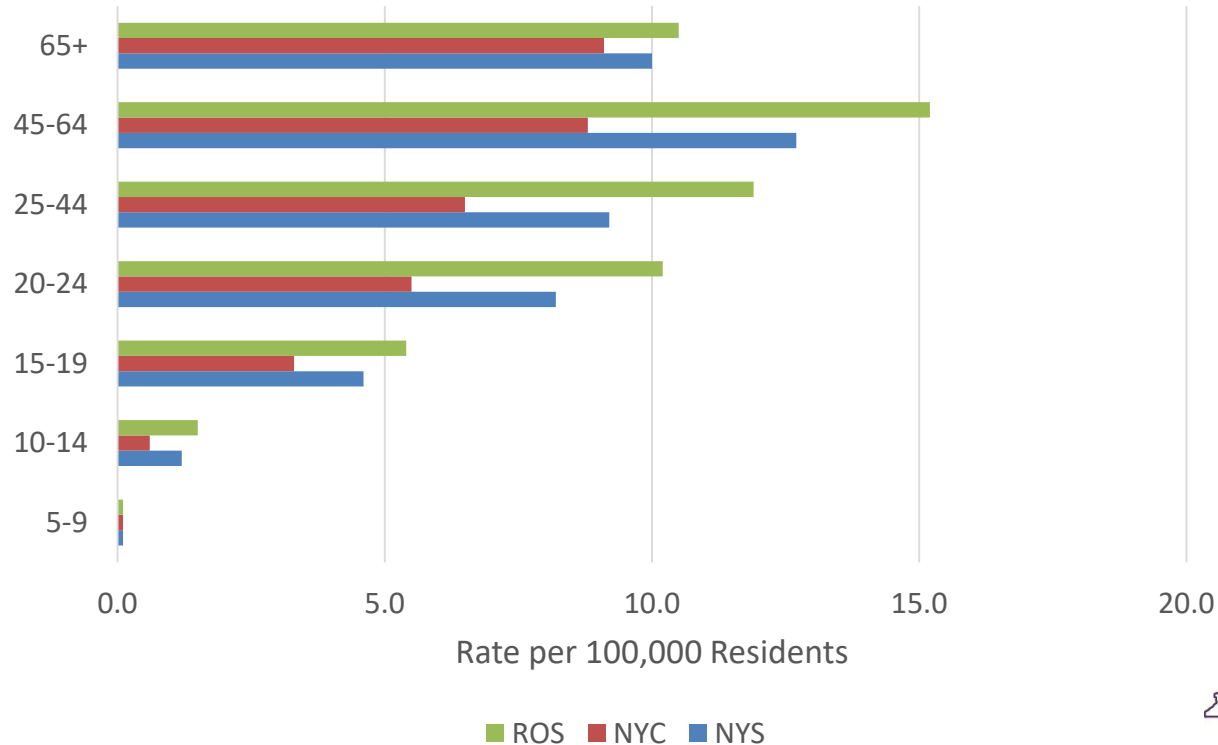
Suicide Rates by Race and Ethnicity, 2013-2015

