

Opioid

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Introduction to Data Science
University of Nebraska Omaha
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```
## Warning: Expected 2 pieces. Additional pieces discarded in 1976 rows [1, 2,
## 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, ...].

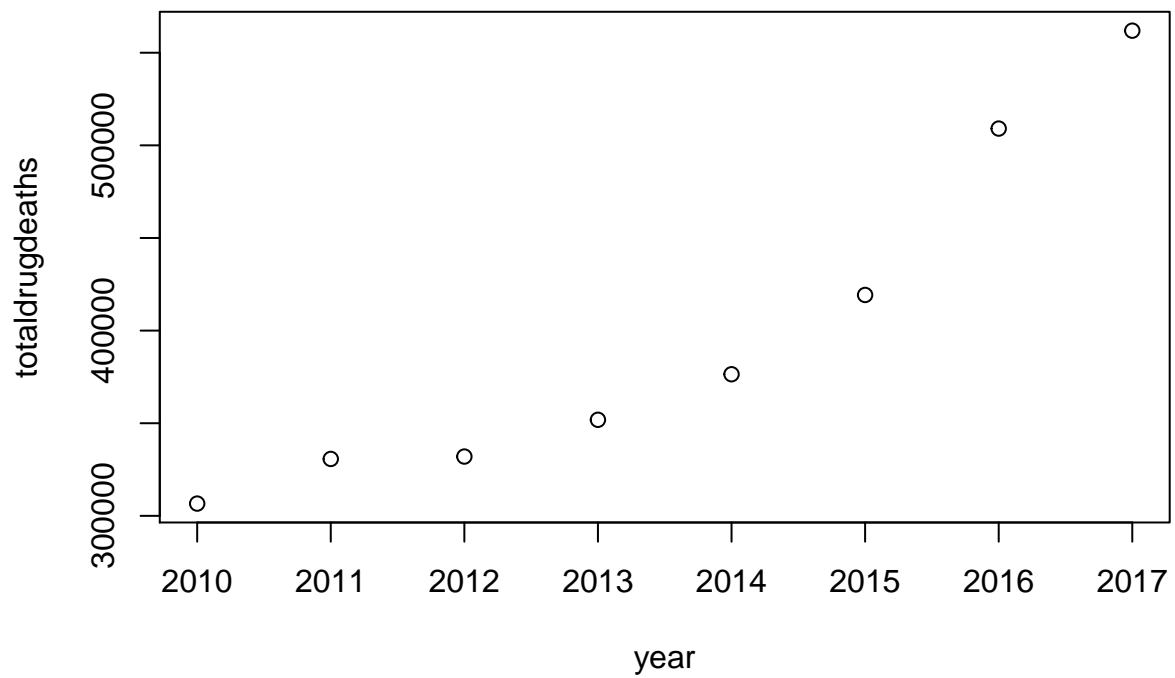
## Warning: Expected 2 pieces. Missing pieces filled with `NA` in 52 rows
## [3953, 3954, 3955, 3956, 3957, 3958, 3959, 3960, 3961, 3962, 3963, 3964,
## 3965, 3966, 3967, 3968, 3969, 3970, 3971, 3972, ...].

