

Accidental Drug Death from 2012-2018

Group 4

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Abstract

- The increase of drugs has made it possible for people to have access to it more easily than before. The cases of drug abuse have escalated in a more drastic manner throughout the years. This has led to people to abuse them more constantly and seek them more frequently, causing an increase of what they can handle. This leads to unintentional drug overdose death, which has been claiming many people lives. The data obtain on governmental database would allow us to analyze and understand the type of drugs that are more being use as well which ones are being abuse the most. As well which one has a higher death count.

Data Size and Information

- Data used for this project was acquire from Data.gov
- Data name: Collection of Accidental Drug Related deaths 2012-2018
- Data size: 1.02MB
- Data Source: <https://catalog.data.gov/dataset/accidental-drug-related-deaths-january-2012-sept-2015>
- GitHub: <https://github.com/GianV77/CIS3200Project.git>
- Azure Gallery: <https://gallery.cortanaintelligence.com/Experiment/Drug-overdose-death-2012-18>

Date	Age	Sex	Race	Residence	Residence	Residence	DeathCity	DeathCou	Location	Locationif	Descriptive	InjuryPlac	InjuryCity	InjuryCou	InjuryStat	COD	OtherSign	Heroin	Cocaine	Fentanyl	FentanylA	Oxycodone	Oxymor	Ethanol	Hydrocod	Benzodiaz	Methadon	Amphet	Tramad	Morphine	Hydromor	Other	Opiate	NO Any	Opioid	Mannerof	Death			
6/28/2014											substance						Acute fent, hydrocod, benzodiazepine								Y	Y												Accident		
3/21/2013	48	Male	Black	NORWALK			NORWALK	FAIRFIELD	Hospital								Cocaine Intoxication		Y																		Accident			
3/13/2016	30	Female	White	SANDY HC	FAIRFIELD	CT	DANBURY		Hospital		Substance Unknown	UNKNOWN					Acute Heroin and Co Y																				Y	Accident		
3/31/2016	23	Male	White	RYE	WESTCHESTER	NY	GREENWICH		Hospital		Substance Unknown	RYE					Acute Fentanyl and f Y			Y																	Y	Accident		
2/13/2013	22	Male	Asian, OH	FLUSHING QUEENS			GREENWICH	FAIRFIELD	Hospital		Transderm Other						Fentanyl Intoxication			Y																	Accident			
2/29/2014	23	Male	White	BRISTOL			BRISTOL	HARTFORD	Residence		Inhalation	Residence					Heroin Intoxication						Y														Accident			
8/12/2012	21	Female	White	WEST HARTFORD			WEST HARTFORD		Residence		Used Herc	Residence					Heroin Toxicity		Y																		Accident			
4/25/2012	40	Female	White	HAMDEN	NEW HAVEN		NEW HAV	NEW HAV	Hospital								Complications of Cocaine Intox																				Accident			
4/25/2012	40	Male	White	EAST HARTFORD			EAST HARTFORD		Residence		Used Herc	Residence					Heroin Toxicity		Y																		Accident			
5/15/2013	50	Male	White	MONTVILLE	NEW LONDON		MONTVILLE	NEW LON	Residence		Ingestion	Residence					Oxycodone Intoxication									Y											Accident			
8/23/2012	26	Female	Hispanic, White	STRATFORD	FAIRFIELD	Other	Honey Sp	Injection/	Hotel or Motel		Unknown						Multiple Drug Toxici Y		Y																		Accident			
7/5/2015	49	Female	White	NEW HAV	NEW HAV	Hospital					Unknown						Acute Intoxication fr Y																				Y	Accident		