NYS, NYC, and ROS



Suicide Rates by Age Group, 2013-2015

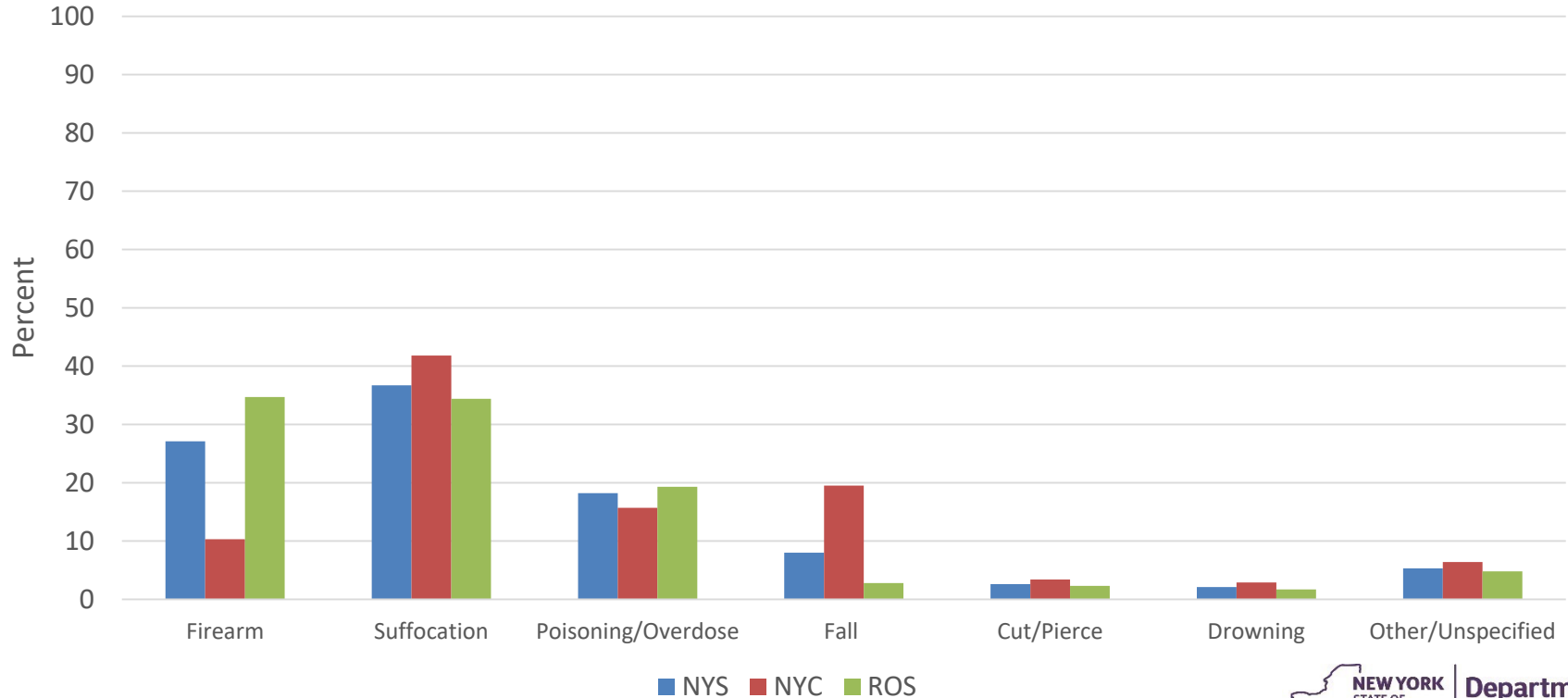
NYS, NYC, and ROS



Mechanisms by Region

Mechanisms by Region, 2013-2015

NYS, NYC, and ROS



Relative Risk (RR) of Mechanism by Region, 2013-2015