## Warning in function_list[[k]](value): NAs introduced by coercion

## Warning: NAs introduced by coercion
```

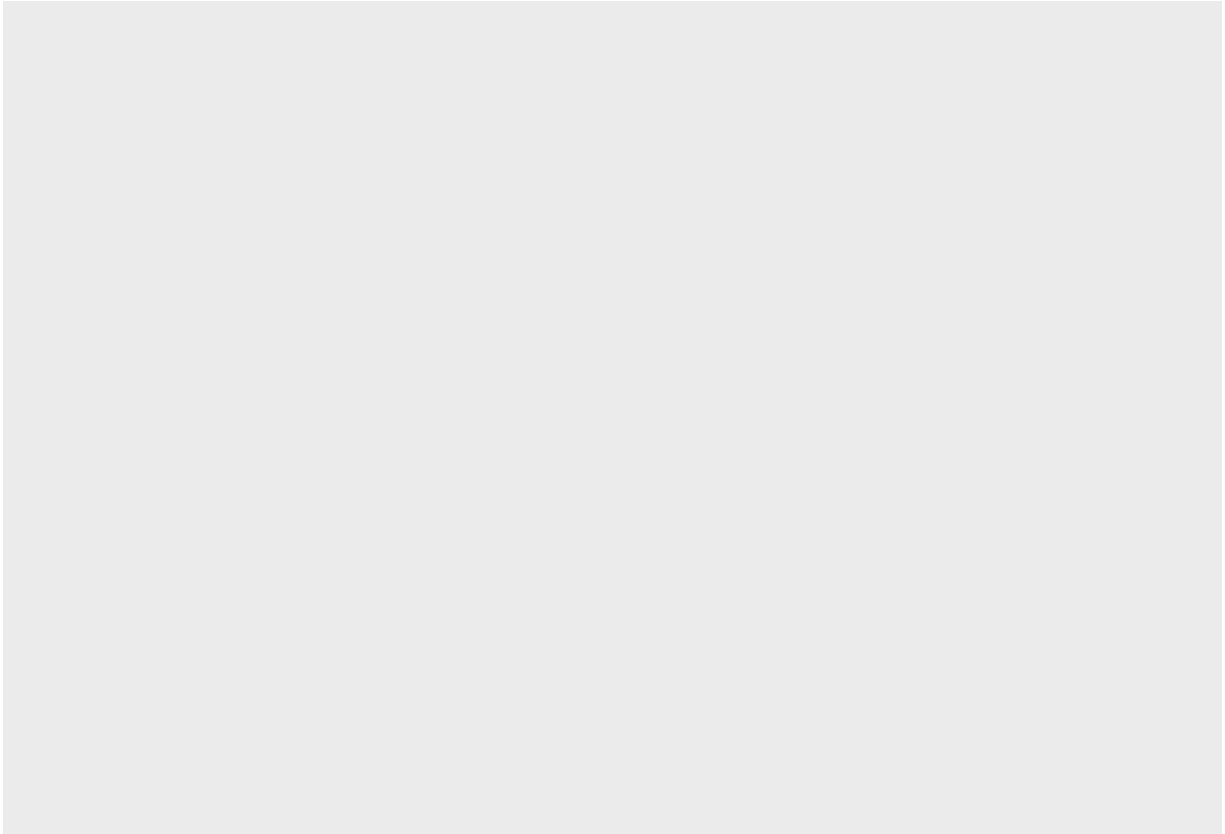
stateDat over the year-totaldrugdeaths plot

```
##      state year      drug drugspecificoverdoses overalldeathsper100k
## 2  alabama 1999  Natural                10                NA
## 54 alabama 1999 Synthetic                10                NA
## 106 alabama 1999 Methadone               16                NA
## 158 alabama 1999   Heroin                NA                NA
## 210 alabama 2000  Natural                26                NA
## 262 alabama 2000 