



Exploratory Data Analysis of 2017 Suicide Rates

Data Obtained from CDC - Wonder Platform
Including 1999 - 2017 Suicide Mortality Rates

Accessed at <http://wonder.cdc.gov/ucd-icd10.html>

Trends Reported on External Resource Website (Outside Our Dataset)

Suicide is the
10th
leading cause of death in
the US

In 2015, suicide and self-
injury cost the US
\$ **69** Billion

In 2017, there were an
estimated
1,400,000
suicide attempts

Suicide Statistics

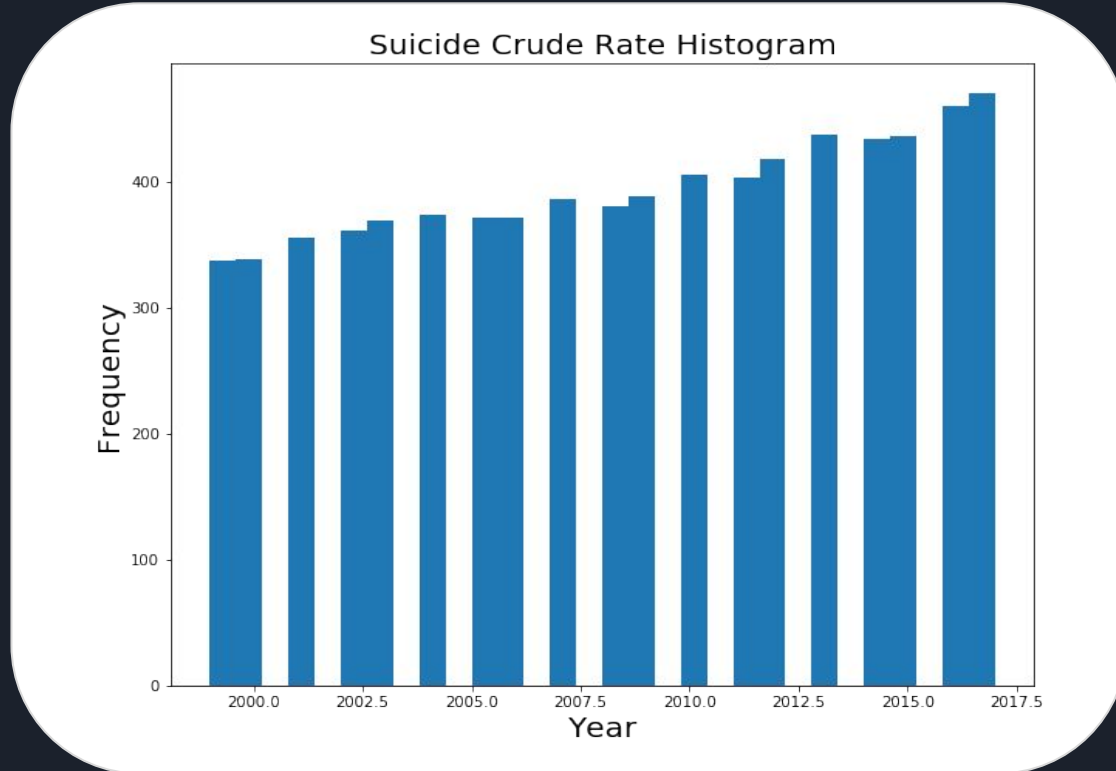
While this data is the most accurate we have, we estimate the numbers to be higher. Stigma surrounding suicide leads to underreporting, and data collection methods critical to suicide prevention need to be improved. [Learn how you can become an advocate.](#)



American
Foundation
for Suicide
Prevention

Data Visualization: Data Selection

Initial 1999 - 2017 dataset was selected from CDC Wonder Platform



Dropped All Redundant Code Columns

High Level Review Of Data Clean Up

Data columns (total 14 columns):