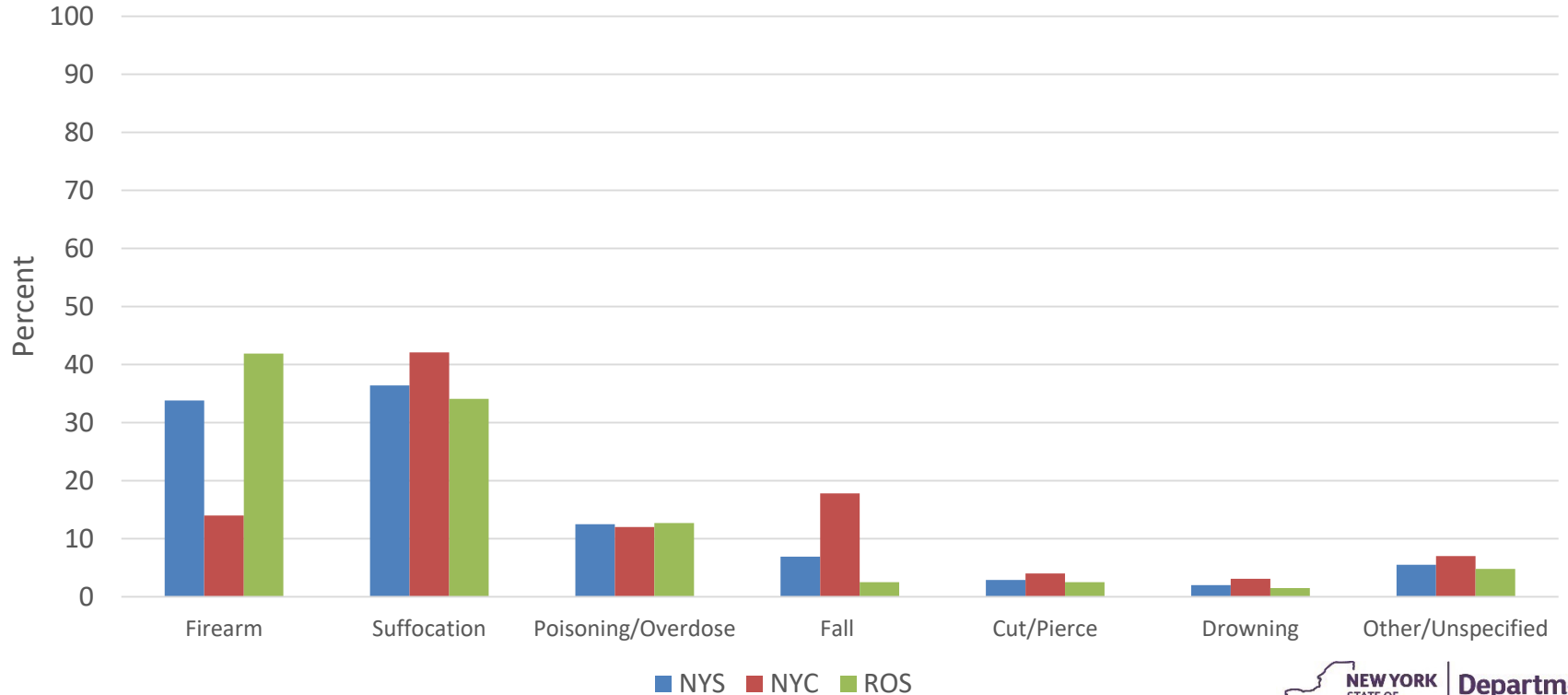
Comparing ROS to NYC

	Firearm	Suffocation	Poisoning	Fall	Cut/ Pierce	Drowning
RR	3.36*	0.82*	1.22*	0.14*	0.68*	0.58*
95% Confidence Interval (CI)	2.89 – 3.93	0.76-0.89	1.07-1.40	0.12-0.18	0.48-0.96	0.40-0.86

