# Project 1: Wrangling, Exploration, Visualization

#### SDS322E

## Data Wrangling, Exploration, Visualization

Alex Kim UT Eid: ak37642

**Introduction** Paragraph or two introducing your datasets and variables, why they are interesting to you, etc.

I chose the bad\_drivers dataset from the fivethirtyeight package and the county health ratings from Countyhealthratings.org (under the Rankings data and document page). I wanted to look at these datasets because I am very big on keeping up with the news. One thing that I always see are news articles on drunk driving, speeding, or just not paying attention lead to people losing their lives due to these accidents. I know that these are just a few factors; therefore, I wanted to bring in the County health rankings data because the data provides more insight into the health aspect of these various counties in each state of the United States.

Some of the variables in my first dataset of "bad\_drivers" include number of drivers involved in fatal collisions, percentage of those speeding, alcohol-impaired, not distracted, no prior accidents before this collision, cost of car insurance, and losses experienced by insurance companies across all 50 states. Furthermore, some of the variables for my second dataset of "County\_Health\_Rankings" include life expectancy, deaths, percent of ethnicities, number of people insured, and more across counties in the 50 states in the United States.I would expect to see that if there were more traffic accidents the location and how populated the state is, could impact the number of traffic fatalities. Furthermore, if there was an increase in the number of people uninsured, this could influence how the insurance premium will come out to be.

```
# Joining the datasets
joineddata <- full_join(data1, data2, by = c(state = "State"))

# Finding which is missing from each dataset
not_in_data1 <- anti_join(data1, data2, by = c(state = "State"))
not_in_data2 <- anti_join(data2, data1, by = c(State = "state"))</pre>
```

Joining/Merging I combined both of my datasets by the common variable of "states." To do this, I utilized the full\_join function to retain all of my rows, which is why there was 3,193 rows, one row for each county in each state. Furthermore, the two datasets were joined by the common ID of "state." When fully joined, there were 3,193 rows with 72 columns. Before the full join, the bad\_drivers dataset had 51 rows of the 50 states in the U.S. as well as D.C. with 8 variables. Also before the join, the County health ratings data had 3,193 rows, for each county in the each state of the U.S. along with 65 variables. There were 51 unique

IDs, or states, for both the bad\_drivers and county health rating datasets. Since both had only unique IDs of the 51 states, there were no IDs that were different from each other in both datasets. Since both datasets were joined by the common function of states, all 50 states in the United States including D.C. were included in both datasets. No observations were dropped and were actually retained by the full join function as well as the common ID being the same for each dataset. The NAs that are located in the full join and extra columns will be tidied, which will be shown above in the tidying section.

**Tidying:** Reshaping If your datasets are tidy already, demonstrate that you can reshape data with pivot wider/longer here (e.g., untidy and then retidy). Alternatively, it may be easier to wait until the wrangling section so you can reshape your summary statistics. Note here if you are going to do this.

```
# your tidying code (if applicable; can also wait until
# wrangling section)
clean_joineddata <- joineddata %>% select(state, num_drivers,
    perc_alcohol, insurance_premiums, County, `Life Expectancy`,
    `# Deaths`, `% Frequent Physical Distress`, `# Uninsured`,
`Median Household Income`, `Homicide Rate`, `# Asian`, `# American Indian & Alaska Native`,
    "# Native Hawaiian/Other Pacific Islander", "# Hispanic",
    `# Black`, `# Non-Hispanic White`, `% Rural`)
clean_joineddata <- clean_joineddata %>% rename(DriverDeaths = num_drivers,
    AlcoholRelated = perc alcohol, LE = `Life Expectancy`, Deaths = `# Deaths`,
    PhysicalDistress = `% Frequent Physical Distress`, Uninsured = `# Uninsured`,
    HouseholdIncome = 'Median Household Income', Homicide = 'Homicide Rate',
    Asian = `# Asian`, AmericanIndianAlaskaNative = `# American Indian & Alaska Native`,
    PacificIslander = `# Native Hawaiian/Other Pacific Islander`,
    Hispanic = `# Hispanic`, Black = `# Black`, White = `# Non-Hispanic White`,
    PercRural = `% Rural`, Premiums = insurance_premiums)
clean_joineddata <- clean_joineddata %>% group_by(state) %>%
    summarize_at(c("LE", "Deaths", "DriverDeaths", "AlcoholRelated",
        "PhysicalDistress", "Uninsured", "HouseholdIncome", "Homicide",
        "PercRural", "Premiums", "Asian", "AmericanIndianAlaskaNative",
        "PacificIslander", "Hispanic", "Black", "White"), .funs = list(mean = mean))
clean_joineddata2 <- clean_joineddata %>% pivot_longer(-1) %>%
    separate(name, into = c("name", "stat")) %>% pivot wider(names from = "name",
    values_from = "value") %>% select(-stat) %>% mutate(Rural = ifelse(PercRural >
    50, "yes", "no"))
```

Since there were so many different variables, I wanted to just select 10 different unique variables and then variables of different ethnicities. I wanted to untidy and tidy my data first before I started on the wrangling portion, and I just wanted to clean up the names before moving on. In this case, I had to first select the columns I wanted and then remove the extraneous ones like percent of the population over 65, graduation rate, GPA, child mortality rate, infant mortality, etc. There were over 72 columns with the data joined. With this, I made a cleaner version of the joineddata (clean\_joineddata). I then wanted to just make to create a new categorical variable of whether one state would be considered rural or not. Since the variable Rural was in percentages, I mutated the variable with the ifelse function to say that if the average 'PercRural' was greater than 50%, then we can say that it is considered rural. If not, then it wasn't considered rural. I then renamed all of the columns because I was having difficulty when it came to tidying the data with the special characters like %, \_\_, and # signs. I then used the pivot\_longer and pivot\_wider functions to show that I know how to tidy. Since here were so many repeats of states because of the various counties, I went ahead and actually made new columns using pivot\_longer and pivot\_wider to reshape my data to show the averages across the states instead. With these, I found the means of each state with my numeric

variables, including one where I mutated the function '% Rural' to give me a yes if the percentage of rural areas was greater than 50%, and no if otherwise. Through this, I was able to get better visualizations of my data because the plots looked really messy otherwise.

```
# Counting NAs
clean_joineddata2 %>% summarize_all(function(x) sum(is.na(x)))
```