Notes	62 non-null object
State	7504 non-null object
State Code ◀	7504 non-null float64
Year	7504 non-null float64
Year Code ◀	7504 non-null float64
Gender	7504 non-null object
Gender Code ◀	7504 non-null object
Race	7504 non-null object
Race Code ◀	7504 non-null object
Injury Mechanism & All Other Leading Causes	7504 non-null object
Injury Mechanism & All Other Leading Causes Code ◀	7504 non-null object
Deaths	7504 non-null float64
Population	7504 non-null float64
Crude Rate	7504 non-null object

dtypes: float64(5), object(9)



Renamed 'Injury Mechanism' To 'Method'

High Level Review Of Data Clean Up

	State	Year	Gender	Race	Method	Deaths	Population	Crude Rate
0	Alabama	1999.0	Female	White	Firearm	63.0	1640665.0	3.84
1	Alabama	1999.0	Female	White	Poisoning	19.0	1640665.0	Unreliable
2	Alabama	1999.0	Male	Black or African American	Firearm	41.0	539198.0	7.60
3	Alabama	1999.0	Male	White	Firearm	326.0	1570643.0	20.76
4	Alabama	1999.0	Male	White	Poisoning	36.0	1570643.0	2.29

Converted All Tables To Appropriate Types

High Level Review Of Data Clean Up

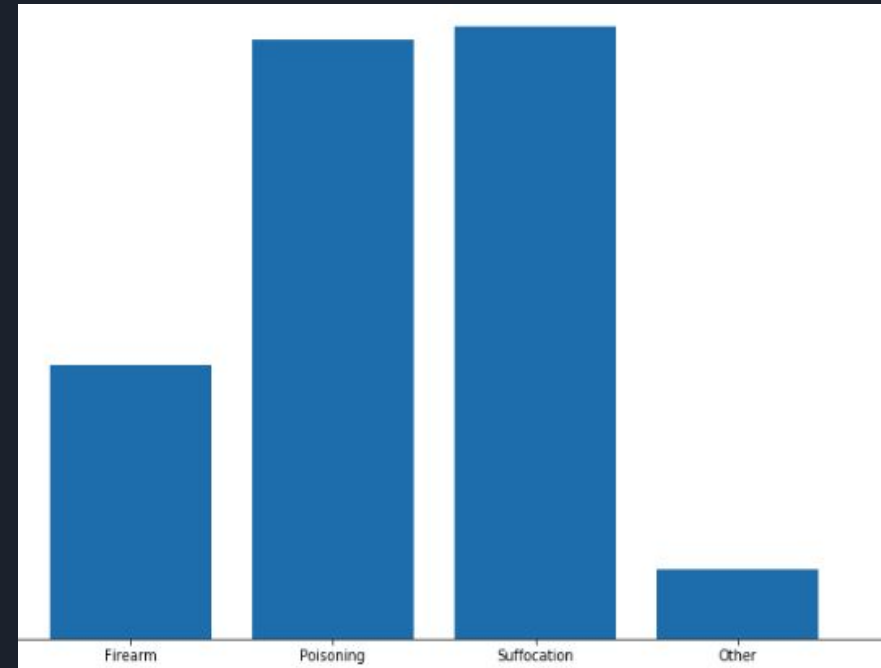
	State	Year	Gender	Race	Injury Mechanism & All Other Leading Causes	Deaths	Population	Crude Rate
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	State	Year	Gender	Race	Method	Deaths	Population	Crude Rate
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1	Alabama	1999	Female	White	Poisoning	19	1640665	1.158067
2	Alabama	1999	Male	Black or African American	Firearm	41	539198	7.603886
3	Alabama	1999	Male	White	Firearm	326	1570643	20.755831
4	Alabama	1999	Male	White	Poisoning	36	1570643	2.292055

Combined Multiple Other Methods

High Level Review Of Data Clean Up

		Deaths
Method		
	Cut/Pierce	537
	Drowning	176
	Fall	722
	Fire/Flame	10
	Firearm	23303
→	Other land transport	28
→	Other specified, classifiable Injury	368
→	Other specified, not elsewhere classified Injury	22
	Poisoning	6136
	Suffocation	12466





