

# **SUICIDE IN THE VETERAN POPULATION**

# HYPOTHESIS

If the number of individuals who have died by suicide amongst millennials has increased since 2005, then the number of veterans who have died by suicide within the same age group has increased as well.

# ADDITIONAL QUESTIONS

- Amongst veterans is the suicide rate higher for females than males, and how does it compare to the general population?
- How does the age of veterans who have died by suicide vary in comparison to the general population?
- What methods are used most often used by veterans who have died by suicide?
- Have significant events influenced suicide rates?

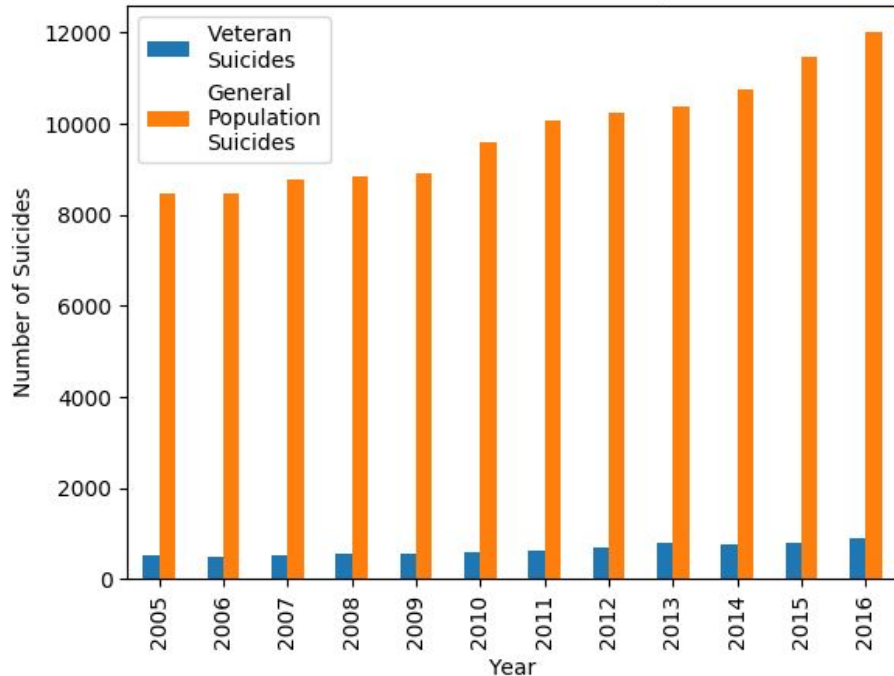
# DATA EXPLORATION

- Data was collected from two sources the US Department of Veteran Affairs and the Center for Disease Control
- Time period: 2005 to 2016

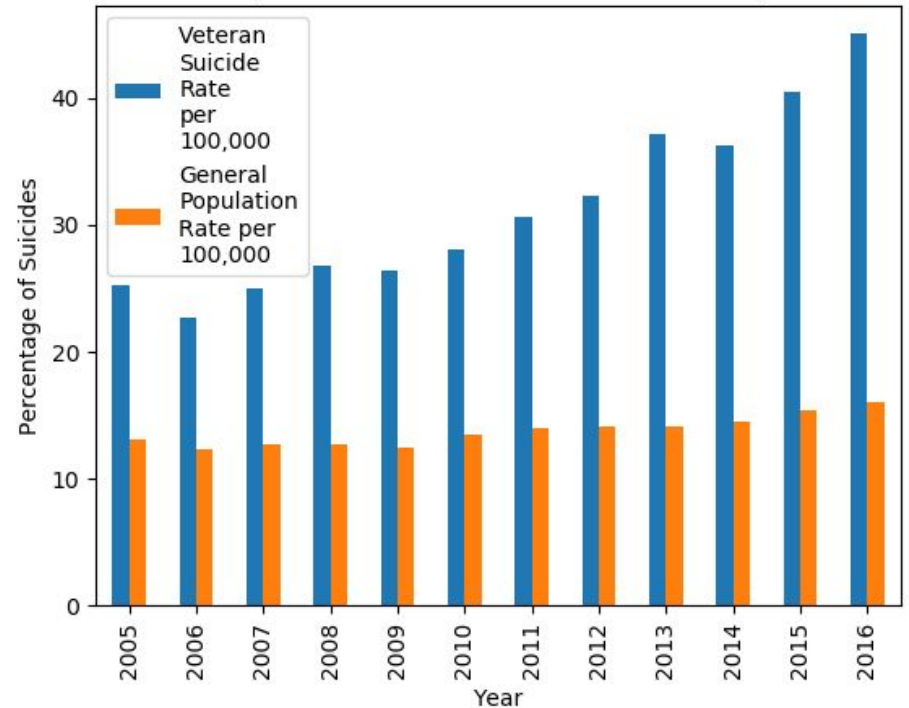
**“ If the number of individuals who have died by suicide amongst millennials has increased since 2005, then the number of veterans who have died by suicide within the same age group has increased as well.**