#### Wrangling

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## # A tibble: 1 x 18
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## 1
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## # ... with 11 more variables: HouseholdIncome <int>, Homicide <int>,
       PercRural <int>, Premiums <int>, Asian <int>,
       AmericanIndianAlaskaNative <int>, PacificIslander <int>, Hispanic <int>,
## #
       Black <int>, White <int>, Rural <int>
```

When I used the summary function, I found that there was 17 NAs in Life Expectancy, 14 NAs in Deaths, 48 NAs in homicide rates, 2 NAs in percent of counties that are rural, 1 NA in number of people uninsured and median household income, 0 NAs in state, Driver fatalities, Alcohol related traffic fatalities, physical distress, insurance premiums, number of Asians, American Indian & Alaska Native, Pacific Islander, Hispanic, Black, and White.

First, I wanted to create a new variable that would tell us the percentage of many people of color make up the population in each state. To do this, I utilized the mutate function to sum up BIPOC populations, dividing it by the sum of the "BIPOC" populations and "White" populations, and then multiplying by 100. This gave me the percentage of BIPOC in each state within the U.S. I then utilized mutate again and the ifelse function to tell me if these states were considered diverse. If their percentages were greater than 50% then I considered it as high.

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Idaho meah 5.3	29	641.9NaN NaN 13.00001248.488955.7NaN 60.75B231.6D883.1111 175.28889199.668.7364812.31
Idaho sd NA	NA	NA
Idaho max15.3	29	641.96 13.00000248.4 <b>889</b> 55.73 - 60.75 <b>B23</b> 1.6 <b>D38</b> 3.1111 175.288 <b>B9</b> 199. <b>663</b> .73 <b>G3</b> 812.31
T11 : 1F0	90	Inf Inf
Idaho min15.3 Idaho n 1.0	29	641.9fif Inf 13.0000D248.4 <b>889</b> 55.7fhf 60.75 <b>B23</b> 31.6 <b>D38</b> 3.1111 175.288 <b>B9</b> 199. <b>663</b> .73 <b>3</b> 4812.31 1.00 0.000 <b>0</b> 000001.00001.00001.000 0.000 <b>0</b> 000000000000001.00001.000 1.00001.000
Idaho n 1.0 Illinois meah 2.8	$\frac{1}{34}$	1.00 0.000 <b>0</b> 00001.00001.00001.00 0.000 <b>0</b> 0000000000 1.0000 1.00001.00 1.00001.00 803.177.99 <b>280</b> 0.6 <b>02</b> .45631927.2 <b>539</b> 44.7 <b>N</b> aN 50.706 <b>8</b> 518.2 <b>52</b> 4.0194 162.815 <b>43</b> 104. <b>305</b> 29. <b>9</b> 69 <b>5</b> 66.04
Illinois sd NA	NA	NA N
Illinois max12.8	34	803.177.99 <b>280</b> 0.60 <b>2.</b> 95631927.2 <b>599</b> 44.76 - 50.706 <b>8</b> 518.2 <b>52</b> 4.0194 162.815 <b>53</b> 104. <b>305</b> 29.2 <b>9</b> 69.566.04
minois maxi2.0	94	Inf
Illinois min12.8	34	803.177.99 <b>220</b> 0.6 <b>D2.9</b> 563 <b>I</b> 1927.2 <b>539</b> 44.7 <b>I</b> nf 50.70 <b>68D</b> 18. <b>2524</b> .0194 162.815 <b>53</b> 104. <b>305</b> 29. <b>9492</b> 66.04
Illinois n 1.0	1	1.00 1.000D@0001.00001.00001.00 0.000D@00D@000 1.0000 1.00001.000 1.00001.00
Indiana meah 1.5	29	710.476.99 <b>1788</b> 3.46 <b>2.4</b> 2043 <b>2</b> 286.7 <b>595</b> 735.4 <b>N</b> aN 54.16 <b>3752</b> 8.0 <b>649</b> .4624 97.612900523 <b>.1728</b> 79.0 <b>823</b> 26.49
Indiana sd NA	NA	NA
Indiana max14.5	29	710.4 <b>7</b> 6.99 <b>7383</b> .4 <b>62.4</b> 043 <b>2</b> 286.7 <b>537</b> 35.41 - 54.16 <b>3752</b> 8.0 <b>649</b> .4624 97.612900523 <b>.728</b> 79.0 <b>825</b> 26.49
		$\operatorname{Inf}$
Indiana min14.5	29	710.4 <b>7</b> 6.99 <b>7\$\$</b> 3.4 <b>62</b> . <b>2</b> 043 <b>2</b> 286.7 <b>597</b> 35.4 <b>I</b> lnf 54.16 <b>3</b> 7 <b>52</b> 8.0 <b>649</b> .4624 97.6129 <b>1</b> 0523. <b>728</b> 79.0 <b>823</b> 26.49
Indiana n 1.0	1	1.00 1.000 <b>0</b> 00001.00001.00001.00 0.000 <b>0</b> 00 <b>0</b> 0000 1.0000 1.00001.000 1.00001.00
Iowa meah 5.7	25	649.0 <b>7</b> 9.13 <b>700</b> 5.5800.2400408.28 <b>59</b> 755.5 <b>N</b> aN 61.06 <b>9682.3340</b> .2000 96.0800 <b>8</b> 971.0 <b>29</b> 47.7 <b>536</b> 53.92
Iowa sd NA	NA	NA
Iowa maxl 5.7	25	649.0 <b>7</b> 9.13 <b>700</b> 5.58 <b>0</b> 0.2400 <b>4</b> 08.28 <b>59</b> 755.50 - 61.06 <b>9</b> 6 <b>8</b> 2.3 <b>840</b> .2000 96.0800 <b>8</b> 971.0 <b>20</b> 47.7 <b>536</b> 53.92 Inf
Iowa min15.7	25	649.0 <b>7</b> 9.13 <b>7</b> 0 <b>5</b> .5800.2400 <b>4</b> 08.28 <b>59</b> 755.5Inf 61.06 <b>968</b> 2.3 <b>84</b> 0.2000 96.0800 <b>8</b> 971.0 <b>20</b> 47.7 <b>536</b> 53.92
Iowa n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @00 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Kansas meah7.8	24	780.4NaN NaN 12.0943485.4154039.0NaN 66.5017592.1662.5660 69.56604718.337857.0475450.25
Kansas sd NA	NA	NA
Kansas maxl7.8	24	$780.45 - \qquad - \qquad 12.0943485.4151039.05 - \qquad 66.5017892.1662.5660 \qquad 69.56604718.33857.045450.25$
		$\operatorname{Inf}  \operatorname{Inf} $

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Kansas min17.8	24	780.4Inf Inf 12.0943485.4154039.0Inf 66.5011892.1662.5660 69.56604718.33857.045450.25
Kansas n 1.0	1	1.00 0.000 <b>0</b> 00001.00001.00001.00 0.000 <b>0</b> 0 <b>0</b> 00 <b>0</b> 000 1.0000 1.00001.000 1.00001.00
Kentuckmea 21.4	23	872.5 <b>7</b> 4.63 <b>B20</b> 8.7 <b>7</b> 6. <b>2</b> 479 <b>6</b> 39.83 <b>4</b> 7490.4 <b>N</b> aN 71.4000 <b>0</b> 1.8 <b>22B</b> .5537 69.2892 <b>2</b> 887.7 <b>60</b> 280.9 <b>72</b> 239.88
Kentuckyd NA	NA	NA
Kentuckmax21.4	23	872.5 <b>7</b> 4.63 <b>B26</b> 8.7 <b>7</b> 6 <b>.2</b> 479 <b>6</b> 39.83 <b>47</b> 490.40 - 71.4000 <b>6</b> 1.8 <b>2</b> 4 <b>B</b> .5537 69.2892 <b>6</b> 87.7 <b>62</b> 80.9 <b>72</b> 239.88
110110 01011,11011 = 11 1		Inf
Kentuckynin21.4	23	872.5 <b>7</b> 4.63 <b>8208</b> 8.7 <b>76</b> 2 <b>9</b> 479 <b>6</b> 39.83 <b>47</b> 490.4 <b>D</b> nf 71.4000 <b>0</b> 1.8 <b>2</b> 2 <b>1</b> 8.5537 69.2892 <b>2</b> 887.7 <b>60</b> 280.9 <b>62</b> 239.88