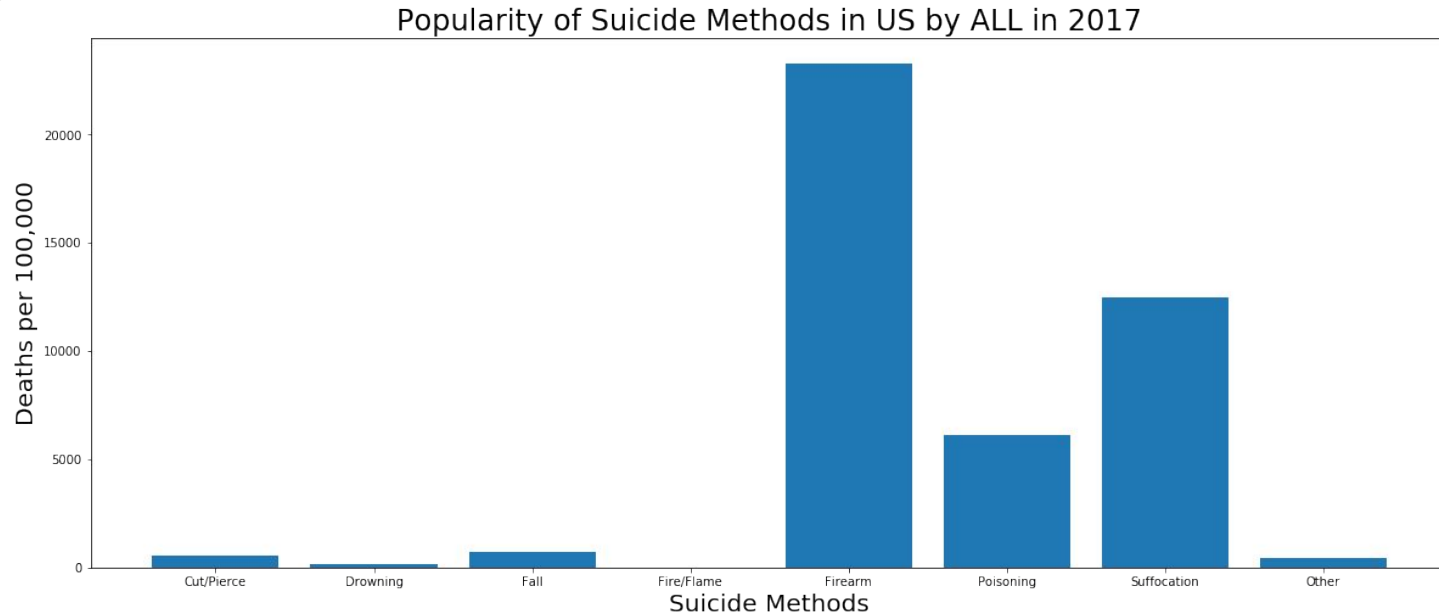
Recalculated Crude Rate: High Level Review Of Data Clean Up