# MILLENNIAL SUICIDE RATES

Veteran Suicide vs. General Population



Percentage of Veteran Suicides vs. General Population



**“ Amongst veterans is the suicide rate higher for females than males, and how does it compare to the general population?**

# VETERAN SUICIDE BY SEX

- Due to the lack of data, the rate of suicide amongst veterans by sex was unobtainable.

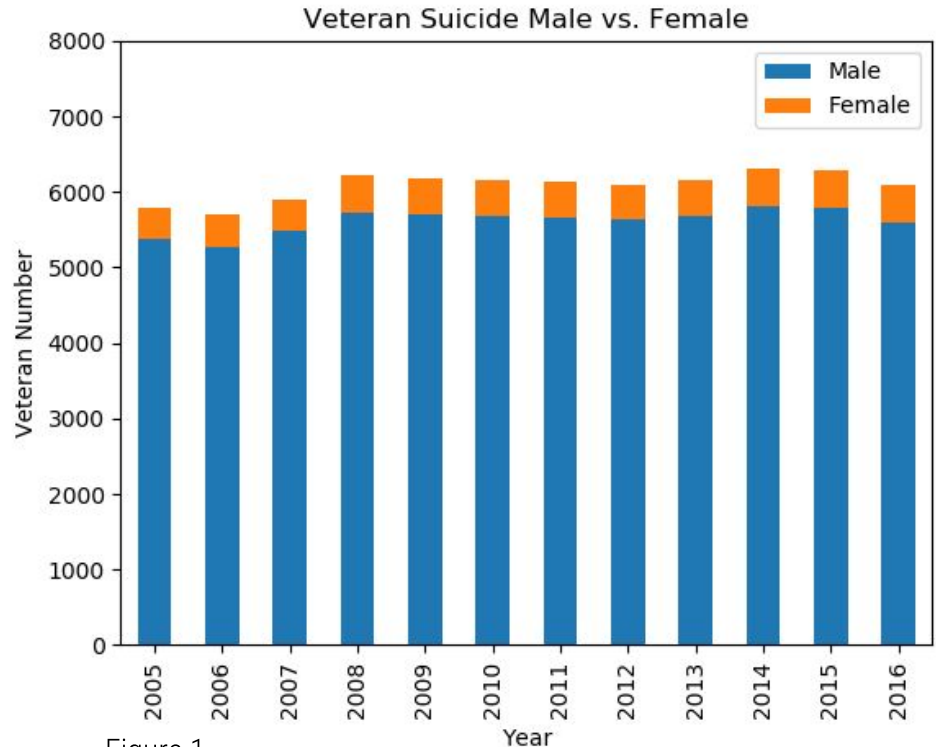
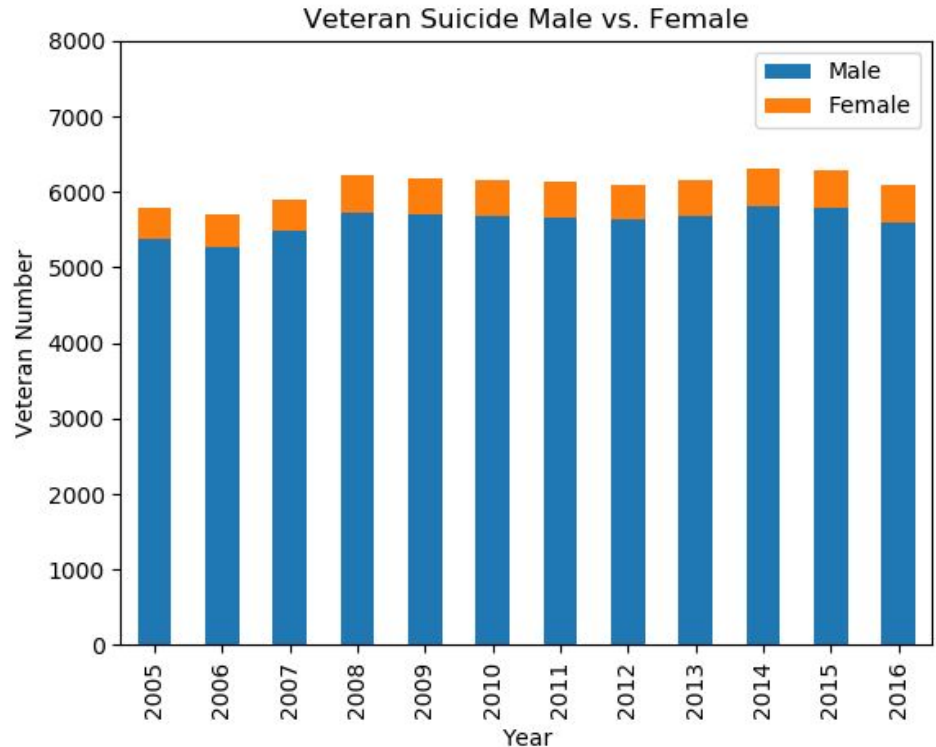