Synthetic               11                NA
##      totaldrugdeaths rxrateper100 percentprabusers12andolder population
## 2                  NA              NA                      NA        NA
## 54                  NA              NA                      NA        NA
## 106                 NA              NA                      NA        NA
## 158                 NA              NA                      NA        NA
## 210                 NA              NA                      NA        NA
## 262                 NA              NA                      NA        NA
```

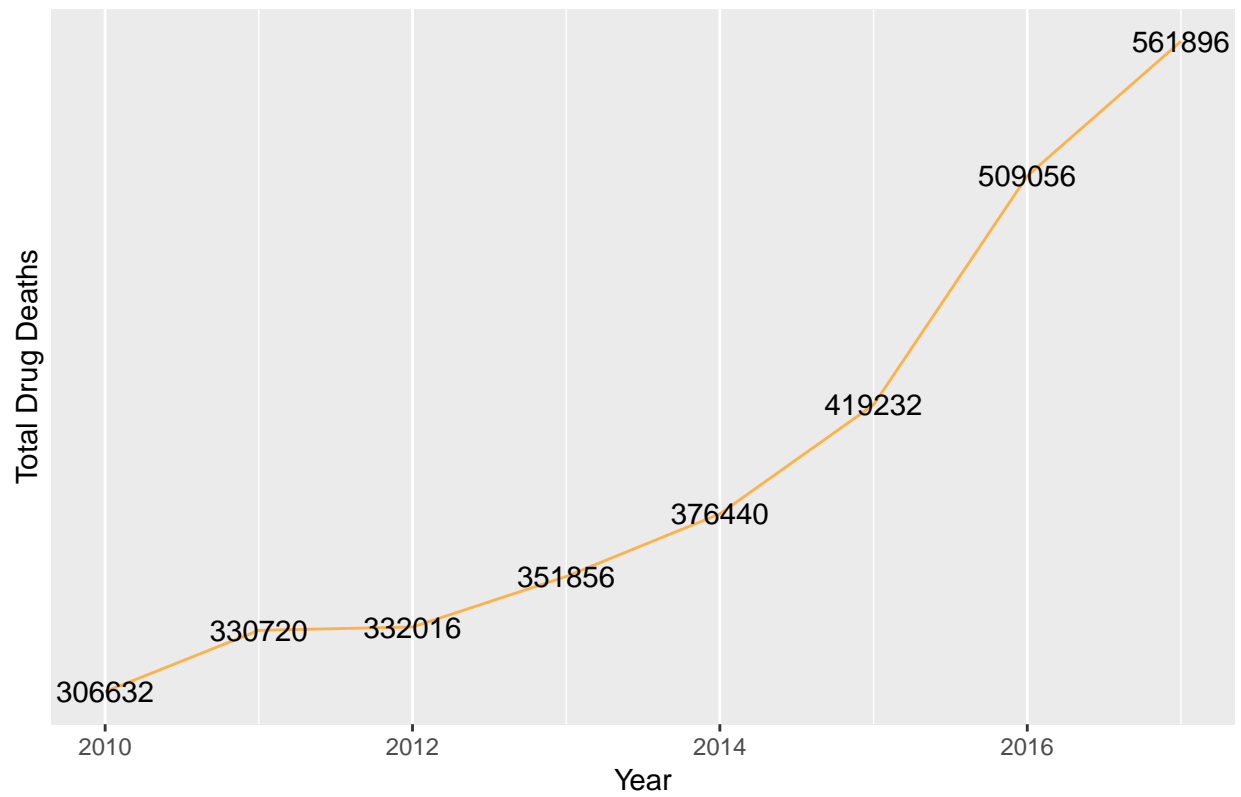


