Connecticut Accidental Drug Related Deaths

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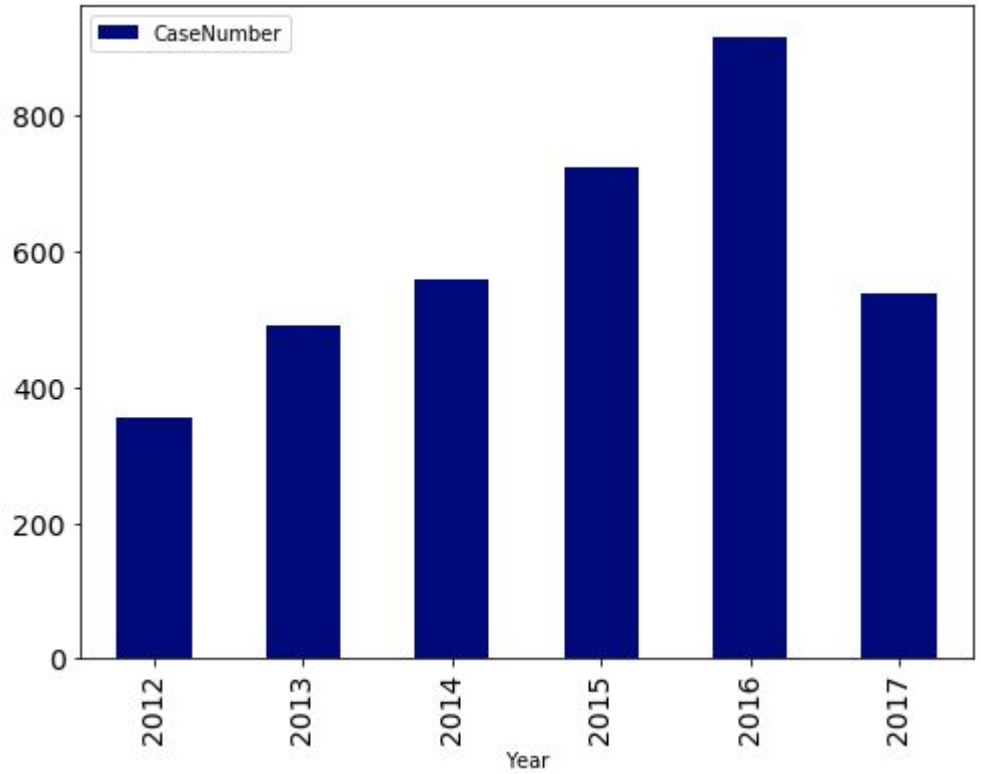
DATS 6103-12
Project 2