Figure 1



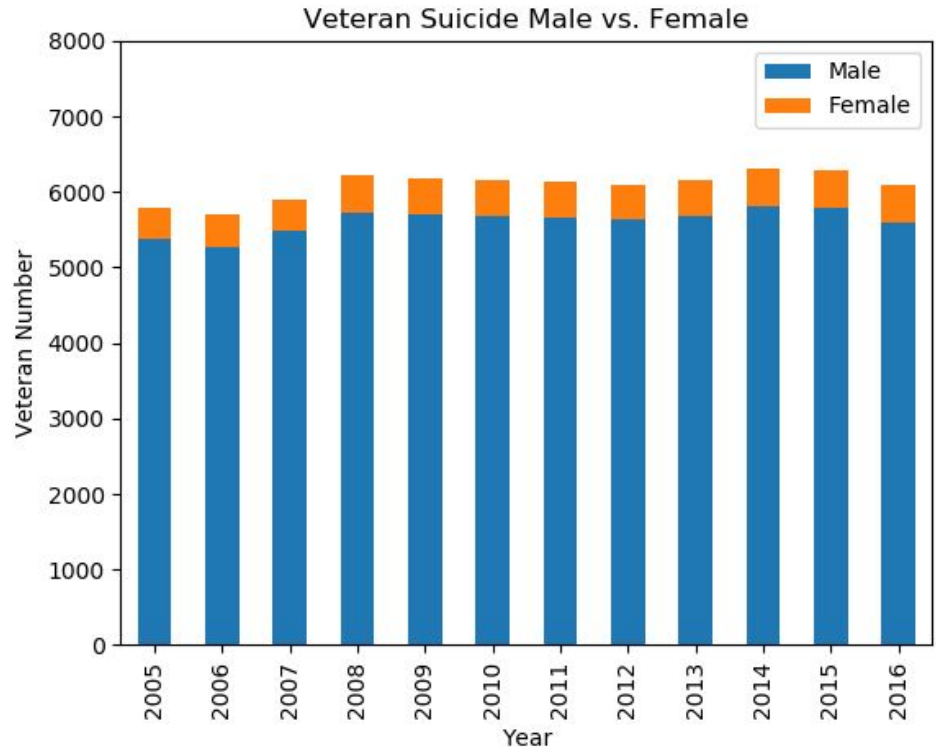
# VETERAN SUICIDE BY SEX

- The number of veteran suicides was lower amongst female veterans than males which is also true of the general population.



# VETERAN SUICIDE BY SEX

- From 2005-2016, more than 90% of veteran suicides were male. We can find a report in 2014, the female percentage in veteran population is around 8.2%.



**“ How does the age of veterans who have died by suicide vary in comparison to the general population?**

# VETERAN SUICIDE BY AGE GROUP

- From 2005 to 2016, the age group 18-34 increased dramatically from around 25 to 45 per 100,000. This age group also had the highest suicide rate from 2013 to 2016.