Kentucky 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @00 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Louisianmea 20.5	33	1281. <b>75</b> .54 <b>2228</b> .4 <b>8083</b> 0 <b>77</b> 148.0 <b>3882</b> 6.6 <b>N</b> aN 50.71 <b>239</b> 0.5 <b>2B2</b> 6.0308 87.815 <b>38</b> 599.1 <b>38</b> 184. <b>8384</b> 7.14
Louisiansd NA	NA	NA
Louisianmax20.5	33	1281. <b>75</b> .54 <b>262</b> 8.4 <b>B5</b> 8 <b>3</b> 07 <b>7</b> 148.0 <b>388</b> 26.60 - 50.71 <b>239</b> 0.5 <b>2B2</b> 6.0308 87.815 <b>38</b> 599.1 <b>36</b> 184. <b>8385</b> 7.14
Louisiaimia:20.9	00	Inf
Louisianmin20.5	33	1281.75.542628.480843077148.0480826.6Inf 50.712390.52826.0308 87.81538599.1468184.83847.14
Louisiana 1.0	1	1.00 1.000000001.00001.00001.00 0.00000000
Maine meal 5.1	30	661.888.378478.822.94118715.529490.1NaN 73.4320299.41149.0588 53.52942788.22535.7647011.41
Maine sd NA	NA	NA N
Maine max15.1	30	661.8 <b>78</b> .3 <b>78478</b> .8 <b>123.9</b> 411 <b>8</b> 715.5 <b>29</b> 490.18 - 73.43 <b>20.</b> 99.4 <b>11</b> 49.0588 53.5294 <b>2</b> 788.2 <b>25</b> 35.764 <b>7</b> 011.41
Manic maxio.i	30	Inf
Maine min15.1	30	661.888.378478.822594118715.529490.18nf 73.4320499.411489.0588 53.52942788.22535.7647011.41
Maine n 1.0	1	1.00 1.000000001.00001.00001.00 0.00000000
Marylanmeah2.5	32	1.000 1.00001.00001.00001.000 1.00001.00001.000 1.0000
*	NA	NA N
Marylansh NA Marylanshaxl2.5	32	1048. <b>78</b> .51 <b>260</b> 1.8 <b>4</b> 002000 <b>3</b> 542.5 <b>7</b> 0 <b>3</b> 016.04 - 33.73 <b>22</b> 504. <b>2340</b> 7.2000 536.400 <b>5</b> 0505. <b>764</b> 82 <b>23506</b> 2.48
Marylanmaxi2.5	32	Inf
Marylanchin12.5	32	1048. <b>78</b> .51 <b>26</b> 71.840.20003542.576316.04hf 33.73 <b>22</b> 504. <b>2340</b> 7.2000 536.40050505.7 <b>64</b> 82 <b>2.3206</b> 2.48
Maryland 1.0	1	1.00 1.000000001.00001.00001.00 0.00000000
Massachmeet 6s2	$\frac{1}{35}$	1.000 1.00001.00001.00001.000 1.00001.00001.000 1.0000
MassachsusettsA	NA	NA N
Massachusex8s2	NA 35	1011. <b>8</b> 4.44 <b>6</b> 6 <b>7</b> 9.7BB <b>3</b> 33 <b>32</b> 260.1 <b>832</b> 79.07 - 16.16 <b>66</b> 935. <b>6</b> 57 <b>0</b> .6667 988.000DB98 <b>7</b> 6 <b>7</b> 6 <b>0</b> 5 <b>4</b> .25 <b>6</b> 7 <b>4</b> 0.00
Wassaciiiisex 652	33	Inf
Massachmiet 8s2	35	1011. <b>84</b> .44 <b>667</b> 9.7BB <b>3</b> 333 <b>22</b> 60.1 <b>832</b> 79.0 <b>7</b> nf 16.16 <b>660</b> 35.4 <b>6</b> 0 <b>7</b> 0.6667 988.000DB98 <b>76700</b> 4.4 <b>2667</b> 740.00
Massachnsetts0	1	1.00 1.000D@0001.00001.00001.00 0.000D@00D@000 1.0000 1.00001.000 1.00001.00
Michiganmeah4.1	28	1110. <b>73</b> .10 <b>3008</b> .11 <b>19</b> 0.904 <b>8</b> 779.6 <b>986</b> 95.4 <b>N</b> aN 61.21 <b>8.90</b> 9.1 <b>11</b> 2 <b>9</b> 8.6905 99.6666 <b>7</b> 2576. <b>327</b> 35. <b>B877</b> 30.05
Michigans NA	NA	NA N
Michigannax14.1	28	1110. <b>78</b> .10 <b>8</b> 0 <b>9</b> 0 <b>8</b> .11 <b>19</b> 0.90 <b>4</b> 8779.6 <b>986</b> 95.44 - 61.21 <b>8.90</b> 9.11 <b>129</b> 8.6905 99.6666 <b>12</b> 576. <b>327</b> 35. <b>B8713</b> 0.05
Wilchigamian4.1	20	Inf
Michigamin14.1	28	1110. <b>73</b> .10 <b>8008</b> .1 <b>1149</b> .0904 <b>8</b> 779.6 <b>986</b> 95.4 <b>4</b> hf 61.21 <b>8.90</b> 9.1 <b>14729</b> 8.6905 99.6666 <b>17</b> 2576 <b>.327</b> 35. <b>88717</b> 30.05
Michigam 1.0	1	1.00 1.000000001.00001.00001.00 0.00000000
Minnesotaea 9.6	29	777.1 <b>8</b> 0.18 <b>068</b> 4.6 <b>59</b> .7500 <b>9</b> 97.59 <b>69</b> 448.9 <b>N</b> aN 60.94 <b>5</b> 4 <b>5</b> 7.8 <b>8</b> 7 <b>6</b> 0.8864 95.772 <b>73</b> 162.0 <b>86</b> 95.9 <b>B1</b> 8367.02
Minnesotal NA	NA	NA N
Minnesomax9.6	29	777.1 <b>8</b> 0.18 <b>0</b> 6 <b>8</b> 4.6 <b>59</b> .7750 <b>09</b> 97.59 <b>69</b> 448.90 - 60.94 <b>56</b> 4 <b>5</b> 7.8 <b>8</b> 7 <b>60</b> 0.8864 95.7727 <b>3</b> 162.0 <b>86</b> 95.9 <b>8</b> 018367.02
Willinesonax3.0	23	Inf
Minnesotain 9.6	29	777.1 <b>8</b> 0.18 <b>0</b> 6 <b>8</b> 4.6 <b>50</b> .7500 <b>0</b> 97.59 <b>6</b> 9448.9 <b>b</b> hf 60.94 <b>6</b> 447.8 <b>87</b> 60.8864 95.7727 <b>3</b> 162.0 <b>86</b> 95.9 <b>B</b> 1 <b>8</b> 367.02
Minnesona 1.0	1	1.00 1.000000001.00001.00001.00 0.00000000
Mississippieah7.6	31	896.0NaN 1242.6 <b>26.</b> 53494 <b>8</b> 13.03 <b>6</b> 1753.6 <b>N</b> aN 70.3 <b>8695</b> .954 <b>5</b> 0.7229 43.5180 <b>2</b> 412.2 <b>26</b> 834.4 <b>7</b> 439.33
Mississippean NA	NA	NA N
* *	NA 31	896.07 - 1242.62653494813.0361753.66 - 70.38675.95450.7229 43.518027412.226834.477439.33
Mississippix 17.6	91	890.07 - 1242.02053494813.03401733.00 - 70.38093.93430.7229 43.31804412.2280834.40439.33 Inf Inf
Mississippin17.6	31	896.0Taf 1242.6 <b>26</b> :5494 <b>8</b> 13.03 <b>6</b> II753.6Taf 70.38 <b>675</b> .95 <b>45</b> 0.7229 43.5180 <b>2</b> 7412.2 <b>26</b> 834.4 <b>7743</b> 9.33
Mississippi 1.0	1	1.00 0.000D@0001.00001.000 0.000D@00D@000 1.0000 1.00001.000 1.00001.00
Missourimeah6.1	34	790.3 <b>2</b> 6.76 <b>63</b> 81.3 <b>79.3</b> 310 <b>B</b> 404.4 <b>653</b> 91.3 <b>N</b> aN 66.4 <b>82292</b> 8.4 <b>623</b> .9138 169.94 <b>82</b> 832.8 <b>92</b> 7270. <b>8245</b> 0.21
Missourisd NA	NA	NA N
MISSOULISU INA	INA	NA

Missourimand 6.1	state statDrive	er <b>ADlezot</b> h	nslPvelatfæEmsDeath&PhysicalDhistanessedsehblodniPerheesusiah AmericanDestaifiestsläupatolistavk White
Missourimant   1.1	Missourimaxl6.1	34	
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Nevada	Nebraskanin14.9	35	
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Nevada	Nevada meal4.7	32	1029.87aN NaN 14.00006360.666713.187aN 47.0729296.27222.7778 2731.6690070663.6879.564681.44
Nevada	Nevada sd NA	NA	NA