5/14/2015	50	Male	White	DANBURY	FAIRFIELD	CT	DANBURY	FAIRFIELD	Residence		Residence						Heroin Intoxication		Y																		Accident			
1/13/2016	29	Male	Black	NEW HAV	NEW HAV	CT	NEW HAVEN		Residence		Substance Unknown	NEW HAVEN					Acute Heroin Intoxic Y										Y		Y								Y	Accident		
8/19/2013	45	Male	White	HARTFORD	HARTFORD		HARTFORD	HARTFORD	Residence		Ingestion	Residence					Methadone Intoxication																				Accident			
1/29/2014	29	Female	White	CANTERBURY			CANTERBURY		Hospital		Substance Unknown						Acute Intoxication d Y																					Accident		
3/2/2012	42	Male	White	WALLINGT	NEW HAVEN		WALLINGT	NEW HAV	Residence		Ingestion	Residence					Ethanol and Oxymorphone Toxicity						Y	Y													Accident			
1/30/2016	54	Male	White	MIDDLETOWN	MIDDLESEX	CT	MIDDLETOWN		Residence		Substance Unknown	MIDDLETOWN					Acute Heroin Intox	Y																				Y	Accident	
6/2/2015	32	Male	White	WINDHAM	WINDHAM	CT	WINDHAM		Residence								Acute Intoxication d Y		Y							Y												Y	Accident	
6/2/2015	47	Male	White	BRIDGEPORT			BRIDGEPORT	FAIRFIELD	Residence		Substance Unknown						Acute Intoxication d Y							Y													Y	Accident		
6/2/2015	39	Female	White	ANSONIA	NEW HAV	CT	DERBY	NEW HAV	Hospital		Residence	ANSONIA	NEW HAV	CT			Intoxication due to the Combined Effects of Methadone and Diphenhydramine											Y									Y	Accident		
5/2/2014	27	Male	White	HAMDEN	FAIRFIELD	CT	NEW HAV	NEW HAV	Hospital		Ingestion	Residence					Intoxication due to the combined effects of Oxycodone, Oxymor	Y								Y											Y	Accident		
10/7/2016	34	Male	White	COS COB	FAIRFIELD	CT	COS COB		Residence		Substance Unknown	COS COB					Acute Intoxication d Y		Y																		Y	Accident		
7/16/2016	27	Female	White	STRATFORD	FAIRFIELD	CT	STRATFORD		Residence		Substance Unknown	STRATFORD					Acute Intoxication d Y		Y																			Y	Accident	
2/10/2018	25	Male	White	MERIDEN	NEW HAV	CT	MERIDEN	NEW HAV	Hospital		Substance Unknown	MERIDEN	NEW HAV	CT			ACUTE COMBINED HI Y	Y	Y	Y																		Y	Accident	
4/12/2015	23	Male	White	DANBURY	FAIRFIELD	CT	DANBURY	FAIRFIELD	Other		Other						Heroin and Ethanol f Y							Y														Y	Accident	
2/27/2015	35	Male	White	NEW BRIT	HARTFORD	CT	HARTFORD	HARTFORD	Hospital		Restaurant						Acute Fentanyl Toxicity																					Y	Accident	
4/11/2018	25	Male	Hispanic, White	HARRISBURG	DAUPHIN	PA	NEW HAV	NEW HAV	Nursing Home		Substance Unknown						Complications of Anoxic-Ischemic Encephalopathy	Acute Opioid Intoxication						Y		Y											Y	Accident		
5/10/2016	43	Male	White	MELROSE	MIDDLESEX	MA	ENFIELD		Other	Motel 6	Substance Unknown	ENFIELD					Acute Heroin, Fentanyl	Y	Y					Y		Y											Y	Accident		
12/4/2013	48	Male	White	NORTH SA	WESTCHESTER		NORWALK	FAIRFIELD	Hospital		Substance Unknown						Acute Intoxication d Y																					Y	Accident	
6/18/2018	40	Female	White	TORRINGTON	LITCHFIELD	CT	TORRINGTON	LITCHFIELD	Residence		Substance Unknown	TORRINGTON	LITCHFIELD				ACUTE CO RECENT CI Y	Y	Y																			Y	Accident	