*p<0.05

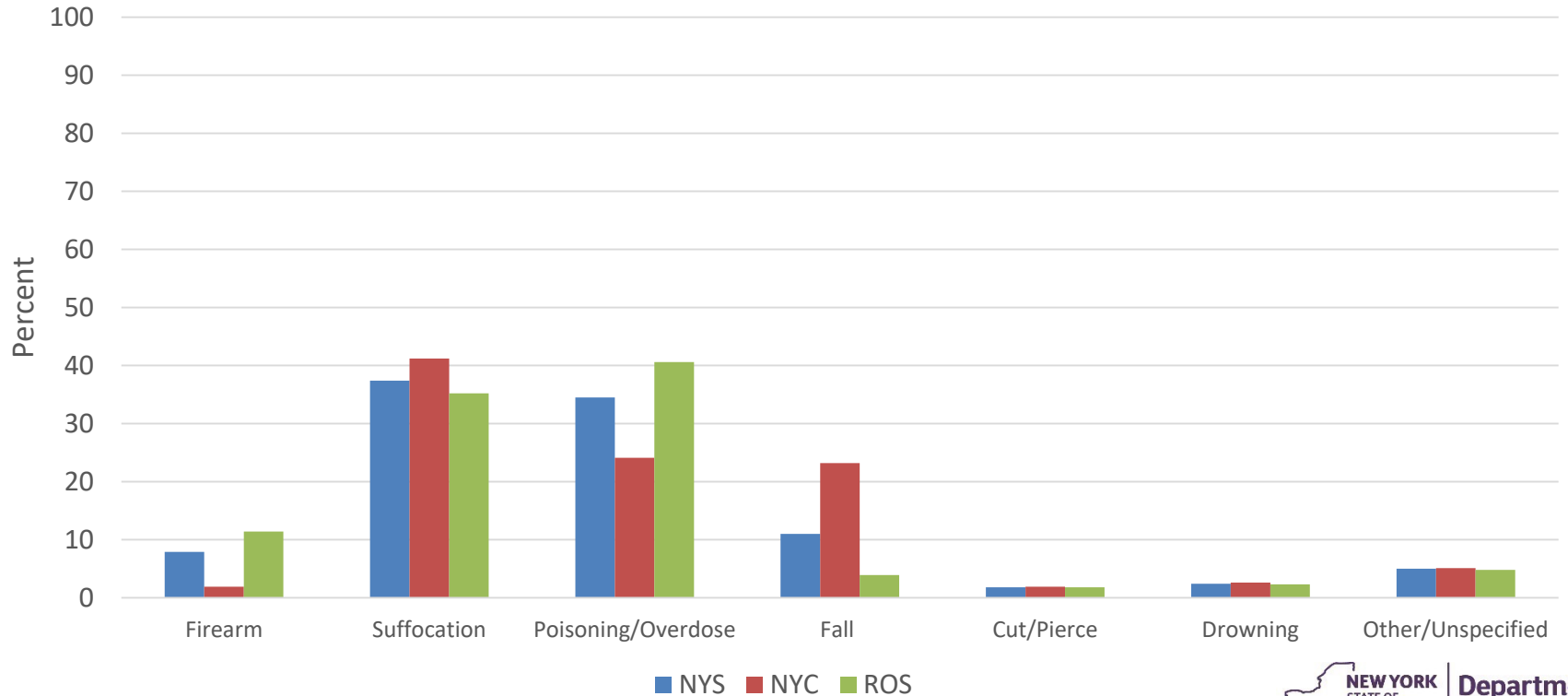
Mechanisms by Region, Males, 2013-2015

NYS, NYC, and ROS



Mechanisms by Region, Females, 2013-2015

NYS, NYC, and ROS



Relative Risk (RR) of Mechanism by Gender, 2013-2015

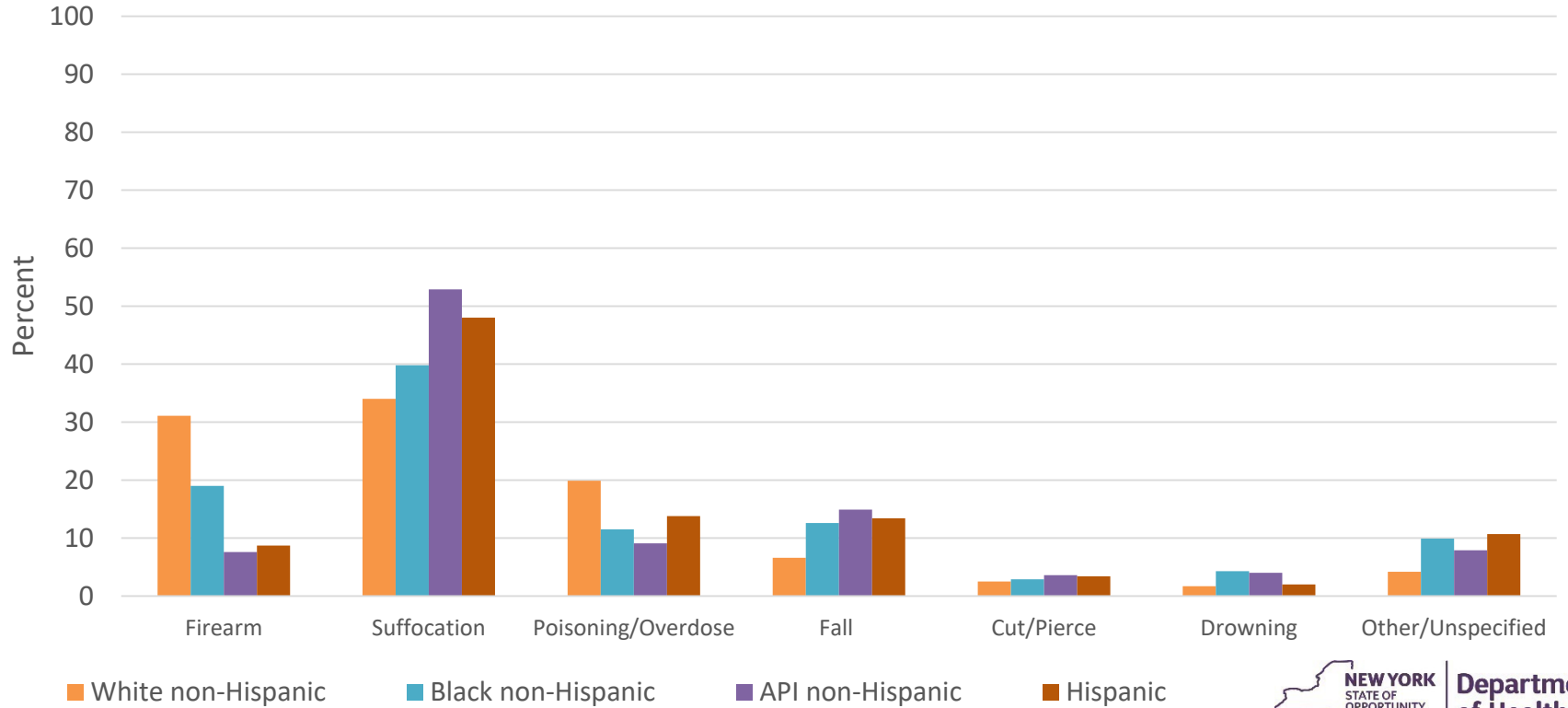
Comparing Males to Females

	Firearm	Suffocation	Poisoning	Fall	Cut/ Pierce	Drowning
ROS Males : ROS Females						
RR	3.68*	0.97	0.31*	0.64*	1.41	0.68
95% CI	3.01-4.48	0.87-1.08	0.27-0.36	0.42-0.97	0.79-2.49	0.39-0.1.19
NYC Males : NYC Females						
RR	7.30*	1.02	0.50*	0.77*	2.11*	1.21
95% CI	3.76-14.19	0.90-1.16	0.40-0.63	0.62-0.94	1.04-4.29	0.63-2.33