Nevada	Nevada maxl4.7	32	1029.87 - 14.0000 <b>6</b> 360.6 <b>667</b> 13.17 - 47.07 <b>292</b> 96. <b>2722</b> .7778 2731.66 <b>b007</b> 06 <b>6.682</b> 9. <b>5646</b> 81.44
New			
New	Nevada min14.7	32	1029.87f Inf 14.00006360.666713.17nf 47.0729296.2722.7778 2731.6686070663.6879.564681.44
New		1	
Name	New meahl.6	30	
New	Hampshire		
New		NA	NA
New	Hampshire		
New	-	30	746.5 <b>4</b> 9.26 <b>288</b> 8.90 <b>9</b> .90909142.0 <b>703</b> 50.00 - 53.94 <b>732</b> 7.2 <b>727</b> .0000 122.181 <b>92</b> 25.2 <b>73</b> 46.1 <b>22</b> 18897.64
New	Hampshire		Inf
New	New min11.6	30	746.5 <b>4</b> 9.26 <b>288</b> 8.90 <b>9</b> .90909142.0 <b>709</b> 50.0Inf 53.94 <b>7327</b> .2 <b>727</b> .0000 122.181 <b>99</b> 25.2 <b>76</b> 46.1 <b>22</b> 18897.64
Hampstree   Figure   Hampstree   Hampstr	Hampshire		
New	New n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @ <b>0</b> 0 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
New   Star   NA   NA   NA   NA   NA   NA   NA   N	Hampshire		
New	New meahl.2	28	$1301. \\ 72. 908 \\ 325. 909 \\ 59096 980. \\ 3636 92.6 \\ \mathbf{NaN} 12.42 \\ 27619.5039. \\ 0000 \ 930. \\ 9090 \\ 58804.000014.4009 \\ 4.9099 9.55$
New   Max   1.2   28   1301.752.908325.50059096980.383692.68   12.4287619.5089.0000   930.909768804.000144.0099.55   1678   16	Jersey		
New	New sd NA	NA	NA
Series   S	Jersey		
New   min   1.2   28   1301.792.908325.909.59096980.383692.68nf   12.4287619.5989.0000   930.90968804.000144.00999.55     New   n   1.0   1   1.00   1.000000000000000000	New maxl1.2	28	$1301. \\ 72.908 \\ 325.909.5909 \\ 6980.363692.68 - 12.42 \\ 27619.5939.0000 \ 930.9090 \\ 98804.0000144.90999.55$
New   n   1.0   1   1.00   1.000   1	Jersey		$\operatorname{Inf}$
New meals.4 27 869.8NaN NaN 14.58824598.8 <b>265</b> 32.9NaN 47.67 <b>226</b> 8.8 <b>23</b> 517.2941196.529 <b>60</b> 761. <b>232</b> 8.4454848.82  Mexico  New maxl 8.4 27 869.8NaN NaN NaN NaN NaN NaN NaN NaN NaN NaN	New min11.2	28	1301. <b>72</b> .908 <b>32</b> 5.9D9. <b>5</b> 909 <b>6</b> 980.3 <b>63</b> 692.6 <b>8</b> nf 12.42 <b>876</b> 19. <b>5039</b> .0000 930.909 <b>05</b> 880 <b>4.000</b> 14 <b>.4009</b> 99.55
New   meals   4   27   869   8N a N N a N   14.58   24598   826532   9N a N   47.6722368   822517   2.941196   5.2940761   22928   4454848   82	Jersey		
New max18.4 27 869.8NaN NaN 14.58824598.826532.9NaN 47.672208.823517.2941196.52960761.2328.44548.82  Mexico New max18.4 27 869.85 14.58824598.826532.91 - 47.672208.823517.2941196.52960761.22328.44548.82  Mexico New min18.4 27 869.8 14.58824598.826532.91 - 47.672208.823517.2941196.52960761.22328.44548.82  Mexico New min18.4 27 869.8 Inf Inf 14.58824598.826532.91 47.672208.823517.2941196.52960761.22328.44548.82  Mexico New min18.4 27 869.8 Inf Inf 14.58824598.826532.91 47.672208.823517.2941196.52960761.22328.4454848.82  Mexico New min18.4 27 869.8 Inf Inf 14.58824598.826532.9 Inf 47.672208.823517.2941196.52960761.22328.4454848.82  Mexico	New n 1.0	1	1.00 1.000 <b>0</b> 00001.000001.00001.00 0.000 <b>0</b> 00 <b>0</b> 00000 1.0000 1.00001.000 1.00001.00
Mexico         New       sd       NA       NA <t< td=""><td>Jersey</td><td></td><td></td></t<>	Jersey		
New         sd         NA	New meah 8.4	27	869.8NaN NaN 14.58824598.8 <b>235</b> 32.9NaN 47.67 <b>220</b> 8.8 <b>235</b> 17.2941196.529 <b>60</b> 761. <b>2292</b> 8.445 <b>4</b> 848.82
Mexico         New       maxl 8.4       27       869.85 -	Mexico		
New Mexico         Inf Inf         Inf	New sd NA	NA	NA
Mexico         Inf         Inf         Inf           New         min18.4         27         869.8 Inf         Inf         14.5882 II 598.8 26532.9 Inf         47.672 208.8 235 17.29 4 II 96.529 00 761.2 292 8.445 4848.82           Mexico         New         n         1.0         1.00 0.00 00 00 00 00 1.00 00	Mexico		
New min18.4 27 869.8 Inf Inf 14.5882 1598.8 26532.9 Inf 47.6722 38.8 23517.294 1196.529 40.761 229 28.44 24848.82 Mexico  New n 1.0 1 1.00 0.000 0000 01.00001.00001.00 0.000 00000000	New max18.4	27	869.85 14.58824598.8 <b>265</b> 32.91 - 47.67 <b>236</b> 8.8 <b>235</b> 17.2941196.529 <b>60</b> 761 <b>2232</b> 8.4 <b>45</b> \$48.82
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Mexico		Inf Inf Inf
$ \text{New}  \text{n}  1.0   1  1.00 \ \ 0.000 \\ \textbf{000001.00001.00001.000}  0.000 \\ 00000000000000000000000000000000$	New min18.4	27	869.8fmf Inf 14.58824598.8 <b>265</b> 32.9fmf 47.67 <b>220</b> 8.8 <b>23</b> 517.2941196.529 <b>60</b> 761. <b>2292</b> 8.4454848.82
	Mexico		
	New n 1.0	1	$1.00 \ \ 0.000 \\ \textbf{0} \\ \textbf{0}$
Mexico	Mexico		

	D :	<b>3</b> 53 .11	י דו אור או די דו אור או די דו אור או די דו אור או די די דו אור אור אור אור אור אור אור אור אור או
state	statDrive	er <b>Aleat</b> n	odPudaffaEmsDeathPhysicaUnistatessdsehblodniPodaeAusiah AmericanIndizifiAlklishpalaBdzivk White
New York	meah2.3	29	1234. <b>39</b> .67 <b>666</b> 9.6 <b>82</b> 5587 <b>3</b> 278.6 <b>649</b> 62.8 <b>M</b> aN 43.78 <b>56</b> 57. <b>602</b> 3.7460 858.222 <b>D2</b> 908 <b>182826</b> 6.3 <b>4274</b> 41.90
New York	sd NA	NA	NA
New York	$\max 12.3$	29	1234. <b>39</b> .67 <b>606</b> 79.6 <b>82</b> 5587 <b>3</b> 278.6 <b>649</b> 62.84-43.78 <b>5</b> 57.6023.7460 858.22222290818 <b>230</b> 6.3427441.90 Inf
New York	$\min 12.3$	29	1234. <b>39</b> .67 <b>936</b> 9.6 <b>82</b> 5 587 <b>3</b> 278.6 <b>349</b> 62.84nf 43.78 <b>5</b> 1657.6023.7460 858.222222908 8 <b>282</b> 6.3427441.90
New York	n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @00 <b>D</b> @0000 1.0000 1.00001.000 1.00001.00
	meah6.8	31	$708.2   47.08  260 \\ 51.5  24.6 \\ \mathbf{732 }7527.6  236 \\ 98.4  \mathbf{NaN} \\ 60.93  668 \\ 9.7  3222 9.1485 \\ 260.000  2003 \\ 13.4463 \\ 68.1435004 \\ 1.62 \\ 136$
North	sd NA	NA	NA