5/9/2018	49	Female	White	SOUTHBRIDGE	NEW HAV	CT	WATERBURY	NEW HAV	Hospital		Drug abuse	In Vehicle					Multidrug Toxicity Including Et Y																					Y	Accident	
9/14/2015	40	Male	Black	NEW HAV	NEW HAV	CT	NEW HAV	NEW HAV	Hospital		Substance Unknown	NEW HAV	NEW HAV	CT			Acute Intoxication f Y	Y	Y					Y														Accident		
9/14/2015	51	Male	White	MIDDLETOWN	MIDDLESEX	CT	MIDDLETOWN	MIDDLESEX	Residence		Residence	MIDDLETOWN	MIDDLESEX	CT			Acute Intoxication ethanol, hydrocodone, and benzodiazepines							Y	Y	Y												Y	Accident	
6/28/2015	25	Female	White	DARTMOUTH	NEW HAMPSHIRE		NORWALK	FAIRFIELD	Hospital		Drug Use	Residence					Intoxication due to LY							Y														Accident		
12/7/2015	36	Male	Black	WATERBURY	NEW HAV	CT	WATERBURY	NEW HAV	Hospital		Substance Unknown	WATERBURY	NEW HAV	CT			acute Cocaine, CV disease	Y																				Accident		
1/4/2015	39	Male	White	MERIDEN	NEW HAV	Other	MERIDEN	NEW HAV	Other	Hotel/Mo	Substance Unknown	MERIDEN	NEW HAV	CT			Acute Intoxication d Y			Y	Y			Y														Accident		
8/6/2013	28	Male	White	MILFORD	NEW HAV	CT	MILFORD	NEW HAV	Residence		Residence						Acute Intoxication d Y								Y	Y												Y	Accident	
2/21/2018	35	Female	White	BRISTOL	HARTFORD		BRISTOL	HARTFORD	Residence		Substance Unknown						Acute Cocaine and f Y	Y																				Y	Accident	
7/11/2016	34	Male	White	GUILDFORD	NEW HAV	CT	NEW HAV	NEW HAV	Hospital		Toxic effects	Residence	GUILDFORD	NEW HAVEN			Fentanyl Toxicity			Y																		Y	Accident	
3/1/2018	23	Male	White	SOMERS	TOLLAND	CT	SOMERS		Residence		Substance Unknown	SOMERS					Acute Fentanyl and f Y			Y																		Y	Accident	
4/22/2014	39	Male	White	WALLINGT	NEW HAV	CT	MERIDEN	NEW HAV	Hospital		Took med	Residence	WALLINGT	NEW HAVEN			Acute Intoxication due to the Combined Effects of Methadone, Buprenorphine, and Y																					Y	Accident	
2/7/2015	49	Female	Hispanic, White	STAMFORD			STAMFORD		Residence		Substance Unknown						Combined Cocaine, Methadone	Y								Y	Y											Y	Accident	
9/5/2016	30	Male	White	BALTIMORE	NEW LONDON	CT	BALTIMORE		Other	Friend's H	Substance Other	BALTIMORE					Acute Intoxication fr Y										Y											Y	Accident	
9/22/2018	67	Female	White	LITCHFIELD			HARTFORD	HARTFORD	Hospital		Ingestion	Residence					Intoxication due to the combined effects of Diazepam, Oxazepam, Temazepam, Carisoprodol, and Tramadol	Y											Y									Accident		
5/20/2012	36	Male	Hispanic, White	MIDDLETOWN	MIDDLESEX	CT	NEW BRIT	HARTFORD	Hospital		Drug Use	Residence	NEW BRIT	HARTFORD			Acute Intoxication Combined Effects of O Y			Y																		Y	Accident	
11/7/2016	43	Male	White	RIDGEFIELD	FAIRFIELD	CT	RIDGEFIELD	FAIRFIELD	Residence		Used Met	Residence					Methadone and Ethanol Toxicities											Y										Y	Accident	
8/13/2015	25	Male	White	EASTON	FAIRFIELD	CT	NEW HAVEN		Other	Outside	Drug Use	Other, OH	NEW HAVEN				Acute Intoxication C Y		Y		Y			Y														Y	Accident	
8/13/2015	25	Male	White	DERBY	NEW HAV	CT	DERBY	NEW HAV	Other		Public Park						Acute Combined Oxycodone, Benzodiazepine, Mirtazapine, D Y							Y		Y												Y	Accident	