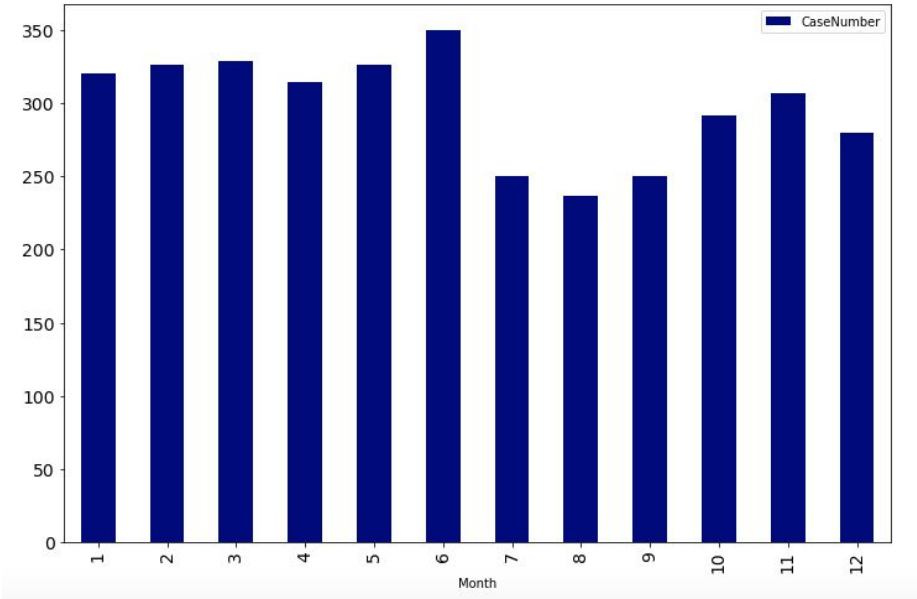
The Dataset

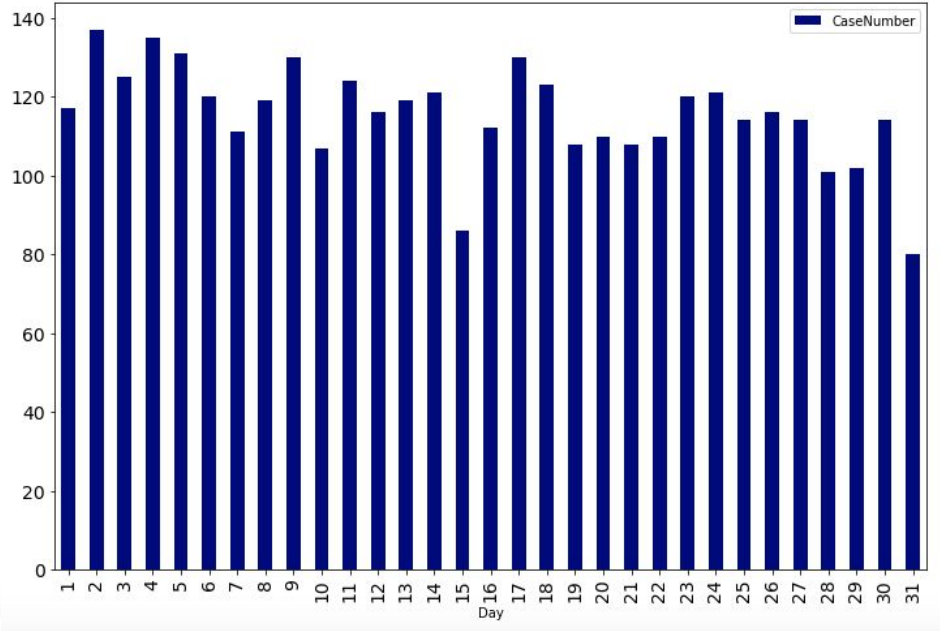
- From 2012 to June 2017
- Data includes demographic information and opioids found in each drug related death
- Derived from an investigation by the Office of the Chief Medical Examiner
- 99% of Connecticut death certificates include the specific drug information

Deaths Per Year



Deaths Per Month and Day





Deaths Per Year, Month, and Day

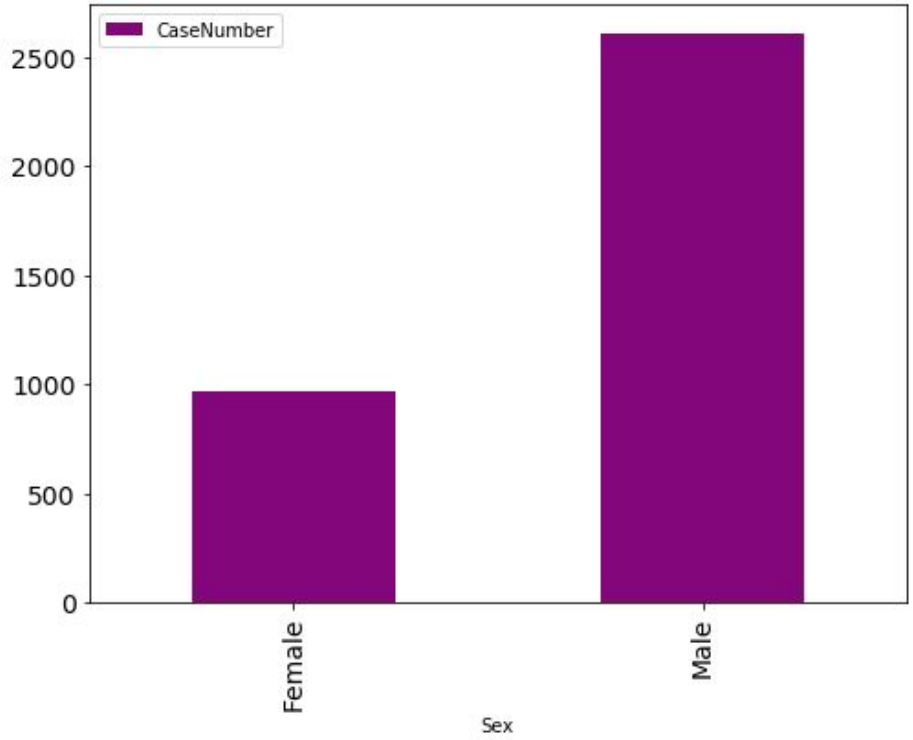
CaseNumber	Date	Day	Month	Year	Sex
15-777		0	1	1900	Ma
15-16348		0	1	1900	
12-18447	12/29/12	29	12	2012	Ma
12-14640	10/18/12	18	10	2012	Ma
21885	5/30/12	30	5	2012	Ma
20424	6/21/12	21	6	2012	Ma
23346	5/24/12	24	5	2012	Ma
12-12055	8/27/12	27	8	2012	Ma
12-11530	8/15/12	15	8	2012	Ma
12-13673	9/30/12	30	9	2012	Fen
12-11672	8/18/12	18	8	2012	Fen
12-13932	10/4/12	4	10	2012	Fen
28460	4/3/12	3	4	2012	Ma
19694	3/23/12	23	3	2012	Ma

```
#deterime the number of deaths per year
death_year = death_index.groupby(['Year']).count()
```