	$\max 16.8$	31	708.2 <b>4</b> 7.08 <b>269</b> 1.5 <b>24.8</b> 732 <b>7</b> 527.6 <b>238</b> 98.40 - 60.93 <b>668</b> 9.7 <b>822</b> 9.1485 260.000 <b>20</b> 313. <b>463</b> 68. <b>£350</b> 41.62
	$\min 16.8$	31	Inf 708.247.0824691.5124.673247527.6238698.410hf 60.9346489.7382429.1485 260.000200313.444368.44390041.62
Carolina North	n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @00 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Carolina North Dakota	a mea <b>23</b> .9	42	688.7NaN NaN 10.8888929.2963698.9NaN 81.774576.296372.7778 22.77778167.8920.9623611.59
	sd NA	NA	NA
	max23.9	42	688.75 10.8888 <b>9</b> 29.29 <b>63</b> 698.94 - 81.77 <b>5793</b> .29 <b>63</b> 72.7778 22.7777 <b>8</b> 167.8 <b>92</b> 0.9 <b>623</b> 611.59 Inf Inf
	$\min 23.9$	42	688.75nf Inf 10.8888\$\pi\29.2963698.94\text{Mf} 81.77\pi\pi\3.296372.7778 22.7777\text{8167.8}\pi\20.9623611.59
North Dakota	n 1.0	1	1.00 0.000 <b>0</b> 00001.00001.00001.00 0.000 <b>0</b> 0 <b>0</b> 0 <b>0</b> 000 1.0000 1.00001.000 1.00001.00
Ohio	meah4.1	34	697.7 <b>2</b> 6.83 <b>379</b> 9.9 <b>B2.6</b> 280 <b>2</b> 877.6 <b>529</b> 45.2 <b>M</b> aN 47.93 <b>675</b> 0.0 <b>7674</b> .2697 158.539 <b>B3</b> 572. <b>332</b> 88. <b>2060</b> 47.01
Ohio	sd NA	NA	NA
Ohio	maxl4.1	34	697.736.833799.9B2.62802877.652945.24- 47.936530.07674.2697 158.539B3572.33288.200047.01 Inf
Ohio	min14.1	34	697.7 <b>3</b> 6.83 <b>37</b> 99.9 <b>82.5</b> 280 <b>2</b> 877.6 <b>529</b> 45.2 <b>4</b> hf 47.9 <b>3675</b> 0.0 <b>7</b> 67 <b>4</b> .2697 158.539 <b>B3</b> 572. <b>382</b> 88. <b>200</b> 047.01
Ohio	n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @00 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Oklahor	maeal19.9	29	881.5 <b>1</b> 5.28 <b>056</b> 0.4 <b>85</b> 9846 <b>2</b> 109.5 <b>492</b> 00.1NaN 63.25 <b>24</b> B6.7 <b>936</b> 5.4872 220.02564233. <b>350</b> 4.5 <b>649</b> 58.67
Oklahor	nsal NA	NA	NA
Oklahor	$\max 19.9$	29	881.5 <b>7</b> 5.28 <b>057</b> 0.4 <b>85</b> 9846 <b>2</b> 109.5 <b>429</b> 00.10 - 63.25 <b>2</b> 4 <b>3</b> 6.7 <b>93</b> 65.4872 220.02564233. <b>7592</b> 4.5 <b>659</b> 58.67
			Inf
	main19.9	29	881.575.280760.48598462109.542900.1Inf 63.252486.79365.4872 220.02564233.75024.564958.67
	mma 1.0	1	1.00 1.000 <b>D0</b> 0001.00001.00001.00 0.000 <b>D0</b> 00 <b>D0</b> 000 1.0000 1.0000 1.00001.00 1.00001.00
_	meah2.8	26	804.7NaN NaN 14.70270639.6 <b>585</b> 68.5NaN 43.68 <b>649</b> 66. <b>9768</b> .3784 1040.2 <b>7806</b> 40. <b>\$78</b> 5.40 <b>54</b> 107.24
_	sd NA	NA	NA
	maxl2.8	26	804.71 - 14.70270639.6 <b>787</b> 68.57 - 43.68 <b>649</b> 66. <b>9768</b> .3784 1040.2 <b>7306</b> 40. <b>\$76</b> 5.40 <b>5</b> 4107.24 Inf Inf
_	$\min 12.8$	26	804.7lmf Inf 14.70270639.6 <b>585</b> 68.5lnf 43.68 <b>649</b> 66. <b>9769</b> .3784 1040.2 <b>7806</b> 40. <b>\$48</b> 5.4054107.24
Oregon		1	1.00 0.000 <b>0</b> 00001.00001.00001.00 0.000 <b>0</b> 000 <b>0</b> 0000 1.0000 1.00001.000 1.00001.00
	vaniah8.2	31	905.9 <b>7</b> 8.28 <b>235</b> 6.4 <b>72</b> 6 <b>7</b> 205 <b>3</b> 539.9 <b>38.2</b> 40.6 <b>3</b> 7aN 47.05 <b>147</b> 72.8 <b>529</b> .7941 293.941 <b>2</b> \$416.4 <b>7</b> 618. <b>225</b> 405.24
	lvsadniaNA	NA	NA
Pennsyl	vanid 8.2	31	905.978.282366.472672053539.9382940.63-47.0514772.85299.7941 293.94129416.47618.2251405.24
			$\operatorname{Inf}$

Pemisylvanial 2	state statDrive	er <b>ADlezot</b> h	ns Predatia Ems Death Physical Districts edseh blodni Pente Mariah American Indizi fi All Lidge Makink White
Pamsy   marial	Pennsylvainia8.2	31	905.978.28 <b>235</b> 6.47207205 <b>3</b> 539.9 <b>382</b> 40.67hf 47.0514772.8 <b>429</b> .7941 293.9412 <b>9</b> 416.47618.2 <b>29</b> 405.24
Rhode			
Rhode		38	1148. <b>99</b> .41 <b>387</b> 4.3BB <b>3</b> 6666 <b>7</b> 489.3 <b>733</b> 02.6NaN11.13 <b>B3B</b> 78. <b>3866</b> 7.6667 708.33 <b>337</b> 548 <b>.2</b> D <b>6</b> 55. <b>23</b> B <b>3</b> 77.00
Salard	Island		
Rhode   max	Rhode sd NA	NA	NA
Same	Island		
Rhode   min1.1   38		38	1148. <b>99</b> .41 <b>387</b> 4.3BB <b>3</b> 666 <b>7</b> 489.3 <b>733</b> 02.67 - 11.13 <b>B3B</b> 78 <b>.366</b> 7.6667 708.33 <b>337</b> 548 <b>.2</b> D <b>6</b> 55 <b>.23</b> B <b>3</b> 77.00
Sample   S			
Rhode		38	1148. <b>90</b> .41 <b>369</b> 4.3 <b>BB</b> \$666 <b>7</b> 489.3 <b>333</b> 02.6 <b>7</b> af 11.13 <b>B3B</b> 78. <b>3667</b> .6667 708.333 <b>33</b> 548. <b>2</b> 0 <b>6</b> 55. <b>23B3</b> 77.00
South   max23-9			
South   mca23.9		1	1.00 1.0001000001.000001.00001.00 0.000100000100000 1.0000 1.00001.000 1.00001.00
South   max2    3		41	OFO OFF CLARGENO LORDED TO CONO O O DUMBERO ONE DE LA FORMANT POROLE FOLO O LE FOLLONO CO PERSO CARRADO O DE
South   max23.9		41	858.9%5.0130248.1124.1276012522.34194452.0A1a1N 54.52440194.722441.5319 215.5311931068.8503480.8343469.87
Carolina		NΙΛ	NA
South   min   23.9   41   SSS.975.613648   1217.663322   34945   54.524794   12241.5319   215.5313968   35386638969   No.		NA	NA
South		41	858 9775 61 <b>8784</b> 8 10 <b>47</b> 97669822 3 <b>4104</b> 52 64 - 54 52 <b>4070</b> 4 70201 5319 215 53198068 <b>878</b> 86 <b>8338</b> 86 <b>8336</b> 69 87
South   min   23.9   41   58.8   975.6   1864   8.1   1.00   1.00   0.		11	
Carolina		41	
Carolins			
South   Sout	South n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @ <b>0</b> 0 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Pake	Carolina		
South	South meal 9.4	33	669.3NaN NaN 11.5074 <b>3</b> 92.05 <b>95</b> 070.9NaN NaN 408.92 <b>23</b> 88.1791 23.49254114.9 <b>58</b> 0.50 <b>2</b> 75523.97
Palacolar   Pala			
South Dakota         maxl9.4         33         669.31 - Inf         Inf <td></td> <td>NA</td> <td>NA NA NA</td>		NA	NA
Dakota			
South		33	
Dakota		99	