*p<0.05

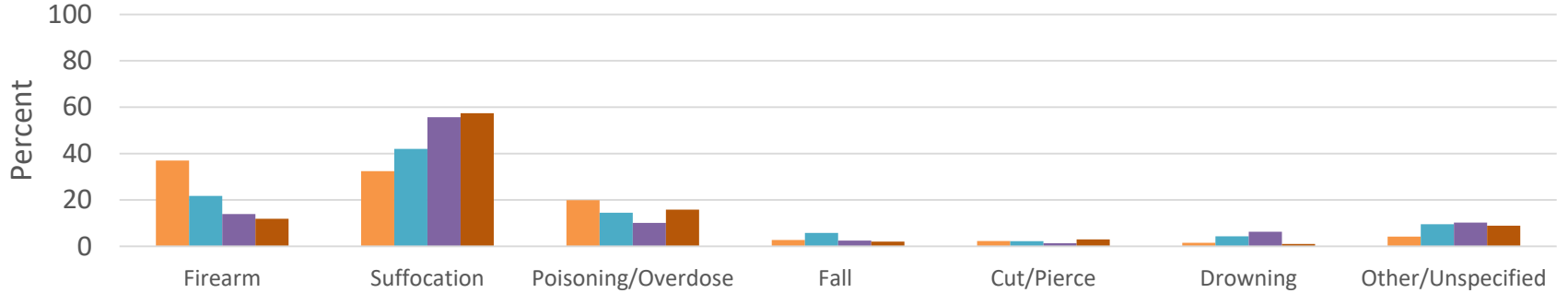
Mechanism by Race and Ethnicity, 2013-2015

NYS

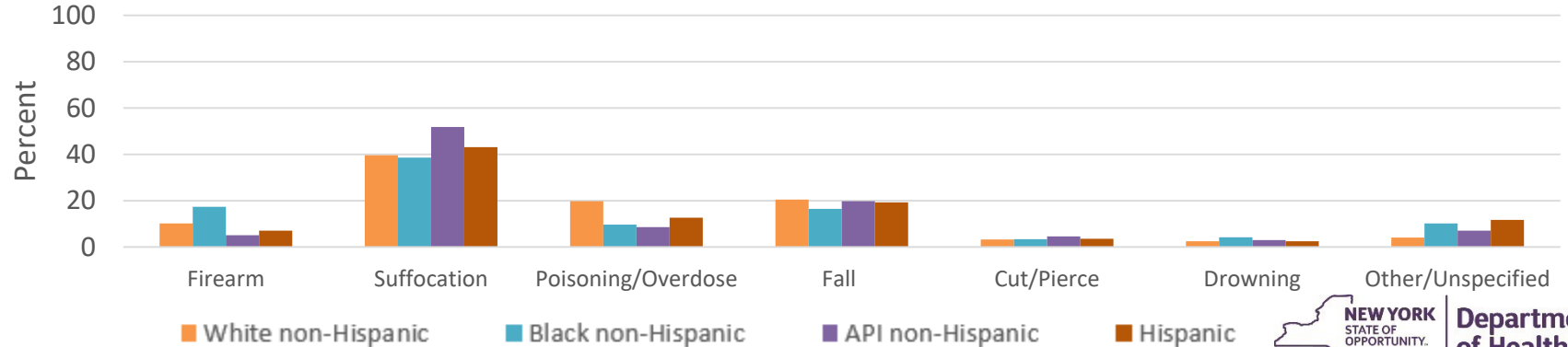


Mechanism by Race and Ethnicity, 2013-2015

ROS



NYC



White non-Hispanic

Black non-Hispanic

API non-Hispanic

Hispanic



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RR of Mechanism by Race and Ethnicity, 2013-2015