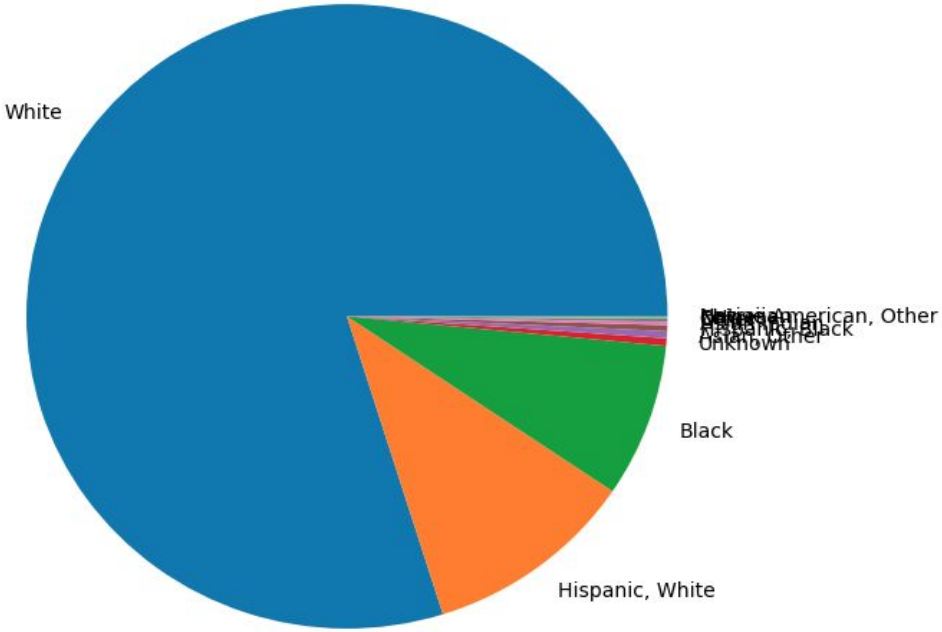
```
print(death_year)
```

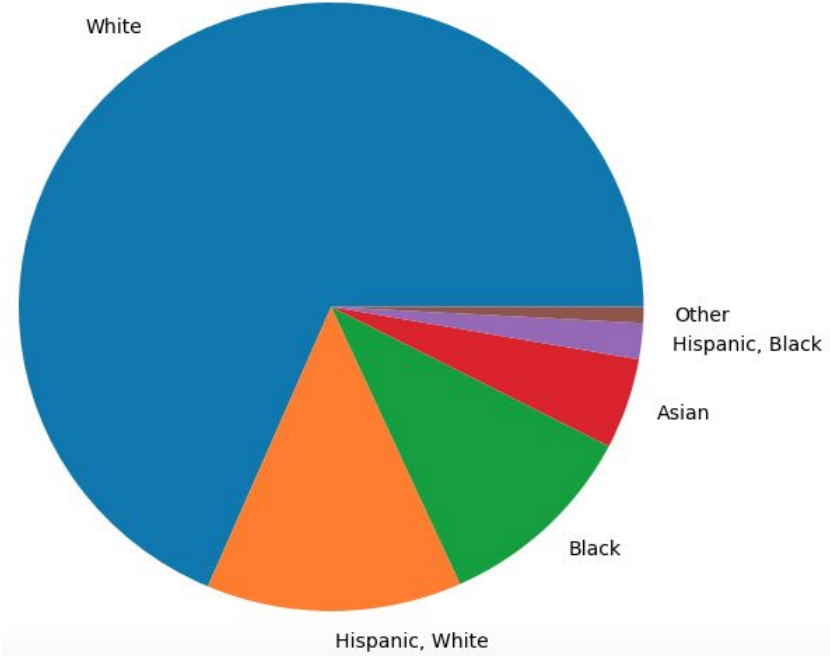
```
      CaseNumber  Day  Month  Sex  Race  Age  Resid
Year
2012         355  355    355  355   355  355
2013         490  490    490  490   490  490
2014         558  558    558  557   555  557
2015         723  723    723  723   722  723
2016         917  917    917  916   913  917