South		33	009.3LINI INI 11.50745692.0556070.9LINI INI 408.922688.1791 23.4925H114.9580.50215923.97
Dakots		1	1 00 0 000000000 000001 00001 00 0 000000
Tennes		1	1.00 0.00000000001.00001.00 0.0000000000
Tennes		29	767 974 942 <b>76</b> 2 816239581641 6104045 7NaN 66 092393 2680 4375 137 0416753 722787 1204573 75
Tennes			
Tennes			
Tennesses       1.0       1.00 1.00 ∪ 0.00 ∪			
Texas         meath 4         38         1004.Ns NaN NaN NaN NaN NaN NaN NaN NaN NaN N	Tennessemin19.5	29	767.9 <b>7</b> 4.94 <b>276</b> 2.8 <b>12.5</b> 958 <b>1</b> 641.6 <b>5</b> 0 <b>2</b> 45.7 <b>2</b> nf 66.09 <b>289</b> 3.2 <b>680</b> .4375 137.041 <b>87</b> 53.7 <b>22</b> 787. <b>294</b> 573.75
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Tennessee 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @ <b>0</b> 0 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		38	1004.Nan Nan 13.9803 <b>9</b> 708.2 <b>549</b> 93.8Nan 55.36B1846. <b>23</b> 25.9569 338.917 <b>95</b> 396.2 <b>590</b> 63. <b>9373</b> 1.56
Texas		NA	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Texas max19.4	38	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Otan Illaxi1.3	10	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Utah min113	16	
$Vermont meal 3.6 \qquad 30 \qquad 716.279.43 \\ \textbf{983}.73 \\ \textbf{BR}.6666 \\ \textbf{248}.13 \\ \textbf{630} \\ \textbf{085}.8 \\ \textbf{NaN} \\ \textbf{74}.41 \\ \textbf{B335}.28 \\ \textbf{250} \\ \textbf{0.4}667 \\ \textbf{32}.933 \\ \textbf{3B} \\ \textbf{695}.86 \\ \textbf{786}.93 \\ \textbf{300} \\ \textbf{5.20} \\ 5$			
	Vermontsd NA	NA	NA

state statDrive	er <b>ANceot</b> d	holPudatherinsDeathPhysicaUhistsuksedsehblohniPioherAusiah AmericanIrdizifiAlklishpahAdzivk White
Vermontmax13.6	30	716.2 <b>7</b> 9.43 <b>987</b> .73BB.6666 <b>7</b> 48.13 <b>63</b> 085.87- 74.41 <b>B39</b> 5.2 <b>B25</b> 0.4667 32.9333B695.8 <b>E0</b> 786.9 <b>773</b> 05.20
		$\operatorname{Inf}$
Vermontmin13.6	30	716.2 <b>7</b> 9.43 <b>987</b> .73BB.6666 <b>7</b> 48.13 <b>63</b> 085.8 <b>T</b> 74.41 <b>B39</b> 5.2 <b>B25</b> .4667 32.9333B695.8 <b>E7</b> 86.9 <b>773</b> 05.20
Vermontn 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @ <b>0</b> 0 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Virginia meal <sub>2</sub> .7	27	768.957.408223.012498507432.462534.63\(\text{NaN}\) 52.158881.649.8.5522 150.62687454.26361.38228.42
Virginiasd NA	NA	NA
Virginia maxl 2.7	27	768.957.408 22 3.01 2.9 850 74 32.4 625 34.67 - 52.15 8.98 1.6 69.8.5522  150.626 827 454. 263 61.7 822 8.42
		$\operatorname{Inf}$
Virginia min12.7	27	768.957.408223.012498507432.462534.67nf 52.158881.66938.5522 150.62687454.26361.782228.42
Virginia n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @ <b>0</b> 0 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Washing no earlo.6	33	$890.079.993804.553020002405.6634075.4 NaN 44.0726399.733399.9500\ 3017.45490586.052011.2507029.453399.733399.9500$
Washing <b>sd</b> n NA	NA	NA
Washingtonx10.6	33	$890.079.993804.5530200022405.6634075.40 - 44.0726399.733899.9500\ 3017.45499586.052011.2507029.453699.733699.733699.9500 3017.45499586.052011.2507029.453699.73009.73009.73009.73009.73009.73009.73009.73009.73009.73009.73009.73009.73009.73009.73009.730090000000000$
		$\operatorname{Inf}$
Washingtoim 10.6	33	890.0 <b>7</b> 9.99 <b>38</b> 04.5 <b>5</b> 30.2000 <b>2</b> 405.6 <b>63</b> 0 <b>7</b> 5.4 <b>I</b> nf 44.0 <b>7253</b> 99. <b>33</b> 309.9500 3017.45 <b>0</b> 00586.0 <b>52</b> 11. <b>25700</b> 29.45
Washington 1.0	1	1.00 1.000 <b>0</b> 00001.00001.00001.00 0.000 <b>0</b> 000 <b>0</b> 0000 1.0000 1.00001.000 1.00001.00
West mea 23.8	28	992.6 <b>7</b> 5.17 <b>526</b> 8.8 <b>92.9</b> 178 <b>6</b> 48.82 <b>4</b> 6672.4 <b>N</b> aN 68.88 <b>725</b> 0.10 <b>7</b> 63.7500 18.9285 <b>7</b> 112.9 <b>22</b> 41.9 <b>588</b> 75.43
Virginia		
West sd NA	NA	NA
Virginia		
West max23.8	28	992.675.175268.8929178648.8246672.48 - 68.885259.10763.7500 18.92857112.92241.968875.43
Virginia		$\operatorname{Inf}$
West min23.8	28	992.6 <b>7</b> 5.17 <b>526</b> 8.8 <b>92.9</b> 178 <b>6</b> 48.82 <b>46</b> 672.4 <b>B</b> nf 68.8 <b>85725</b> .10 <b>7</b> 63.7500 18.9285 <b>7</b> 112.9 <b>22</b> 41.9 <b>5887</b> 5.43
Virginia		
West n 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @00 <b>D</b> @000 1.0000 1.00001.000 1.00001.00
Virginia		
Wisconsimeah3.8	33	670.3 <b>7</b> 9.3 <b>1277</b> 3.8 <b>B2</b> £2054 <b>B</b> 389.2 <b>606</b> 84.9 <b>N</b> aN 59.69 <b>£3</b> £32.1 <b>6</b> \$2.16\$20.2192 93.6712 <b>B</b> 1320. <b>767</b> 99. <b>2293</b> 15.48
Wisconsind NA	NA	NA
Wisconsimax 13.8	33	$670.379.312773.8822 \times 20548389.260084.95 - 59.69230 \times 2.16230.2192 \ 93.6712\mathbf{B}1320.761799.2200315.48389.2100 \times 2.16100 \times 2.16$
		Inf
$Wiscons \textbf{\textit{im}} in 13.8$	33	670.3 <b>7</b> 9.3 <b>1277</b> 3.8 <b>B2</b> /2054 <b>B</b> 389.2 <b>600</b> 84.9 <b>E</b> nf 59.69 <b>28</b> /52.1 <b>B2</b> 60.2192 93.6712 <b>B</b> 1320. <b>7</b> 6 <b>7</b> 99. <b>22993</b> 15.48
Wisconsim 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @ <b>00</b> D <b>0</b> 000 1.0000 1.00001.000 1.00001.00
Wyomingneah7.4	32	$791.179.37580.6667.5833789.5863830.7 NaN 49.88337.586314.8333 \ 49.66664884.0833.3330365.00$
Wyomingd NA	NA	NA
Wyomingnaxl7.4	32	791.179.37580.6667.5833789.5863830.75 -  49.88537.586314.8333  49.66664884.0833.3339365.00
		Inf
Wyomingnin17.4	32	791.179.37580.6667.5833789.5863830.75 f -49.88537.586314.8333 + 49.66664884.0833.3339365.00
Wyoming 1.0	1	1.00 1.000 <b>D</b> @0001.00001.00001.00 0.000 <b>D</b> @00 <b>D</b> @000 1.0000 1.00001.000 1.00001.00

### clean\_joineddata2 %>% summary(is.numeric)