```
##   year totaldrugdeaths
## 1 2010          306632
## 2 2011          330720
## 3 2012          332016
## 4 2013          351856
## 5 2014          376440
## 6 2015          419232
```

```
##   year totaldrugdeaths
## 3 2012          332016
## 4 2013          351856
## 5 2014          376440
## 6 2015          419232
## 7 2016          509056
## 8 2017          561896
```



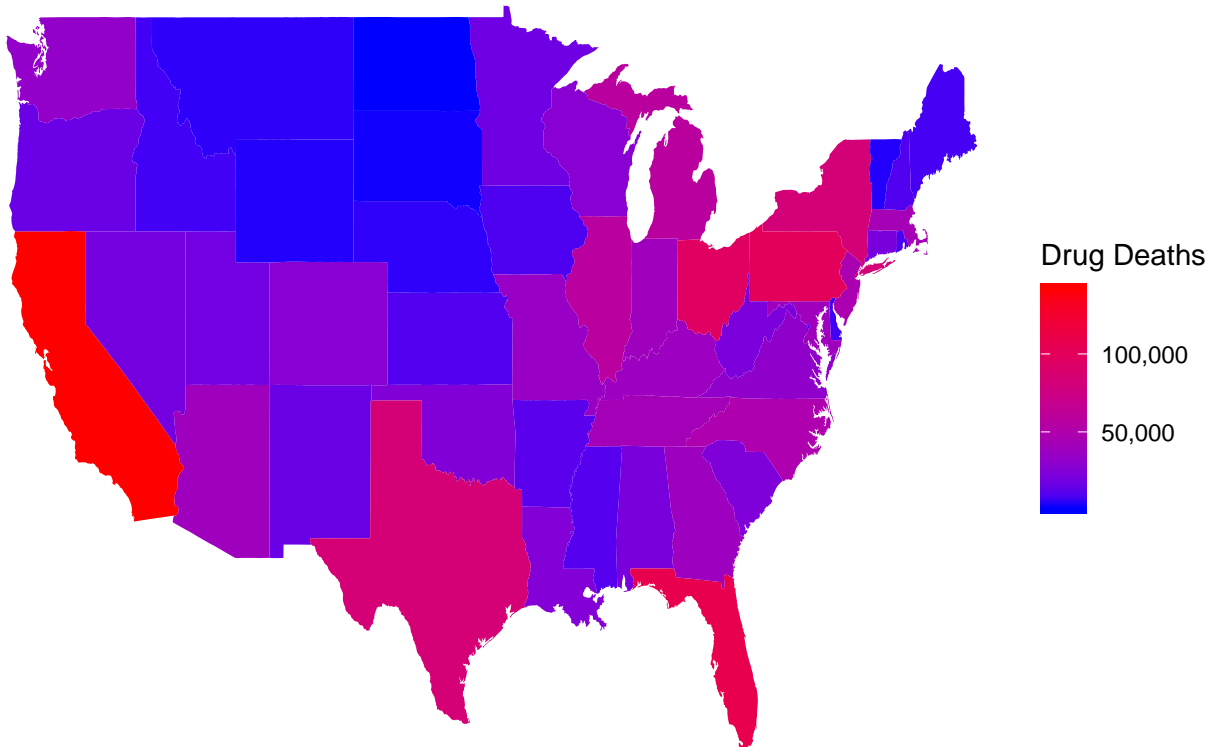
Opioid-related drug deaths in the United States are increasing year by year



Us Map each states:

Warning: Ignoring unknown aesthetics: State

Total Drug Deaths 2010–2017



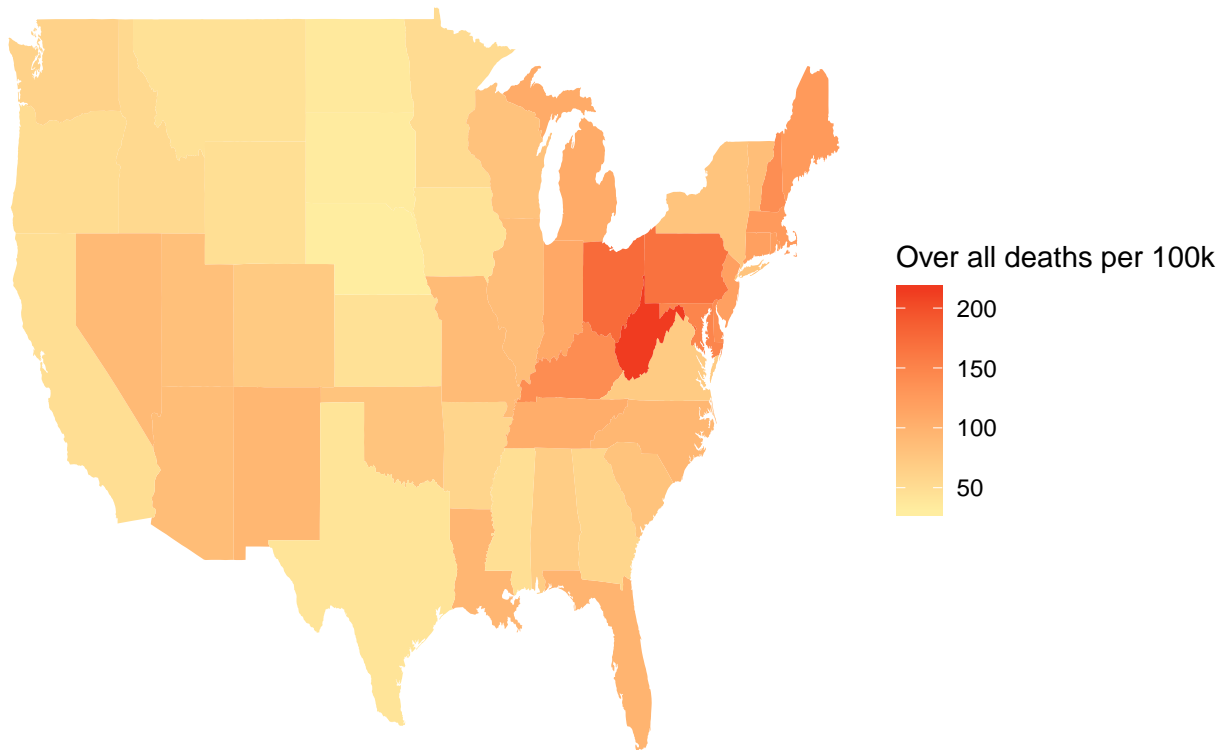
```
##      state overalldeathsper100k
## 1 alabama          17.1
## 2 alabama          17.1
## 3 alabama          17.1
## 4 alabama          17.1
## 5 alaska           19.9
## 6 alaska           19.9
```

```
##      state overalldeathsper100k
## 1 alabama          68.4
## 2 alaska           79.6
## 3 arizona          87.2
## 4 arkansas         59.2
## 5 california       49.2
## 6 colorado         72.4
```