2017         538  538    538  538   537  538
```

By Gender



Opioid Death Demographics v. Connecticut Demographics





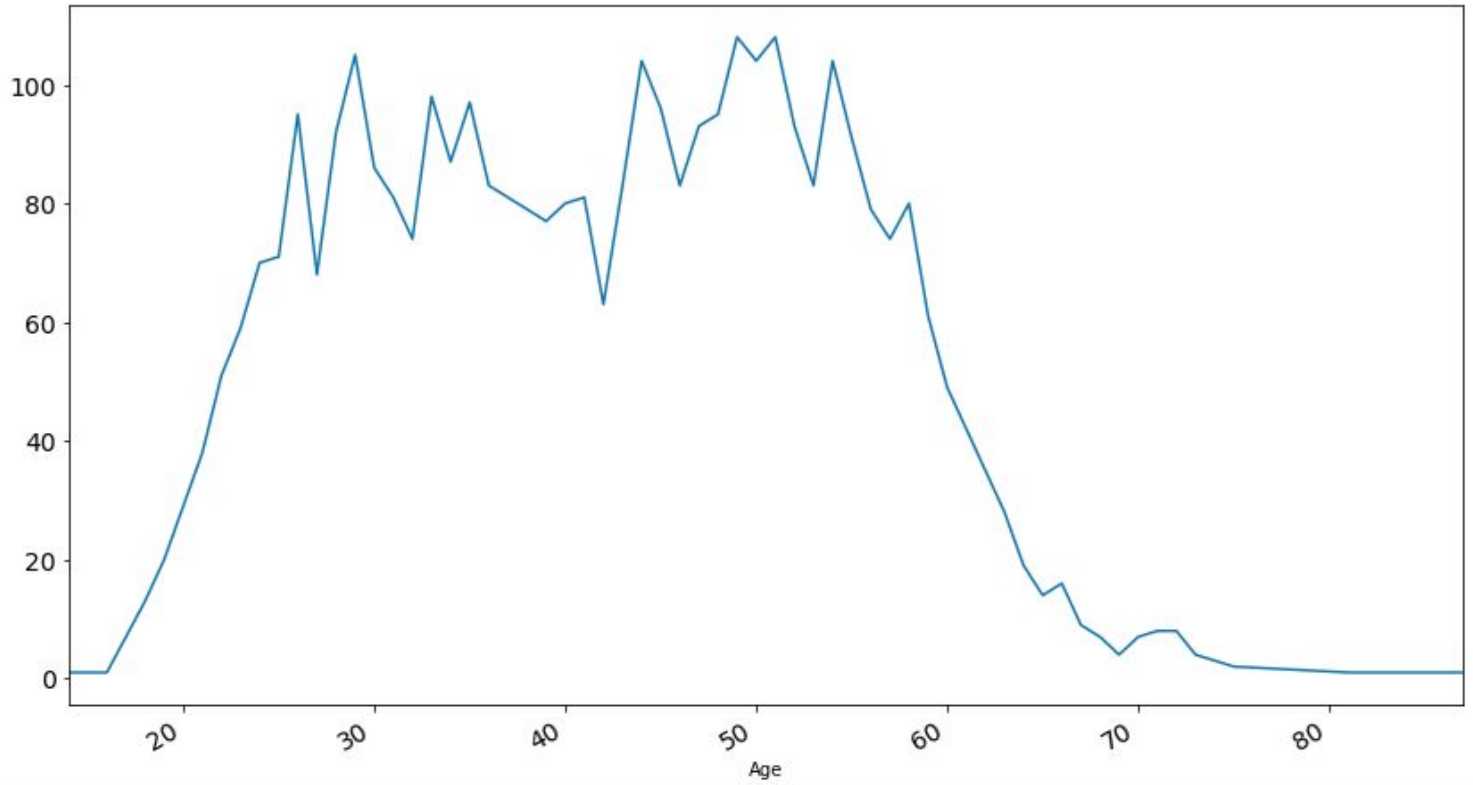
Opioid Death Demographics

```
#deterime the ethnicity of the deaths
death_race = death_index.groupby(['Race']).count()
print (death_race)
```

```
death_race = death_race.sort_values(by=['CaseNumber'], ascending=False)
print(death_race)
```