```
##
                           LE
                                                      DriverDeaths
      state
                                        Deaths
  Length:51
                     Min. :74.63
                                     Min. : 587.7
                                                      Min. : 5.90
                     1st Qu.:76.78
                                     1st Qu.: 1501.4
  Class : character
                                                      1st Qu.:12.75
##
   Mode :character
                     Median :78.32
                                     Median : 2691.5
                                                      Median :15.60
##
                     Mean :77.91
                                     Mean : 3793.2
                                                      Mean
                                                           :15.79
##
                     3rd Qu.:79.36
                                     3rd Qu.: 5671.8
                                                      3rd Qu.:18.50
## AlcoholRelated PhysicalDistress
                                     Uninsured
                                                    HouseholdIncome
## Min. :16.00 Min. : 9.00
                                  Min. : 248.1
                                                    Min.
                                                          :41754
## 1st Qu.:28.00
                                   1st Qu.: 1013.8
                                                    1st Qu.:51647
                  1st Qu.:11.59
## Median :30.00
                  Median :12.99
                                   Median : 1678.6
                                                    Median :58552
                                        : 2677.5
## Mean :30.69
                  Mean :13.11
                                  Mean
                                                          :59654
                                                    Mean
```

```
3rd Qu.:33.00
                   3rd Qu.:14.57
                                    3rd Qu.: 2804.0
                                                     3rd Qu.:64647
##
      Homicide
                      PercRural
                                      Premiums
                                                        Asian
## Min. : 2.333
                    Min. : 0.00
                                   Min.
                                         : 642.0
                                                    Min.
                                                          :
                                                               345
                                   1st Qu.: 768.4
                                                    1st Qu.: 1901
  1st Qu.: 3.792
                    1st Qu.:43.78
## Median : 5.250
                    Median :54.16
                                   Median: 859.0
                                                    Median: 5800
## Mean
         : 8.528
                    Mean
                          :51.04
                                                    Mean
                                   Mean : 887.0
                                                          : 19619
## 3rd Qu.:11.625
                    3rd Qu.:64.60
                                    3rd Qu.:1007.9
                                                    3rd Qu.: 16595
## AmericanIndianAlaskaNative PacificIslander
                                                   Hispanic
                                                      : 1113
## Min. : 163.8
                             Min.
                                        18.93
                                                Min.
## 1st Qu.: 756.1
                             1st Qu.:
                                        94.72
                                                1st Qu.: 5556
## Median : 1760.9
                             Median: 175.29
                                                Median : 12454
## Mean : 3917.9
                             Mean : 1540.42
                                                Mean : 48860
   3rd Qu.: 3973.8
##
                              3rd Qu.: 716.53
                                                3rd Qu.: 50897
##
                                                            % BIPOC
       Black
                          White
                                         Rural
## Min.
         :
              202.3
                      Min. : 21524
                                      Length:51
                                                                : 5.512
                                                         Min.
  1st Qu.: 2847.1
                      1st Qu.: 63476
                                      Class :character
                                                         1st Qu.:19.323
                      Median :113526
## Median : 15211.2
                                      Mode :character
                                                         Median :27.949
## Mean : 34948.7
                      Mean :166065
                                                         Mean :31.110
  3rd Qu.: 41505.8
                      3rd Qu.:231980
                                                         3rd Qu.:41.914
##
##
     Diverse
## Length:51
## Class :character
## Mode :character
##
##
   [ reached getOption("max.print") -- omitted 2 rows ]
clean_joineddata2 %>% group_by(state) %>% summarize(count = n())
## # A tibble: 51 x 2
##
     state
                          count
##
      <chr>
                          <int>
## 1 Alabama
                              1
##
   2 Alaska
## 3 Arizona
                              1
## 4 Arkansas
## 5 California
                              1
## 6 Colorado
## 7 Connecticut
## 8 Delaware
## 9 District of Columbia
                              1
## 10 Florida
## # ... with 41 more rows
clean_joineddata2 %>% group_by(Rural) %>% summarize(count = n())
## # A tibble: 3 x 2
    Rural count
##
    <chr> <int>
## 1 no
             20
## 2 yes
             29
## 3 <NA>
clean_joineddata2 %>% group_by(Diverse) %>% summarize(count = n())
## # A tibble: 2 x 2
```