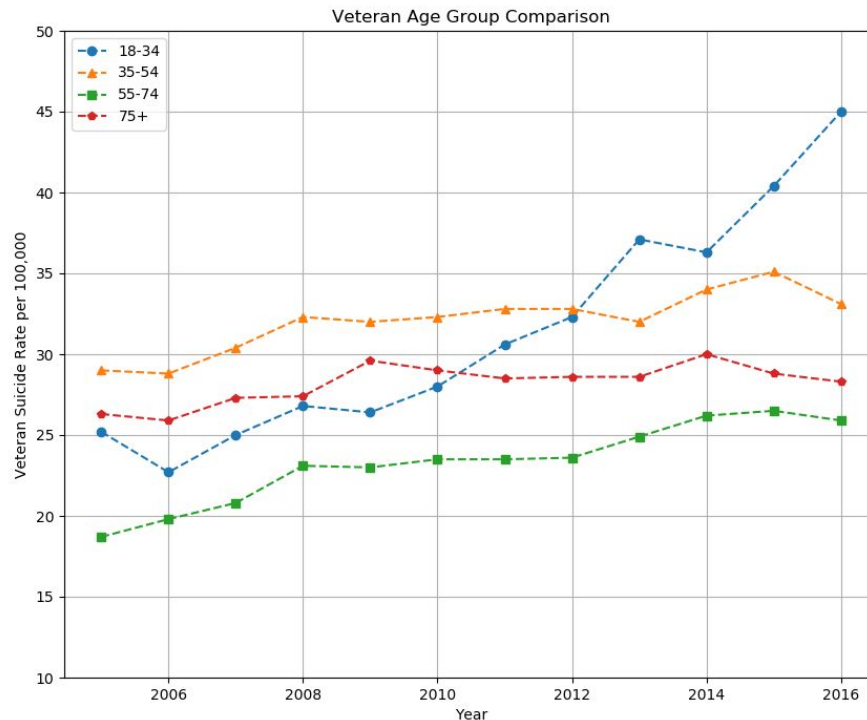


Figure 2

# GENERAL POPULATION SUICIDE BY AGE GROUP

- Suicide appears to be more prevalent in 35-54 age group.
- All age groups show a gradual increase in rates from 2006 to 2016