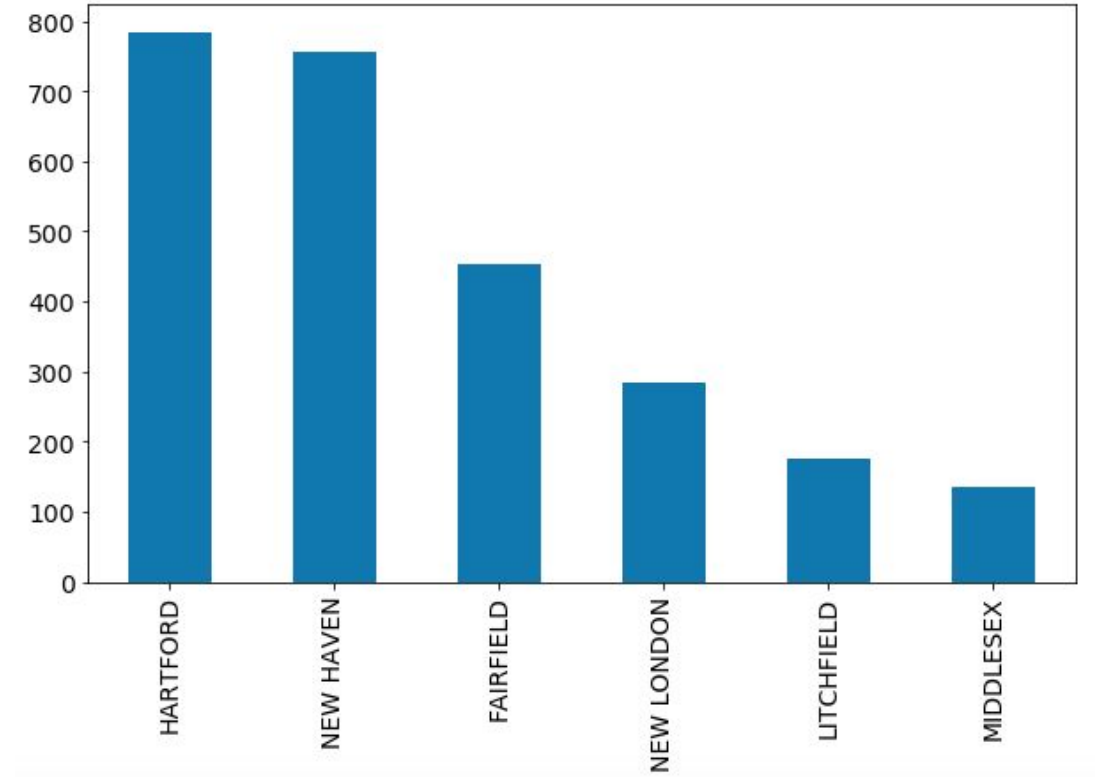
Race	CaseNumber
White	2852
Hispanic, White	382
Black	284
Unknown	14
Asian, Other	13
Hispanic, Black	11
Asian Indian	6
Other	6
Chinese	2
Hawaiian	1
Native American, Other	1