```
## Diverse count
## <chr> <int>
## 1 high 6
## 2 low 45
```

This is a table of my numeric variables, which shows the mean, standard deviation, maximum, minimum, and distinct counts for each state in the United States. This is one big table that prints out these values for the states. I then found the counts for each of my categorical variables. As expected, there is only one count for each of the states. Surprisingly, the amount of states that were considered to be rural were almost even (with 20 being no and 31 being yes). Furthermore, very surprising to see that there were only 6 states that were considered to have high diversity (having a percentage of BIPOC greater than 50).

```
# Some more summary statistics for my variables
clean_joineddata2 %>% group_by(state, Diverse) %>% summarize(HouseholdIncome = mean(HouseholdIncome)) %
    arrange(desc((HouseholdIncome)))
## # A tibble: 51 x 3
  # Groups:
##
      state
                            Diverse HouseholdIncome
##
      <chr>
##
    1 District of Columbia high
                                              90395
    2 New Jersey
                            low
                                              85193.
    3 Massachusetts
                                              80279.
##
                            low
##
    4 Maryland
                            low
                                              79316.
##
    5 Connecticut
                            low
                                              79151.
    6 Rhode Island
                                              77003.
                            low
##
    7 California
                            high
                                              71197.
##
    8 New Hampshire
                                              70350
                            low
    9 Alaska
                            low
                                              67924.
## 10 Delaware
                                              67517.
                            low
## # ... with 41 more rows
```

I wanted to compute some extra summary statistics for some of my variables. I grouped by state and Diverse, summarized to find the mean household incomes within each state, and then arranged by descending income. It was very interesting to see that the mean income in D.C. was \$90395.00 and the diversity was considered to be high. The lowest average household income was in Mississippi with \$41753.00 and the diversity level was considered low.

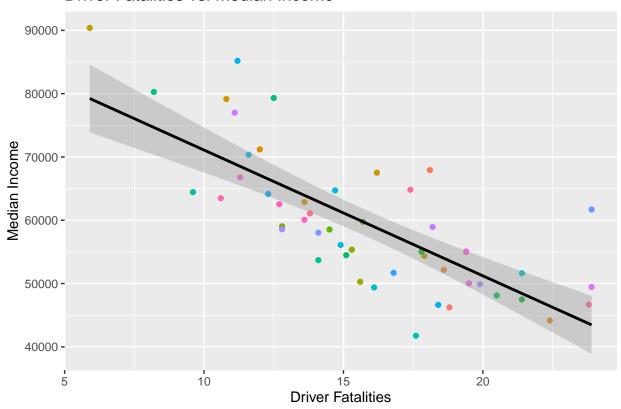
```
## # A tibble: 7 x 20
##
   # Groups:
                state [7]
##
     state
              LE Deaths DriverDeaths AlcoholRelated PhysicalDistress Uninsured
     <chr> <dbl>
                   <dbl>
                                 <dbl>
                                                 <dbl>
                                                                    <dbl>
                                                                              <dbl>
## 1 Alab~
            74.7
                   2419.
                                  18.8
                                                                    15.7
                                                                              1062.
                                                     30
## 2 Arka~
            75.0
                   1270.
                                  22.4
                                                     26
                                                                    16.6
                                                                               828.
## 3 Idaho
            NA
                     NA
                                  15.3
                                                    29
                                                                     13
                                                                              1248.
## 4 Illi~
                                                     34
            78.0
                   2801.
                                  12.8
                                                                    12.5
                                                                              1927.
## 5 Indi~
            77.0
                   1983.
                                  14.5
                                                     29
                                                                     13.2
                                                                              2287.
## 6 Iowa
            79.1
                    716.
                                  15.7
                                                     25
                                                                    10.2
                                                                               408.
                                                     29
## 7 Okla~
            75.3
                   1560.
                                  19.9
                                                                     15.4
                                                                              2110.
     ... with 13 more variables: HouseholdIncome <dbl>, Homicide <dbl>,
       PercRural <dbl>, Premiums <dbl>, Asian <dbl>,
## #
       AmericanIndianAlaskaNative <dbl>, PacificIslander <dbl>, Hispanic <dbl>,
       Black <dbl>, White <dbl>, Rural <chr>, `% BIPOC` <dbl>, Diverse <chr>
```

Lastly, I wanted to filter and find the states that were considered to be rural. This gave me a value of 31, which meant out of the 50 states, we could say that around 31 were considered to be rural with an average percentage of their counties being greater than 50%. I then used the str\_detect function to find the states out of the 31 that started with a vowel. This led me to Alabama, Alaska, Arkansas, Colorado, Georgia, Idaho, Illinois, Indiana, Iowa, and Kansas.

```
# Plot of driver fatalities vs. median household income
clean_joineddata2 %>% ggplot(aes(x = DriverDeaths, y = HouseholdIncome)) +
    geom_point(aes(color = state)) + geom_smooth(method = "lm",
    color = 1) + scale_x_continuous(breaks = seq(0, 25, 5)) +
    scale_y_continuous(breaks = seq(0, 1e+05, 10000)) + ggtitle("Driver Fatalities vs. Median Income")
    xlab("Driver Fatalities") + ylab("Median Income") + theme(legend.position = "none")
```

#### Visualizing

#### Driver Fatalities vs. Median Income

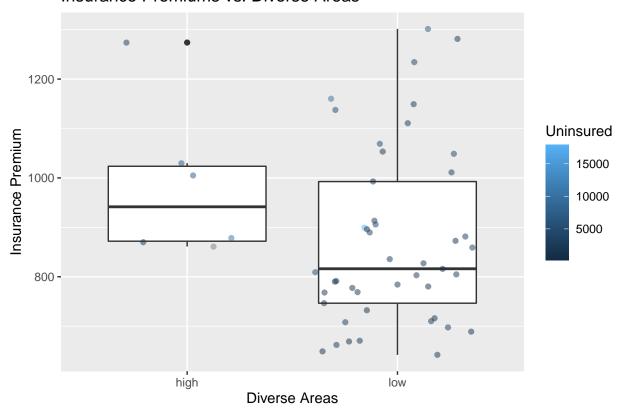


For the first ggplot, we're looking at the relationship between the number of drivers that have died from a car accident and median household income in each of the 50 U.S. states. Furthermore, i added points that are colored by state to help visualize the differences in each state for driver fatalities and median income. When looking at this plot, we can tell that there seems to be a relatively strong relationship between median household income and driver fatalities. As the median household income in each state decreased, there was a greater number of traffic fatalities that occurred. This could be from various different factors, but I thought it was interesting to see this possible relationship.

```
# Plot of driver fatalities in each state in the United
# States
clean_joineddata2 %>% ggplot(aes(x = Diverse, y = Premiums)) +
```

```
geom_boxplot() + scale_y_continuous(breaks = seq(0, 1400,
200)) + ggtitle("Insurance Premiums vs. Diverse Areas") +
xlab("Diverse Areas") + ylab("Insurance Premium") + geom_jitter(alpha = 0.5,
aes(color = Uninsured))
```

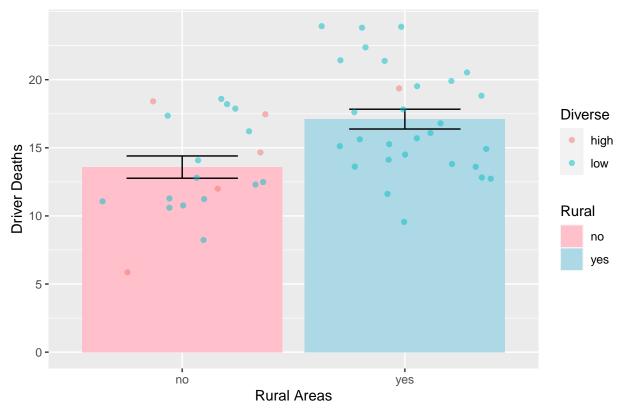
### Insurance Premiums vs. Diverse Areas



For the next plot, I wanted to do a boxplot looking at the relationship between the diversity of the areas and the costs of insurance premiums across the state. I also wanted to overly the points with number of people uninsured to look at how these are all related to each other. There seems to be a positive skew for this plot. In states where there was low diversity, there seemed to be a range of various values of people uninsured and lower median insurance premium than those with high diversity. This could be due to a variety of reasons. In this case, we are only comparing the diversity areas based off of the percentages calculated in the wrangling section; therefore, this could be different if we looked at it from a county point of view. Just as in other boxplots, this plot gives us insight into the visualization of the minimum, first quartile, median, third quartile, and maximum, essentially the summary of the distribution.

```
# your plot 3
clean_joineddata2 %>% filter(!is.na(Rural)) %>% ggplot(aes(x = Rural,
    y = DriverDeaths)) + geom_bar(aes(fill = Rural), stat = "summary",
    fun = mean) + ggtitle("Driver Deaths vs. Rural Areas") +
    geom_errorbar(stat = "summary", width = 0.5) + xlab("Rural Areas") +
    ylab("Driver Deaths") + scale_fill_manual(values = c("pink",
    "light blue")) + scale_y_continuous(breaks = seq(0, 20, 5)) +
    geom_jitter(alpha = 0.5, aes(color = Diverse))
```

## Driver Deaths vs. Rural Areas



For my last plot, I wanted to take a look at the number of driver deaths in rural areas with an overlay of Diversity on the points. This was very interesting because we see that in cases of rural states, there is very lower diversity. Both rural and not rural have relatively similar error bars. In this case, rural areas seemed to have a higher amount of driver fatalities than states that weren't considered to be rural. In cases that aren't rural, there is still more states that are not as diverse. This could also be because states in the United States in general aren't super diverse.

Concluding Remarks I really enjoyed looking at these datasets. Keeping up with the news and learning about these incidents in various ways is informing. Before looking at these datasets, I really only focused on data that I saw locally and maybe a couple of nationwide data. I hope that I can continue to be conscious of the ways that I think about the news and how I view them across the states as well. Furthermore, I moved my tidying section to be after the joining because my knitting process wouldn't work otherwise.