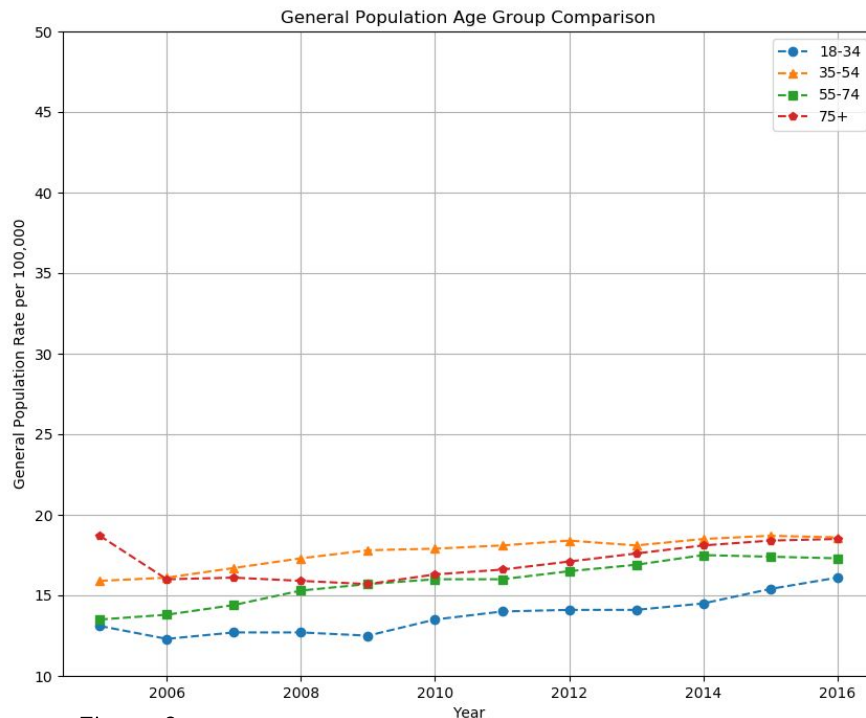


Figure 3

# AGE GROUP COMPARISON

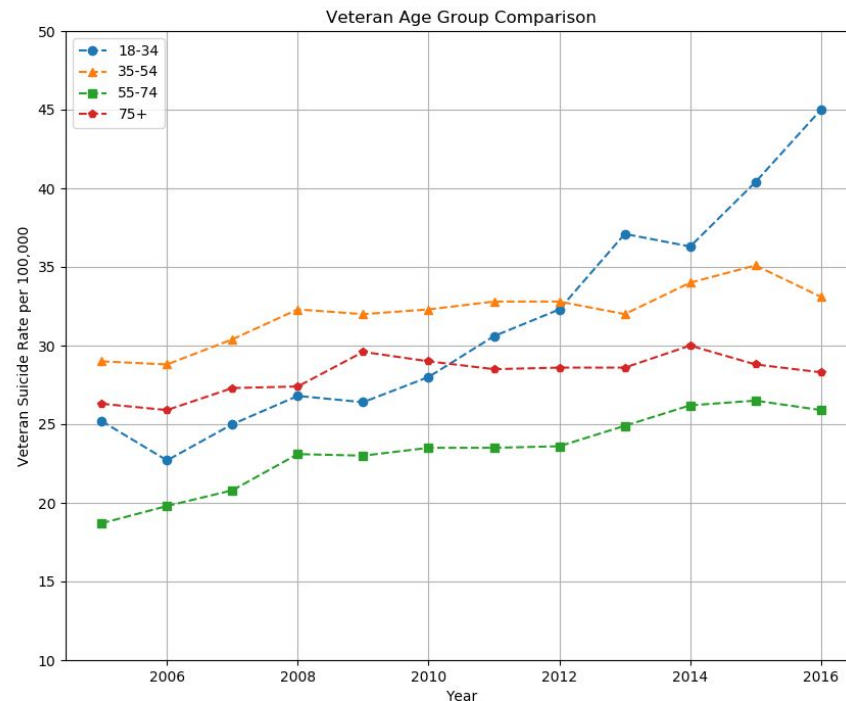