Deaths by Age

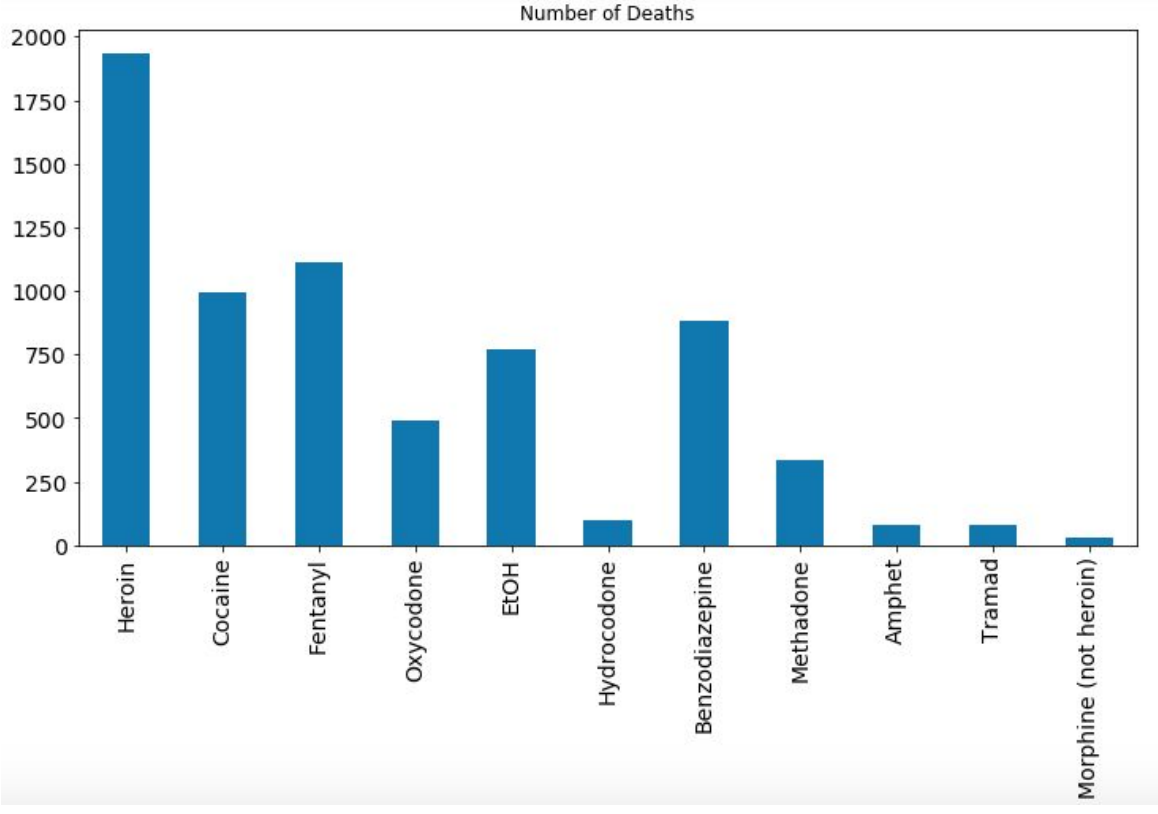


Top Counties of Residence

ResidenceCounty	
HARTFORD	784
NEW HAVEN	757
FAIRFIELD	454
NEW LONDON	284
LITCHFIELD	175
MIDDLESEX	134



Top Opioids


Number of Deaths
2000
1750
1500
1250
1000
750
500
250
0
Heroin
Cocaine
Fentanyl
Oxycodone
EtOH
Hydrocodone
Benzodiazepine
Methadone
Amphet
Tramad
Morphine (not heroin)