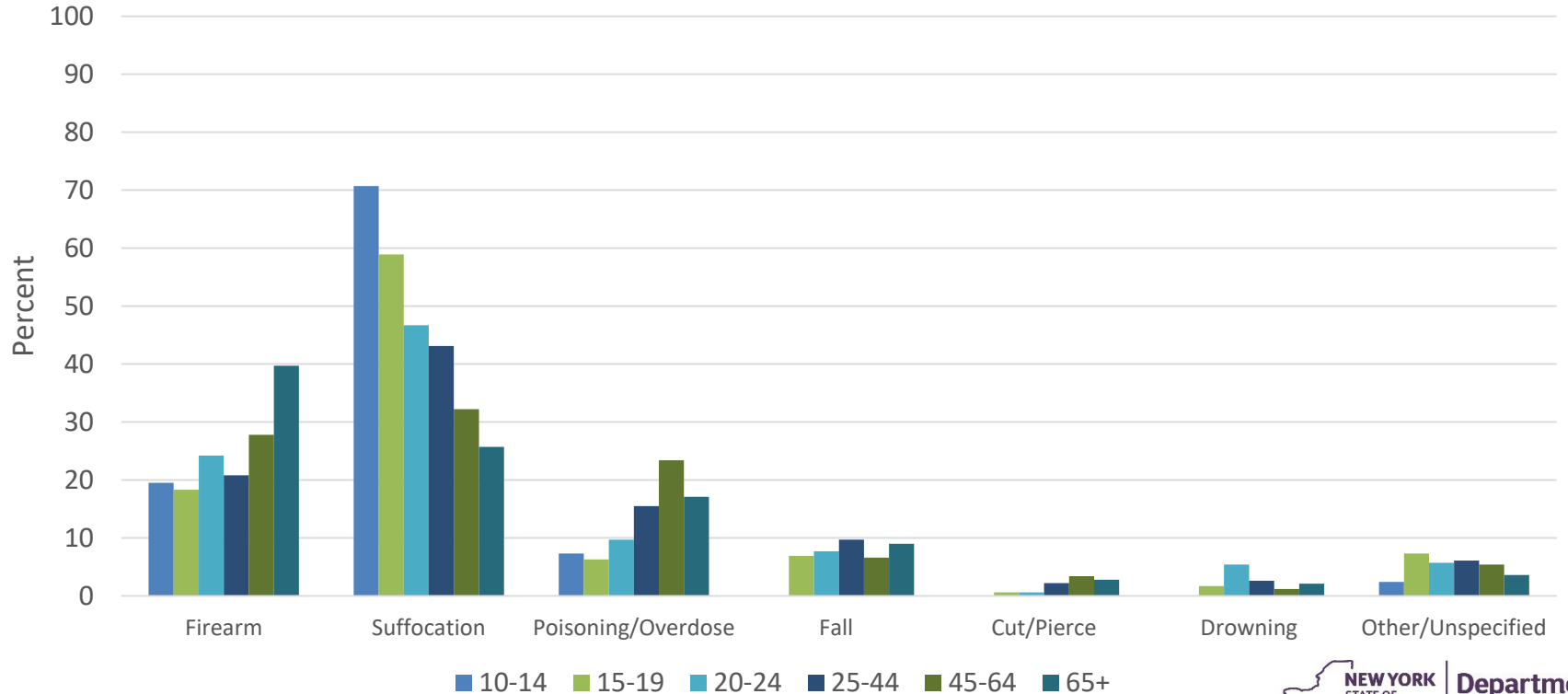
Comparing White non-Hispanics to all other groups

	Firearm	Suffocation	Poisoning	Fall	Cut/ Pierce	Drowning
ROS White non-Hispanic						
RR	2.18*	0.65*	1.41*	0.69	0.99	0.45*
95% CI	1.74-2.73	0.58-0.73	1.09-1.82	0.40-1.19	0.50-1.97	0.24-0.82
NYC White non-Hispanic						
RR	0.98	0.89	1.85*	1.13	0.94	0.70
95% CI	0.73-1.32	0.79-1.00	1.43-2.38	0.92-1.39	0.55-1.60	0.39-1.25