Introduction

- The objective of the study is to analyze, understand, and predict the type of drugs that cause and will cause the most accidental deaths by making use of the data collected from the state of Connecticut

Main Work

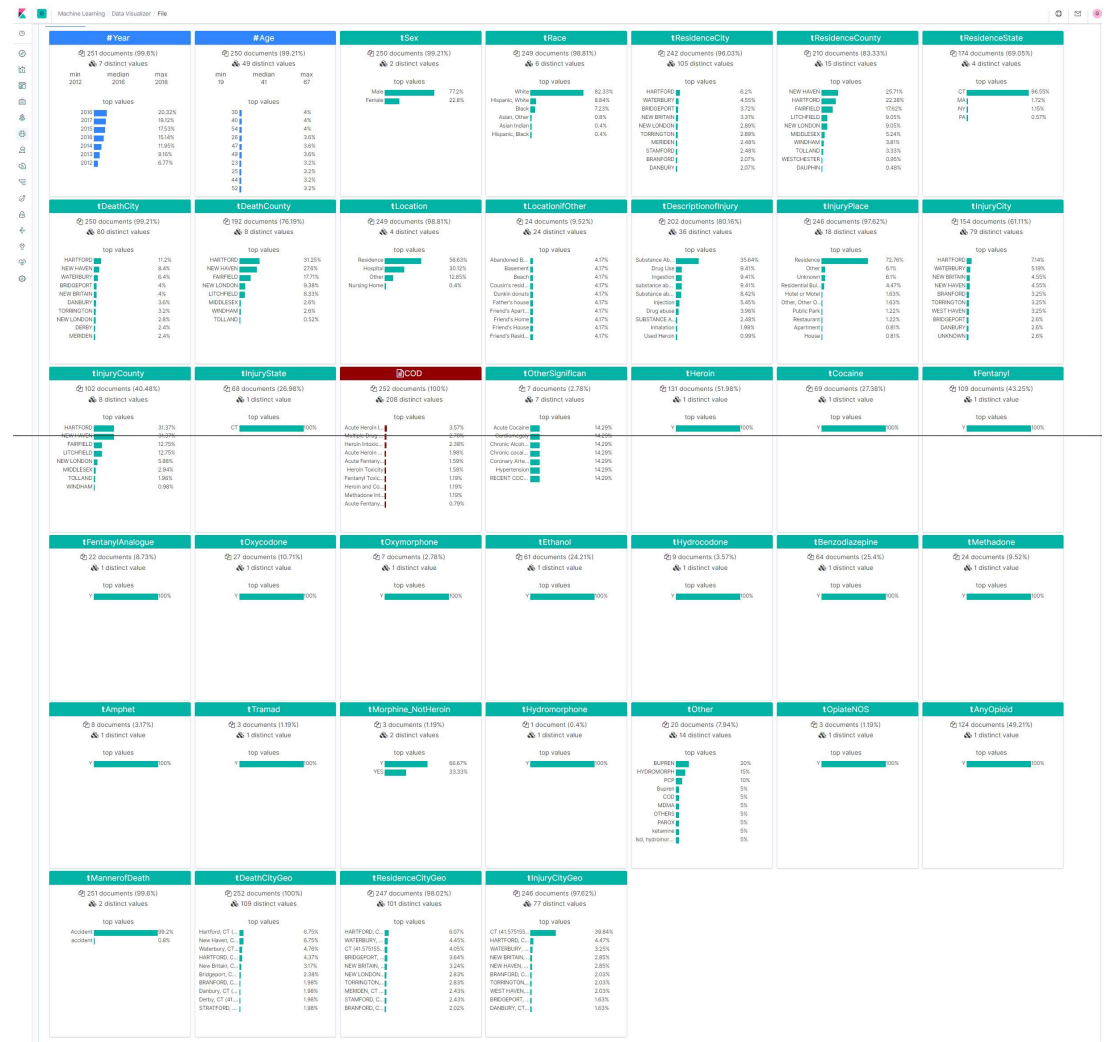
- Using Elastic Cloud and Kibana we created visualization of the content of the data, that allow us to see and compare some of the important information that is being convey. The data contain information about the people that die due to drug overdose.