Top Opioids

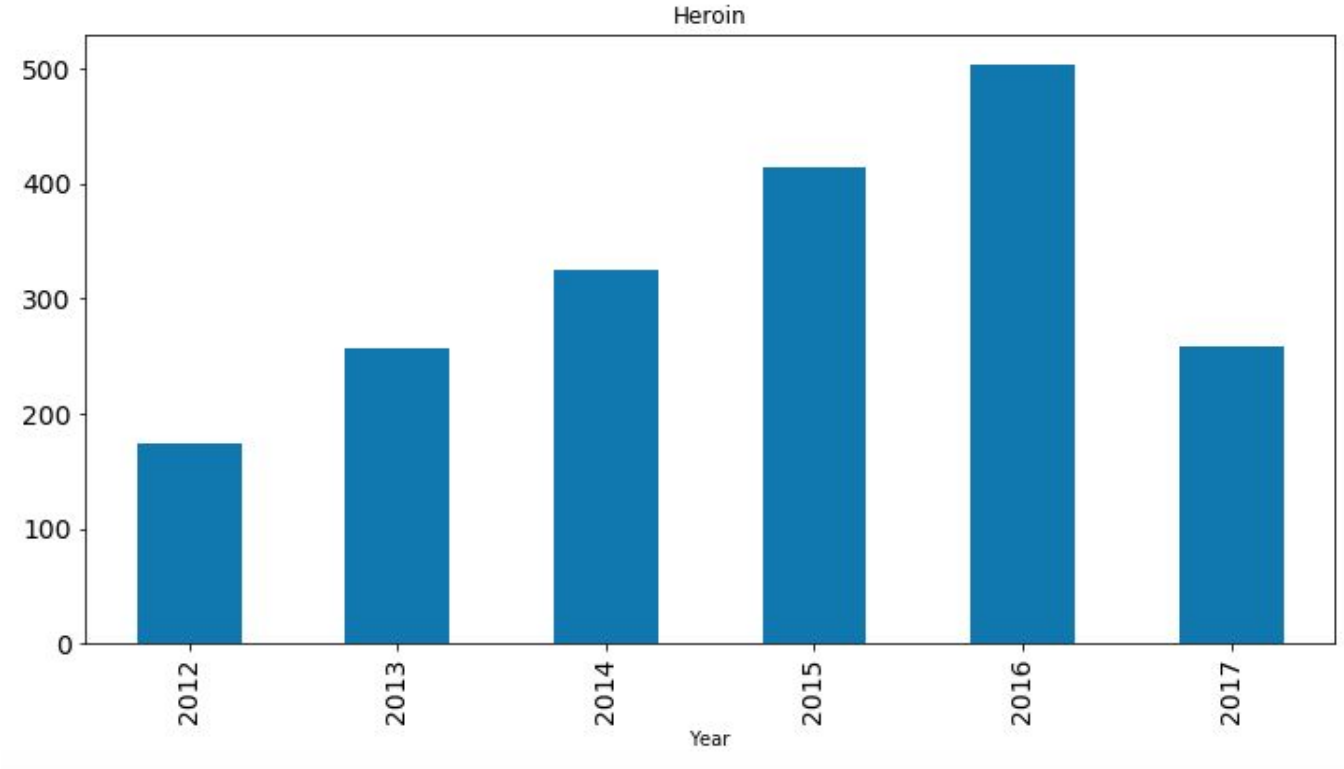
```
death_type['Cocaine'].replace('Y', 1 ,inplace=True)
death_type['Heroin'].replace('Y', 1 ,inplace=True)
death_type['Fentanyl'].replace('Y', 1 ,inplace=True)
death_type['Oxycodone'].replace('Y', 1 ,inplace=True)
death_type['EtOH'].replace('Y', 1 ,inplace=True)
death_type['Hydrocodone'].replace('Y', 1 ,inplace=True)
death_type['Benzodiazepine'].replace('Y', 1 ,inplace=True)
death_type['Methadone'].replace('Y', 1 ,inplace=True)
death_type['Amphet'].replace('Y', 1 ,inplace=True)
death_type['Tramad'].replace('Y', 1 ,inplace=True)
death_type['Morphine (not heroin)'].replace('Y', 1 ,inplace=True)

death_type = death_type.drop(['Month','Year','Day','Sex','Race','Resi
death_type = death_type.fillna(0)

death_type.head(30)
```

Date	CaseNumber	Heroin	Cocaine	Fentanyl	Oxycodone	EtOH	Hydrocodone	Benz
12/29/2012	12-18447	0	1	0	1	0	0	
10/18/2012	12-14640	1	0	0	0	0	0	
5/30/2012	21885	1	0	0	0	0	0	
6/21/2012	20424	1	0	0	0	0	0	