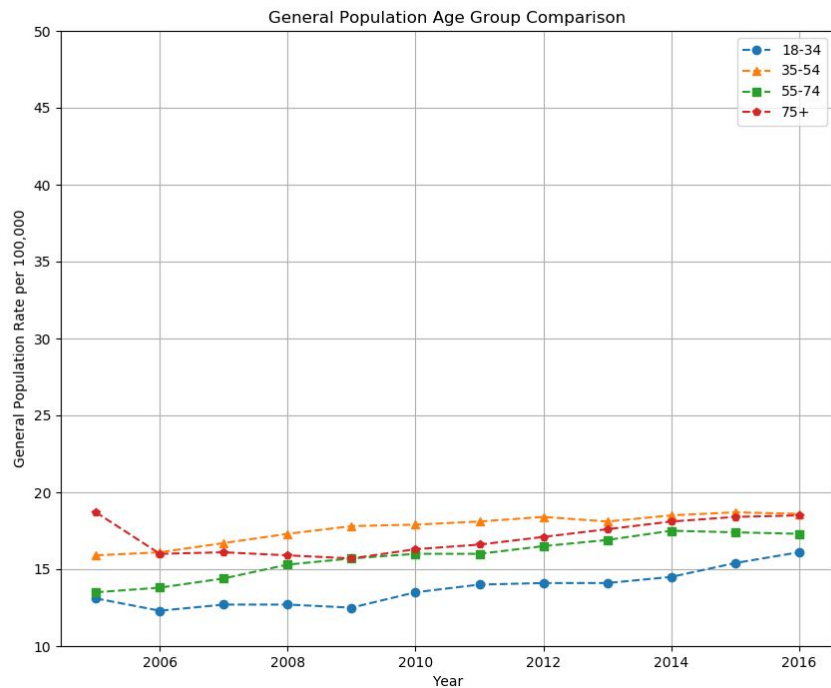
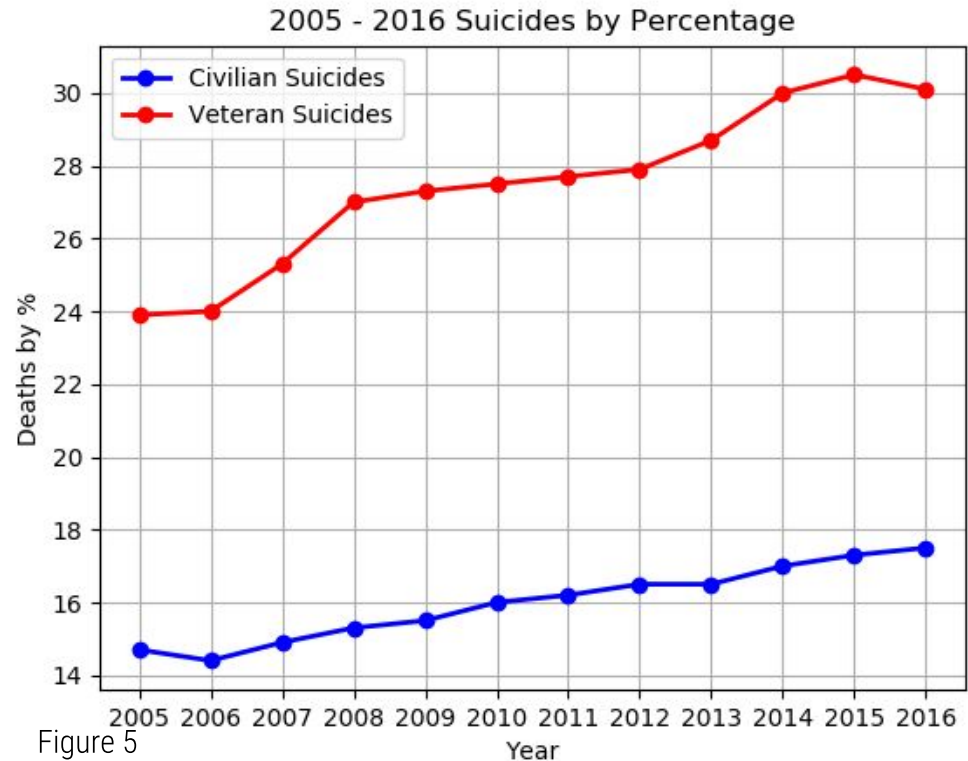