*p<0.05

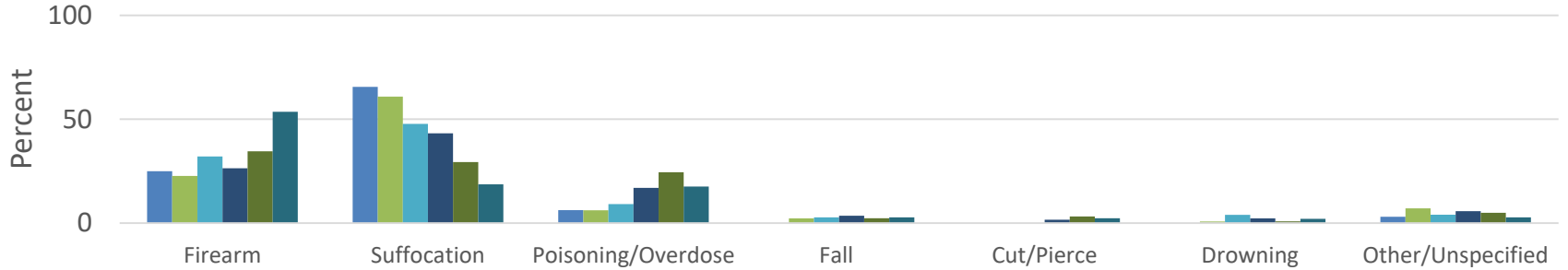
Mechanism by Age Group, 2013-2015

NYS

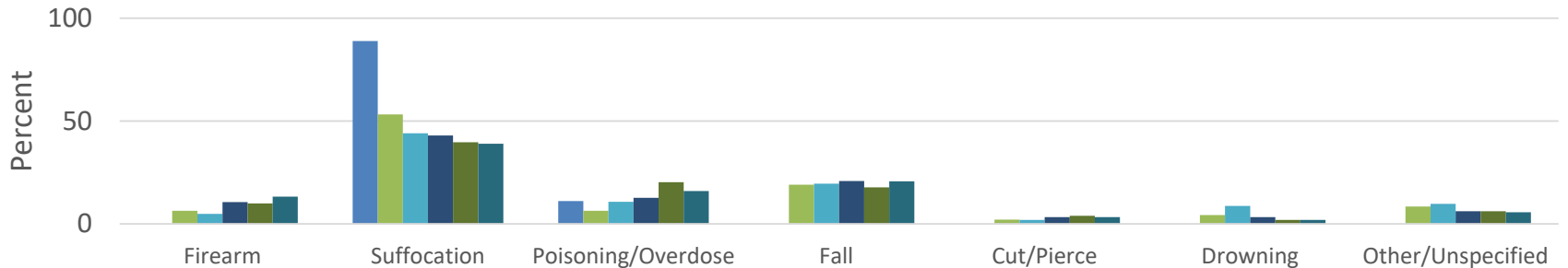


Mechanism by Age Group, 2013-2015

ROS



NYC



10-14 15-19 20-24 25-44 45-64 65+

RR of Mechanism by Age Group, 2013-2015

Comparing ages 45-64 to all other groups

	Firearm	Suffocation	Poisoning	Fall	Cut/ Pierce	Drowning
ROS 45-64 Years of Age						
RR	0.99	0.77*	1.61*	0.77	2.00*	0.38*
95% CI	0.90-1.09	0.70-0.85	1.40-1.84	0.51-1.16	1.28-3.14	0.21-0.71
NYC 45-64 Years of Age						
RR	0.95	0.93	1.55*	0.87	1.31	0.58
95% CI	0.70-1.30	0.82-1.05	1.23-1.95	0.70-1.08	0.76-2.24	0.29-1.13

*p<0.05

Conclusions

- Increase in suicides underscores need for further research
- Restricting access to mechanisms is important in prevention
- Regional and demographic differences should be considered in prevention/outreach development

Prevention Agenda 2013-2018

- Developed by the New York State Public Health and Health Planning Council (PHHPC)
- Five priority areas

https://www.health.ny.gov/prevention/prevention_agenda/2013-2017/index.htm

New York Violent Death Reporting System (NYVDRS)

- Incident-based reporting
- Multiple data sources
- 2015 data available to researchers in the fall

NVDRS@health.ny.gov

https://www.health.ny.gov/statistics/prevention/injury_prevention/nvdrs/index.htm

DOH Contact Information

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https://www.health.ny.gov/prevention/injury_prevention/