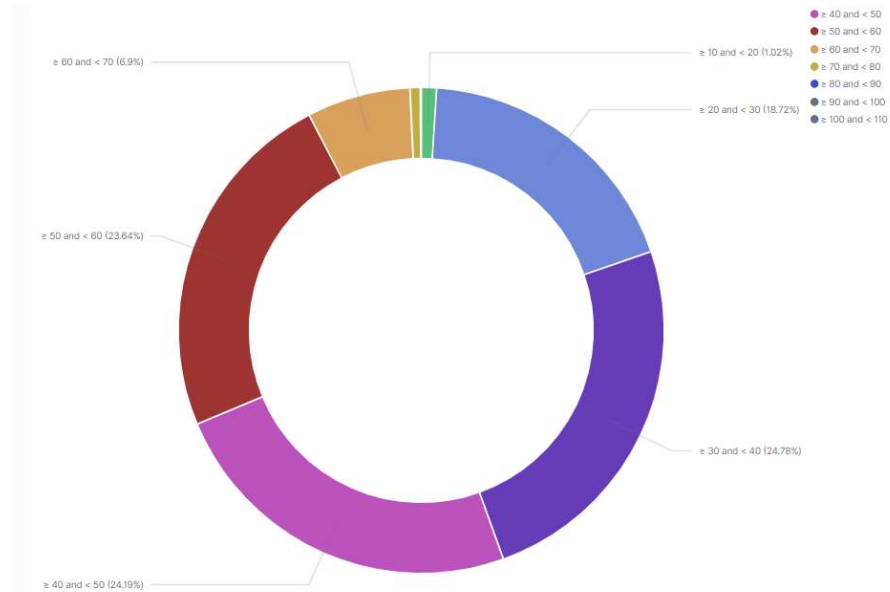
Azure Machine Learning

Elastic/Kibana

- Using elastic we can visualize graphs of data in a visual manner which allow to understand the information that is collected in a more simplistic manner.