Crude Rate
3.84
Unreliable
7.60
20.76
2.29

Crude Rate
3.84
0.00
7.60
20.76
2.29

Crude Rate
3.839906
1.158067
7.603886
20.755831
2.292055

Suicide Methods Popularity By All Races In the US during 2017





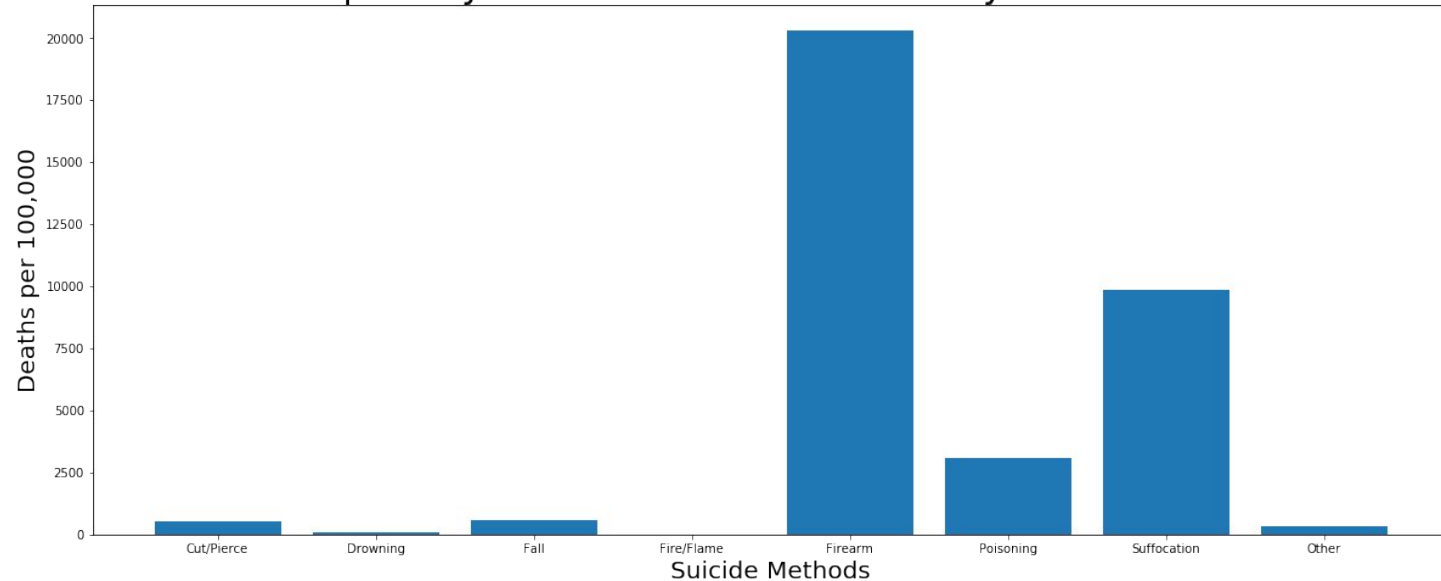
Categorical Methods Employed In Suicide Sorted Most Frequent Methods Used

53.24%	Firearms : 23,303	1.23%	Cutting or Piercing : 537
28.48%	Suffocation: 12,466	0.95%	Other Classifiable : 418
14.01%	Poisoning: 6,136	0.40%	Drowning : 176
1.65%	Fall : 722	0.02%	Flame / Fire : 10