```
##      state overalldeathsper100k
## 1 alabama          68.4
## 2 alaska           79.6
## 3 arizona          87.2
## 4 arkansas         59.2
## 5 california       49.2
## 6 colorado         72.4
```

Warning: Ignoring unknown aesthetics: State

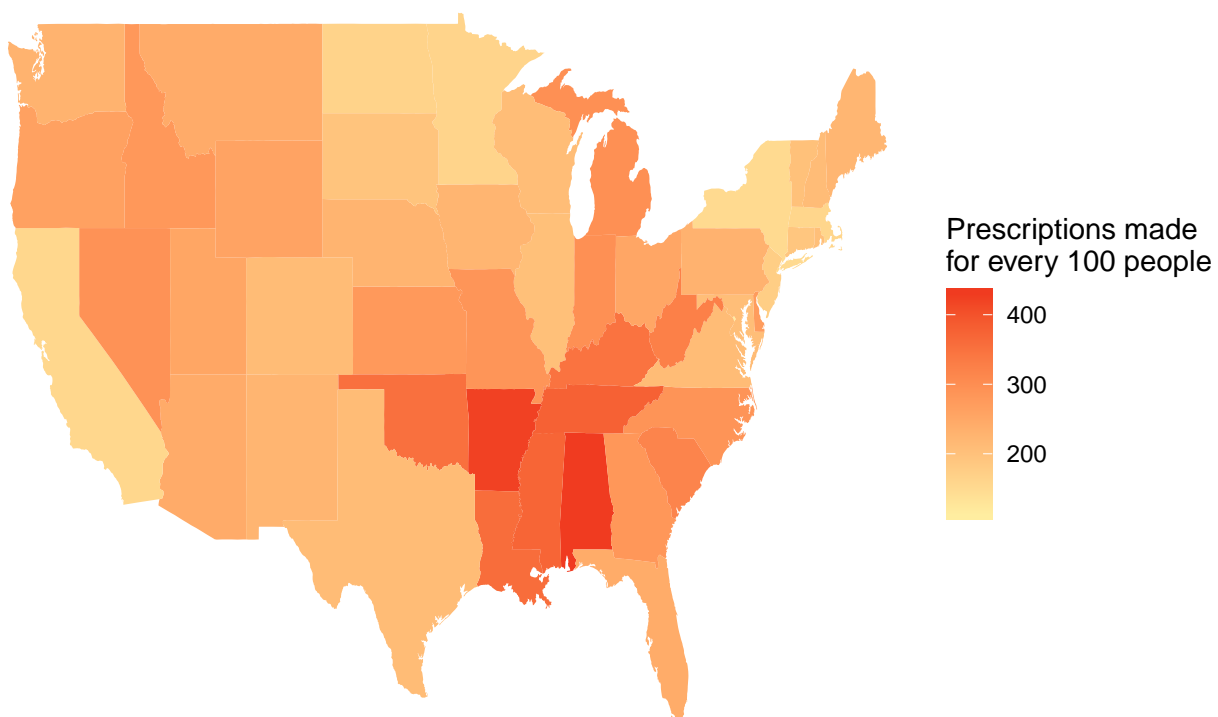
Opioid-related drug deaths in the United States in 2017



```
##      state year      drug drugspecificoverdoses overalldeathsper100k
## 1 alabama 2017  Natural          141             17.1
## 2 alabama 2017 Synthetic          198             17.1
## 3 alabama 2017 Methadone           30             17.1
## 4 alabama 2017   Heroin          125             17.1
## 5 alaska 2017   Natural           47             19.9
## 6 alaska 2017 Synthetic           37             19.9
##  totaldrugdeaths rxrateper100 percentprabusers12andolder population
## 1              835      107.2                NA      4874747
## 2              835      107.2                NA      4874747
## 3              835      107.2                NA      4874747
## 4              835      107.2                NA      4874747
## 5              147       52.0                NA      739795
## 6              147       52.0                NA      739795

## Warning: Ignoring unknown aesthetics: State
```

Opioid-related drug prescriptions made for every 100 people in the United States



```
## Warning in region == c("alabama", "mississippi", "arkansas", "louisiana", :  
## longer object length is not a multiple of shorter object length  
## Warning: Ignoring unknown aesthetics: State
```

Alabama and Arkansas have the highest rates
of opioid prescriptions in the United States in 2017