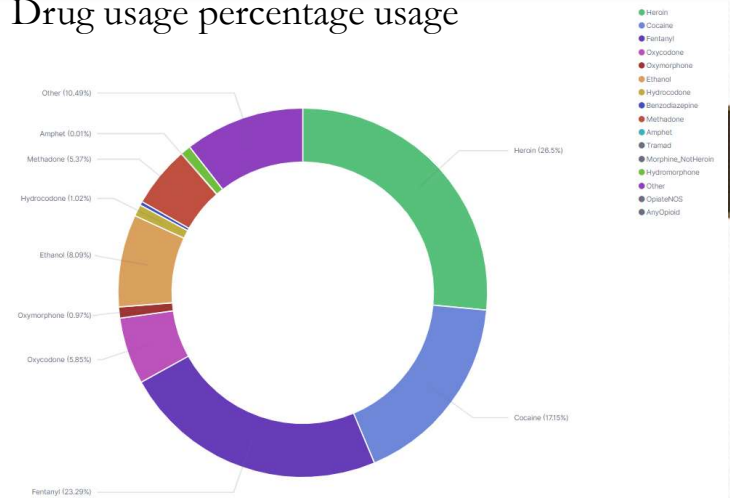


Visuals



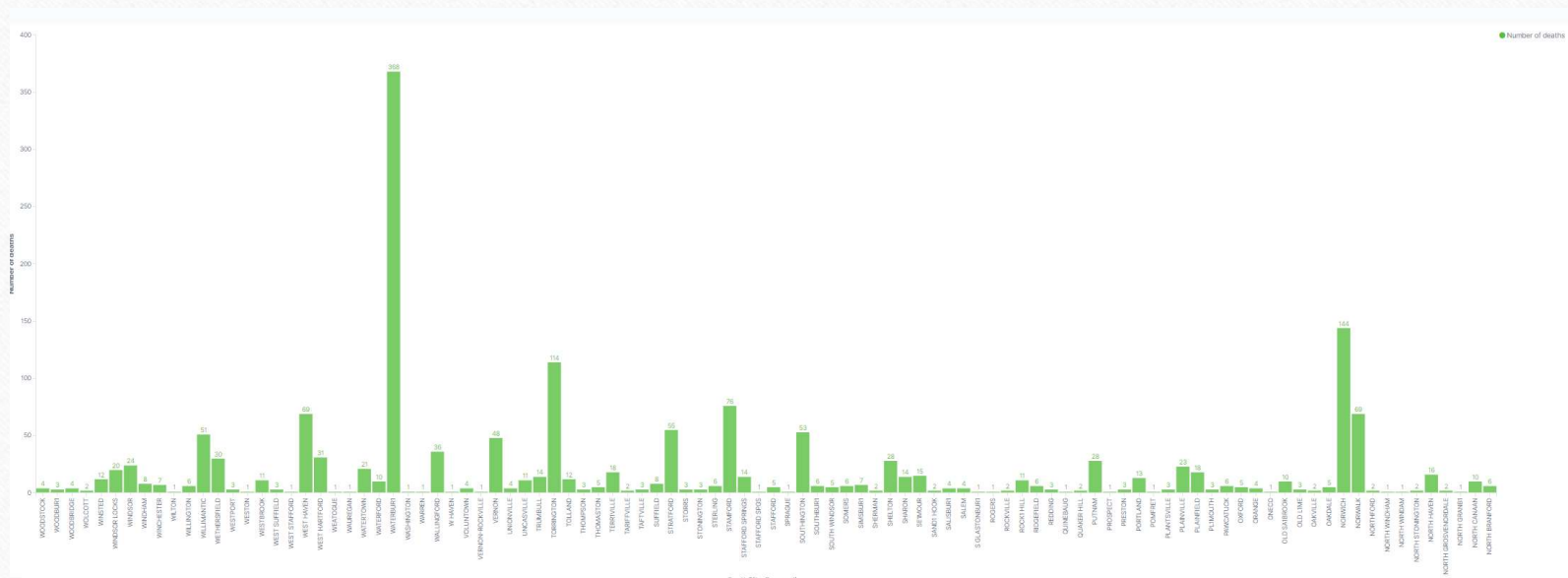
Average age range of overdose deaths

Drug usage percentage usage



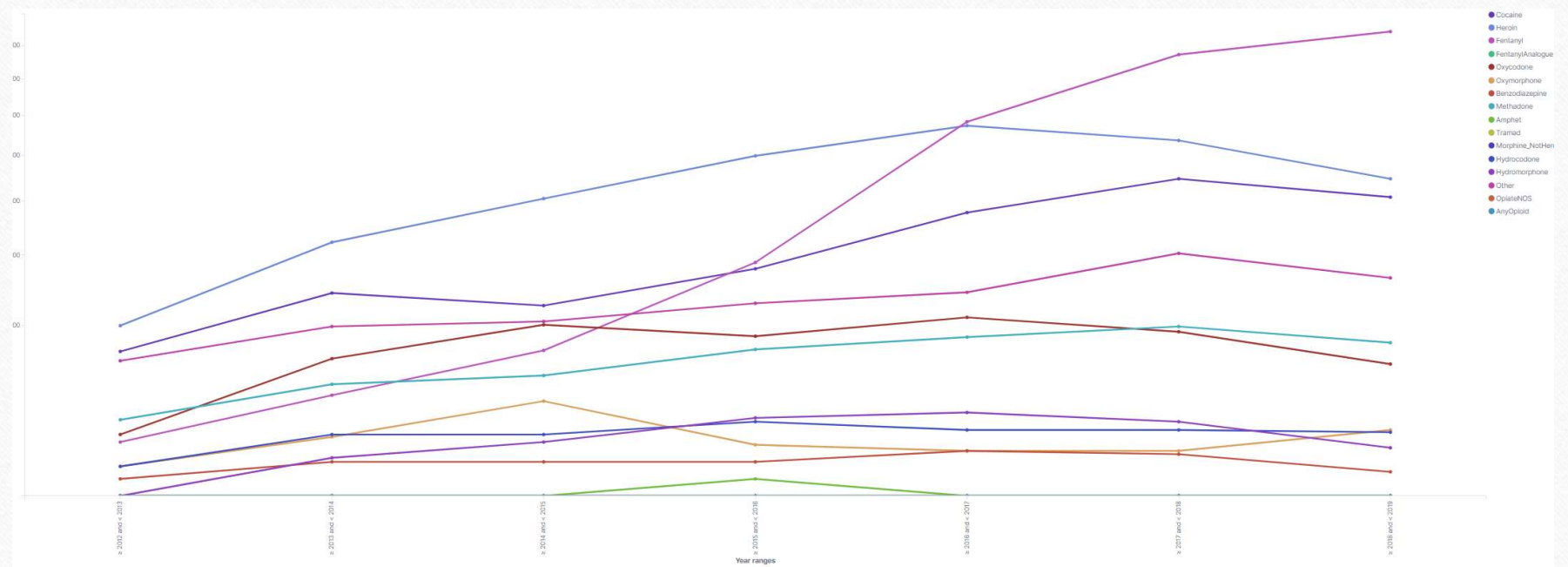
Visuals

Number of death per city on Connecticut

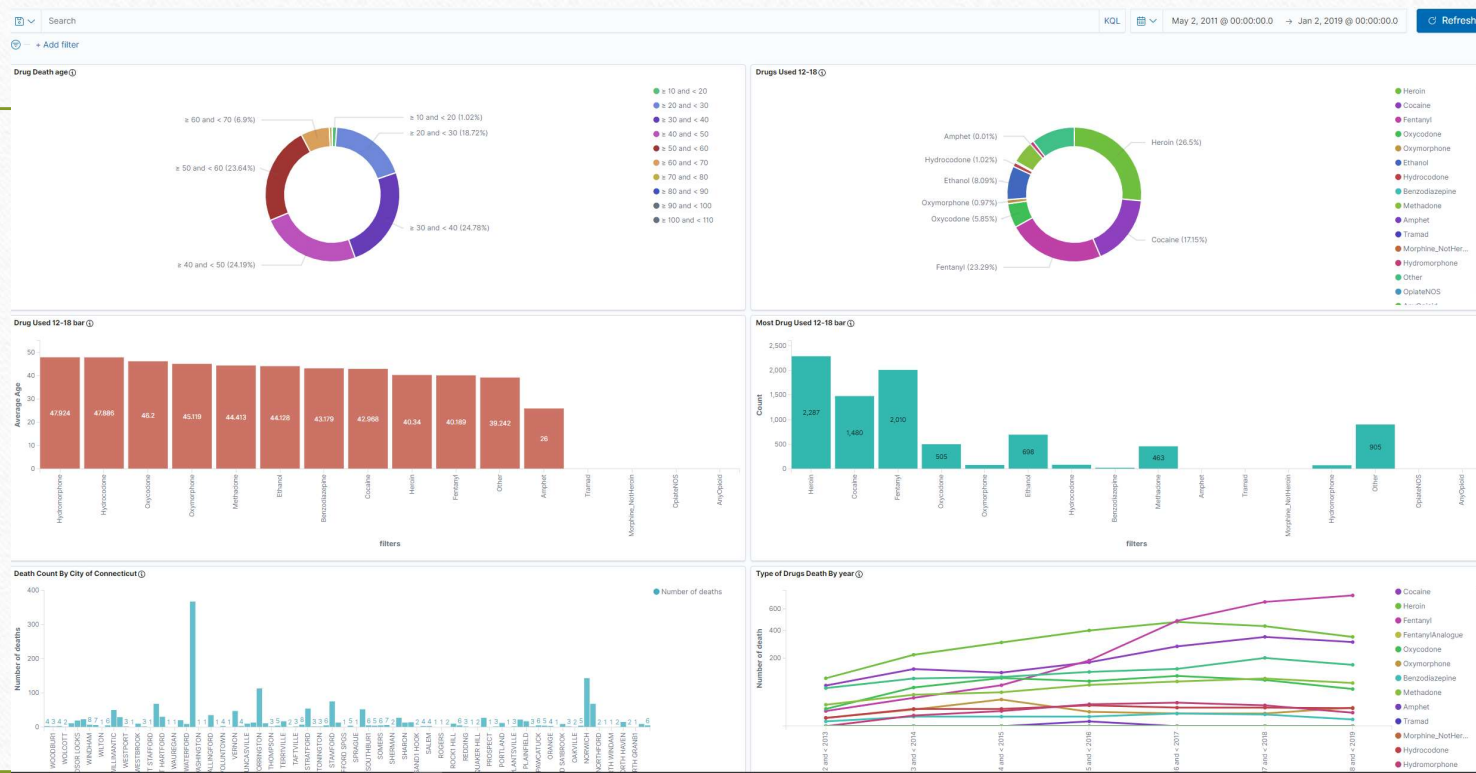


Visuals

Increase and decrease of drugs usage from 2012-2018



Dashboard



Azure Implementations

- In Azure we made use of Linear Regression which is type of regression analysis where the number of independent variables is one and there is a linear relationship between the independent and dependent variable. Decision tree model is very good at handling tabular data with numerical features, or categorical features with fewer than hundreds of categories.
- With it apply we scored the dataset as get the values that would represent the prediction of future. As it takes the frequency of the data list rows with similar score and indicates the likelihood of it being part of the same type.

Drug overdose death 2012-18