Suicide Methods Popularity with Males

Males make up approximately 79.59% : 34,836 deaths

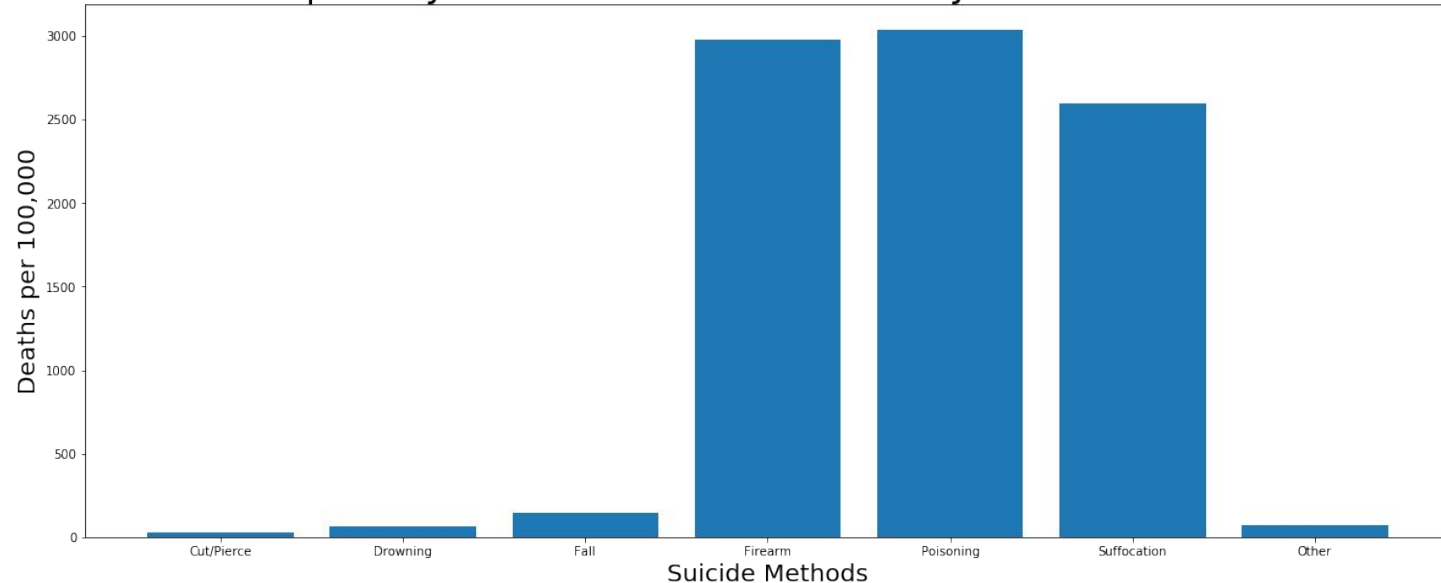
Popularity of Suicide Methods in US by Men in 2017