Figure 4

# TOTAL SUICIDES (%) 2005 - 2016

- While the civilian population has a higher suicide count in raw numbers, there is a higher risk of suicide amongst veterans.
- Additionally, although each group has had an increase in deaths by suicide, veteran deaths have increased by 6% since 2005, while the civilian population has barely risen by 2%



**“ What methods are used most often used by veterans who have died by suicide?**



# METHOD OF SUICIDE

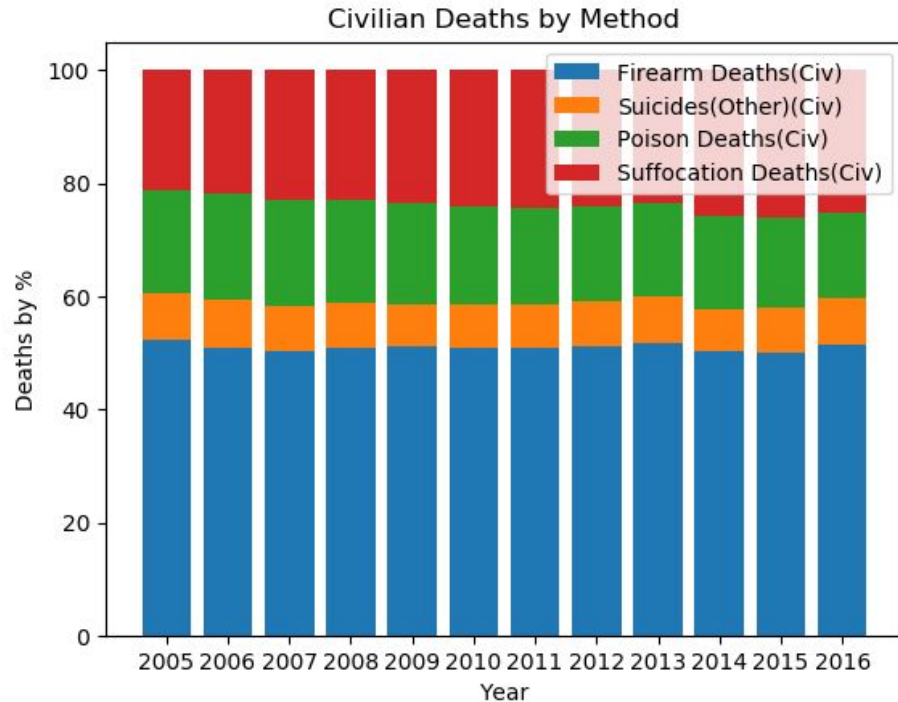


Figure 7

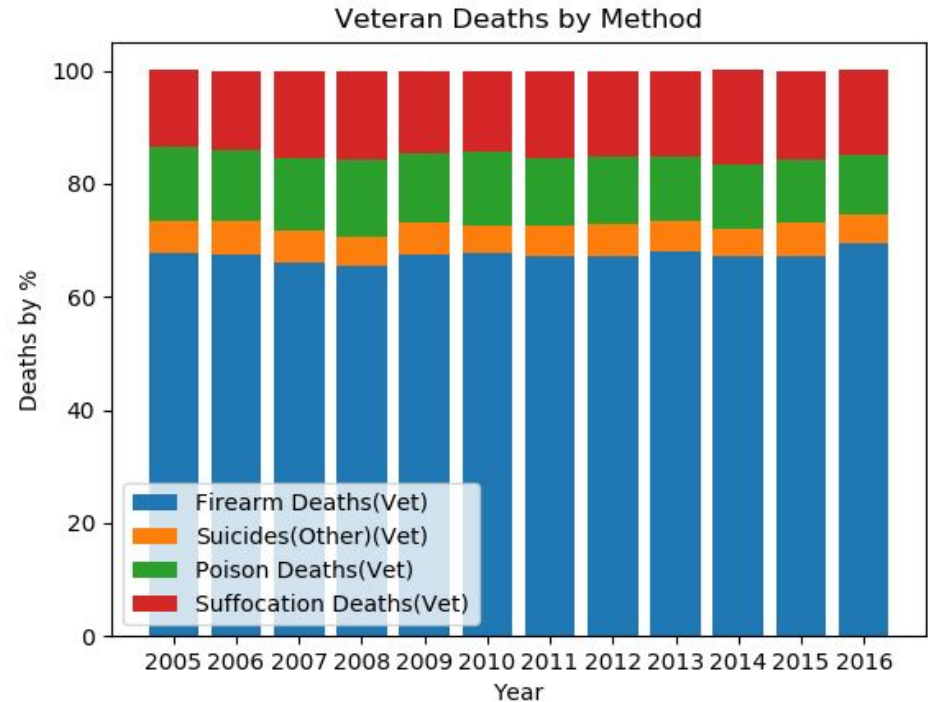


Figure 6

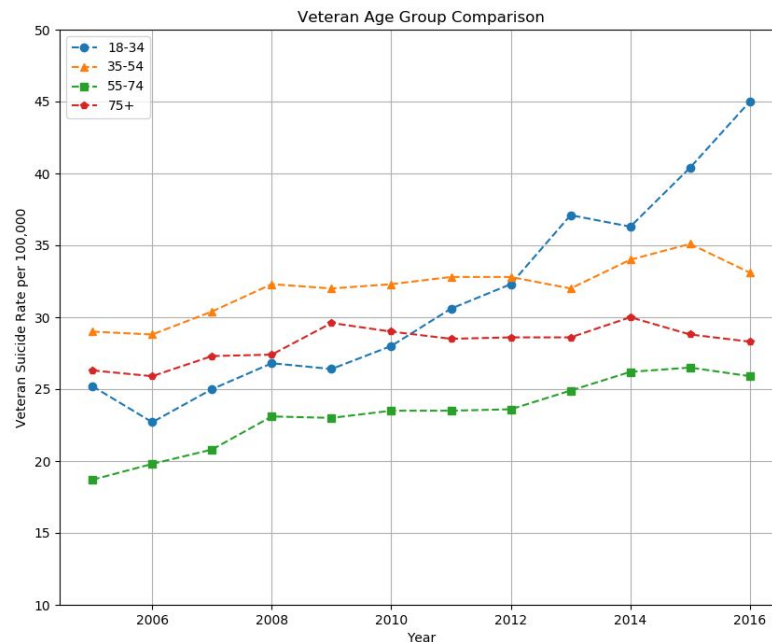
# METHOD OF CIVILIAN SUICIDE

- Civilians also appear to favor suicide by firearm more frequently than any methods, however, Veterans chose this method more than 60% of the time, while Civilians averaged less than 50%.