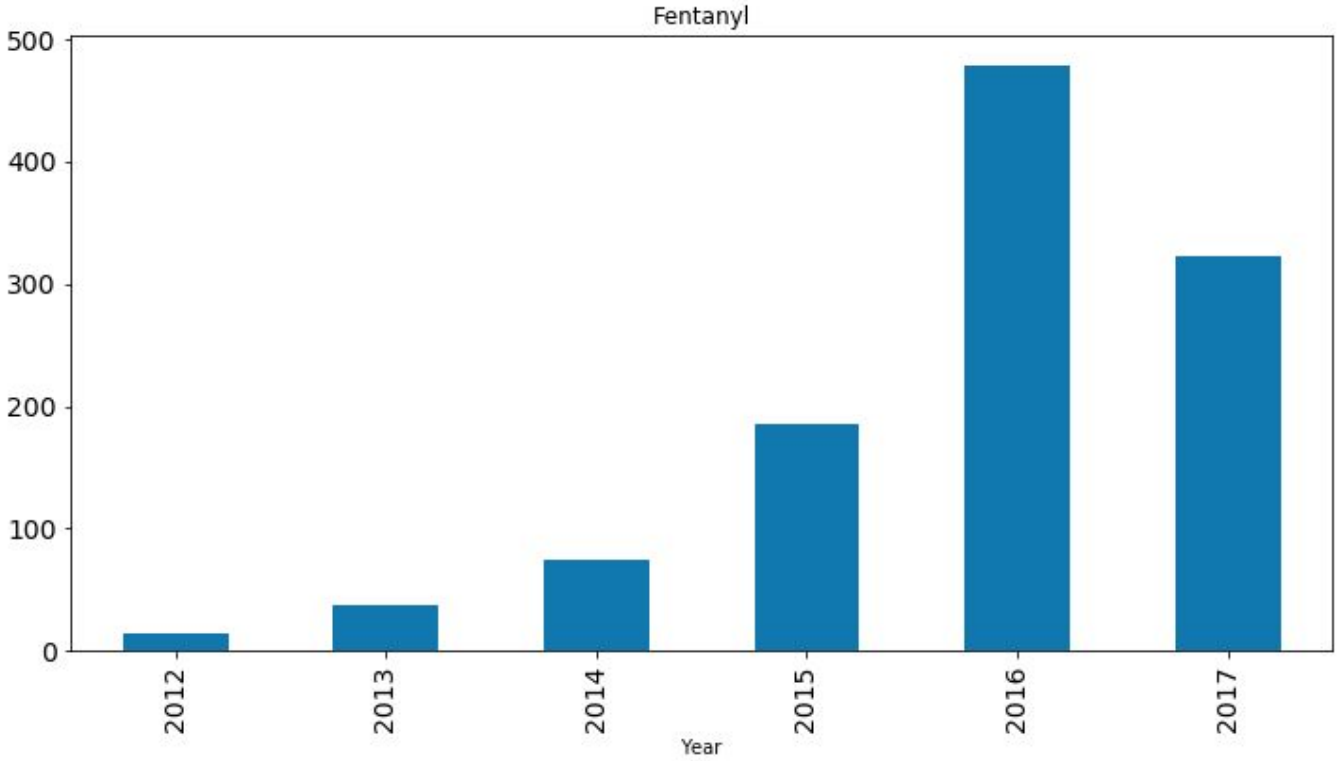
```
Fentanyl = death_type['Fentanyl'].sum()
print(Fentanyl)
Oxycodone = death_type['Oxycodone'].sum()
print(Oxycodone)
EtOH = death_type['EtOH'].sum()
print(EtOH)
Hydrocodone = death_type['Hydrocodone'].sum()
print(Hydrocodone)
Benzodiazepine = death_type['Benzodiazepine'].sum()
print(Benzodiazepine)
Methadone = death_type['Methadone'].sum()
print(Methadone)
Amphet = death_type['Amphet'].sum()
print(Amphet)
Tramad = death_type['Tramad'].sum()
print(Tramad)
```

```
1114
491
772
98
884
336
81.0
79.0
```

Heroin Trends



Fentanyl Trends



References

Accidental Drug Related Deaths 2012-June 2017 (Dataset)
https://catalog.data.gov/dataset/accidental-drug-related-deaths-january-2012-sept-2015

2016 Annual State & County Population with Demographics (Dataset)

http://www.ct.gov/dph/cwp/view.asp?a=3132&q=388152

In Opioid Crisis, Why It's Important to Know Which Drugs Caused a Death (Article)

http://wnpr.org/post/opioid-crisis-why-it-s-important-know-which-drugs-caused-death