Suicide Methods Popularity with Females

Females make up approximately 20.40% : 8,932 deaths

Popularity of Suicide Methods in US by Women in 2017





White Suicide Rates

Total Suicide Deaths : 43,768

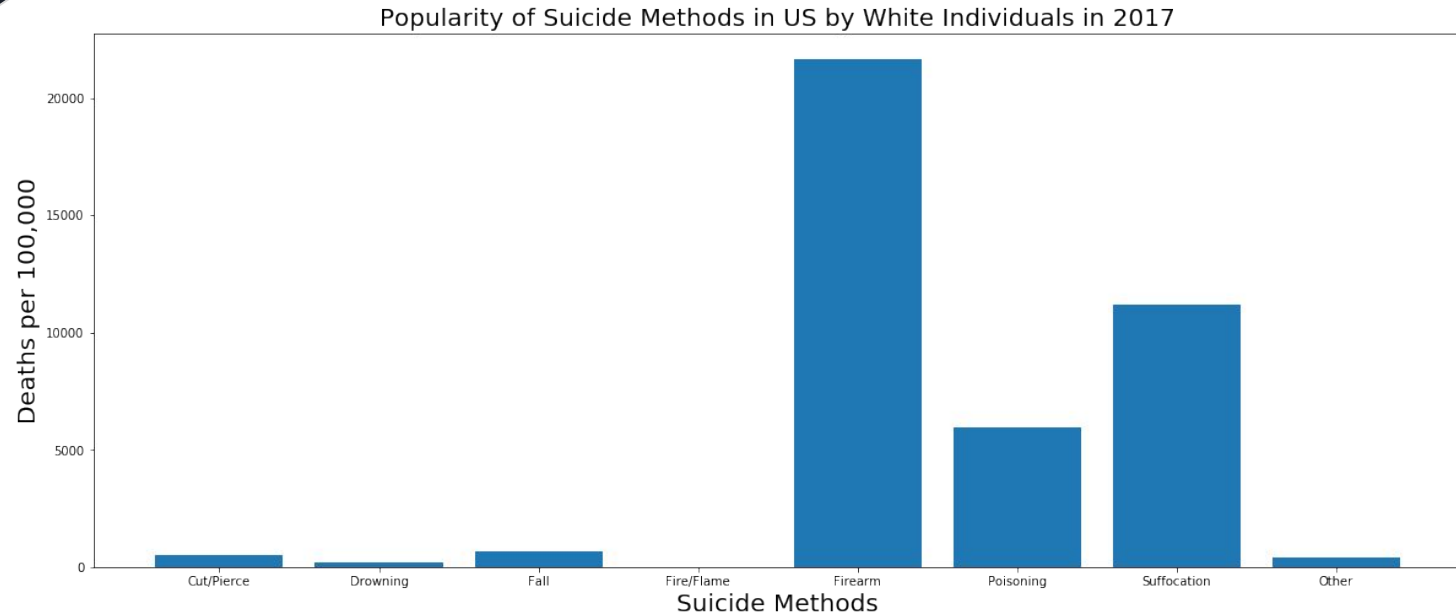
92.64% of All Suicides were White

92.01 % of all male suicides were White males

95.11 % of all female suicides were White females

Gender Distinction: Males and Females used vs Men & Women

Suicide Methods Popularity with White Individuals





Black African or African American Rates

Total Suicide Deaths : 43,768

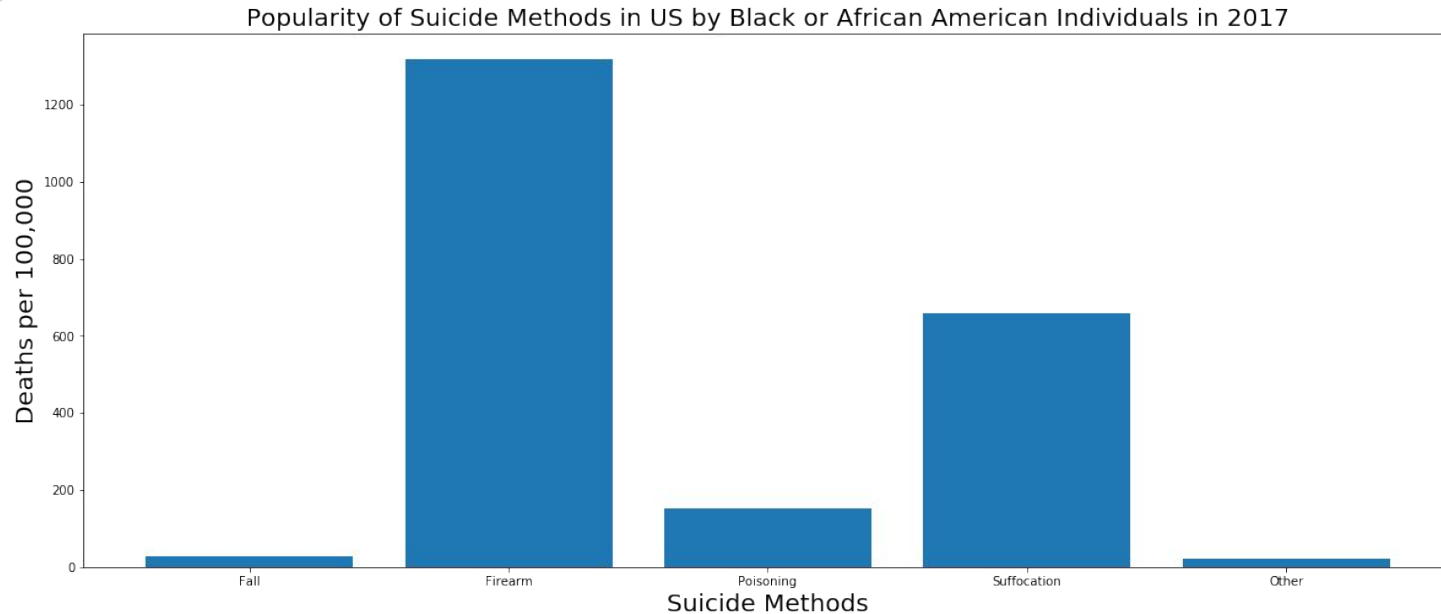
4.98 % of All Suicides were Black or African American