**“ Have significant events  
influenced suicide rates?**

# SIGNIFICANT EVENTS

- 2005 - Hurricane Katrina
- 2007 - Mass shooting on VA Tech campus
- 2008 - Economy crashes
- 2009 - Mass shooting on Ft. Hood base
- 2010 - Unemployment rate rises to 9.6%
- 2010 - Poverty rates in U.S. hit 15 year high
- 2012 - Mass shooting at Sandy Hook elementary school
- 2013 - Boston Marathon bombing
- 2016 - Orlando Nightclub shooting



# ADDITIONAL ANALYSIS

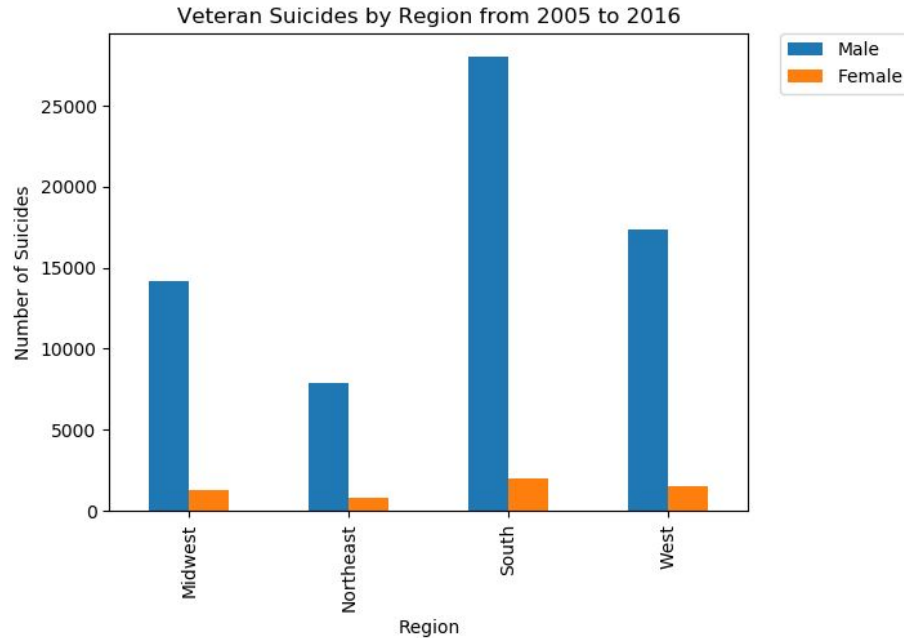


Figure 8

- The count of veteran suicides between 2005 to 2016 was greatest in the southern region

# DATA CLEANUP & EXPLORATION

- Data set for veteran suicide by sex did not provide exact values for many of the states/regions.
  - Using the total and the range, numerical values were assigned for males and females
  - For example:

Year	Geographic ▼ Region ▼	State of Death ▼	Sex ▼	Veteran Suicides ▼
2005	Northeast	Connecticut	Total	45
2005	Northeast	Connecticut	Male	40-50
2005	Northeast	Connecticut	Female	<10

Male = Min value of the range

Female = Total - Male

# DATA CLEANUP & EXPLORATION

- Veteran suicide by age data contained data classified as object. It was necessary to convert this data to float in order to perform the targeted analysis.

# DISCUSSION

- Overall, the percentage of veteran suicides is higher than that of the general population
- General population millennials did not exhibit a spike in suicide, however there was a noticeable increase in suicide amongst veteran millennials.



# POST MORTEM

- Unable to acquire data regarding the population of veterans across several years.
- Comparatively there was less data for veteran suicides versus general population suicides.
- Information with reference to the physical and mental health of veterans was unavailable. There could be a potential correlation between that data and the suicide information examined.

**Q&A**

# FIGURE APPENDIX

[Figure 1 - Veteran Suicide Male vs. Female](#)

[Figure 2 - Veteran Suicides by Age](#)

[Figure 3 - General Population Suicides by Age](#)

[Figure 4 - Veteran and General Population Suicides by Age Comparison](#)

[Figure 5 - Suicide Percentages](#)

[Figure 6 - Veteran Suicide Methods](#)

[Figure 7 - Civilian Suicide Methods](#)

[Figure 8 - Veteran Suicides by Region](#)

# Resources

- Mental Health. (2018, September 14). Retrieved March 18, 2019, from [https://www.mentalhealth.va.gov/mentalhealth/suicide\\_prevention/data.asp](https://www.mentalhealth.va.gov/mentalhealth/suicide_prevention/data.asp)
- Suicide. (n.d.). Retrieved March 27, 2019, from <https://www.merriam-webster.com/dictionary/suicide>
- Centers for Disease Control and Prevention Suicide Statistics. Retrieved March 18, 2019, from <https://www.cdc.gov/violenceprevention/suicide/statistics.html>