5.61 % of all male suicides were Black or African American

2.49 % of all female suicides were Black or African American

Gender Distinction: Males and Females used vs Men & Women

Suicide Methods Popularity with Black or African American In the US during 2017





Asian or Pacific Islander Suicide Rates

Total Suicide Deaths : 43,768

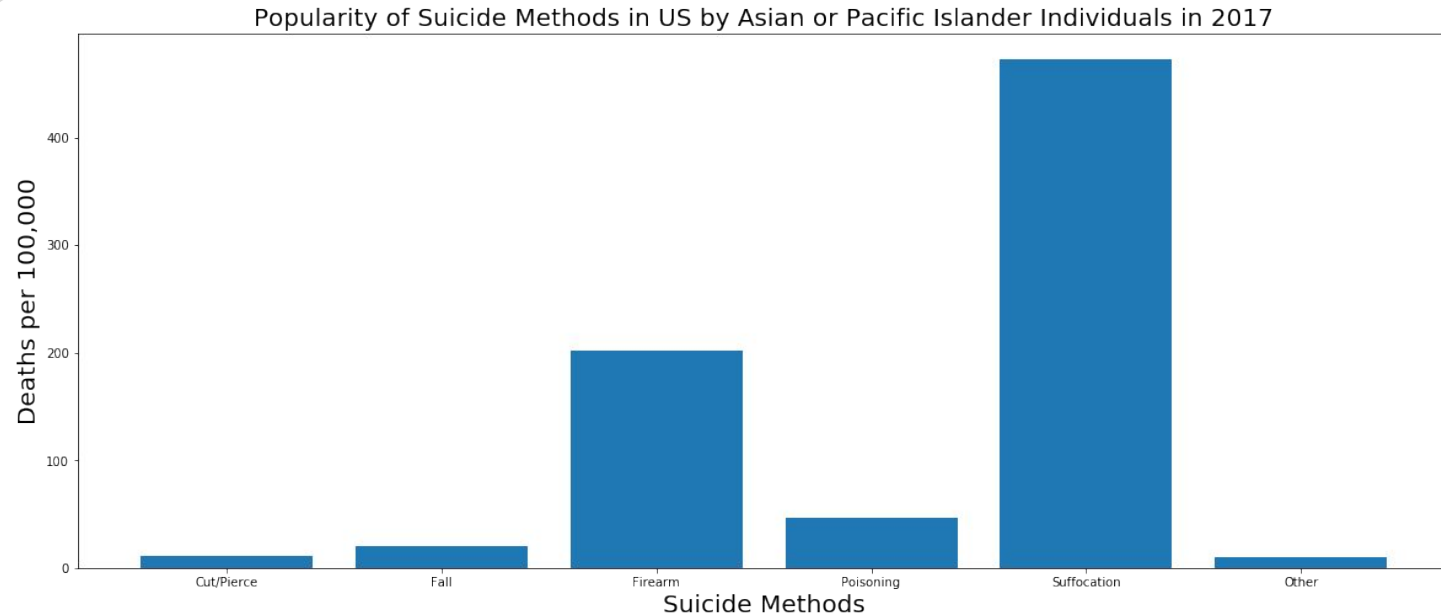
1.74 % of All Suicides were Asian or Pacific Islander

1.67 % of all male suicides were Asian or Pacific Islander

2.02 % of all female suicides were Asian or Pacific Islander

Gender Distinction: Males and Females used vs Men & Women

Suicide Methods Popularity with Asian or Pacific Islanders In the US during 2017





Alaskan or Native Americans Suicide Rates

Total Suicide Deaths : 43,768

0.63 % of All Suicides were Alaskan or Native Americans

0.71 % of male suicides were Alaskan or Native Americans males

0.34 % of female suicides were Alaskan or Native Americans

Gender Distinction: Males and Females used vs Men & Women

Suicide Methods Popularity American and Alaskan Natives In the US during 2017

