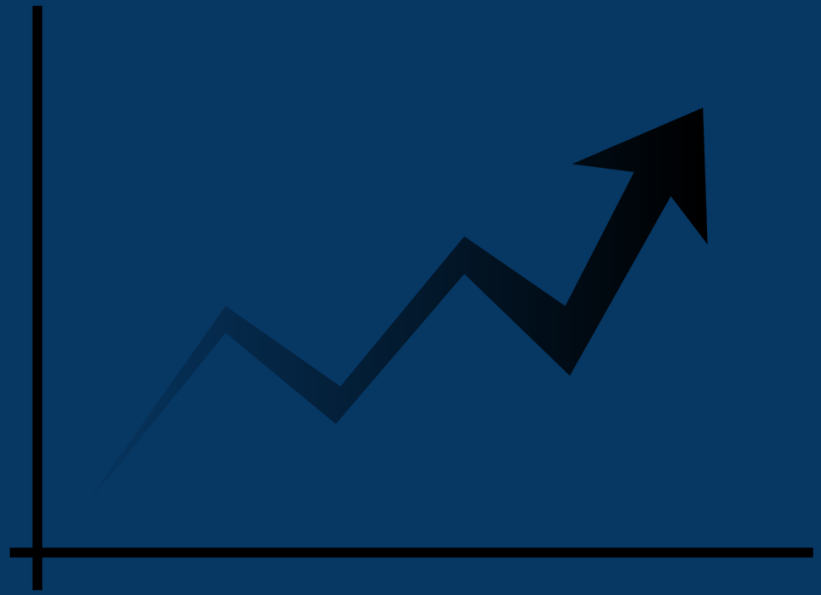
Background

TRADER JOE'S

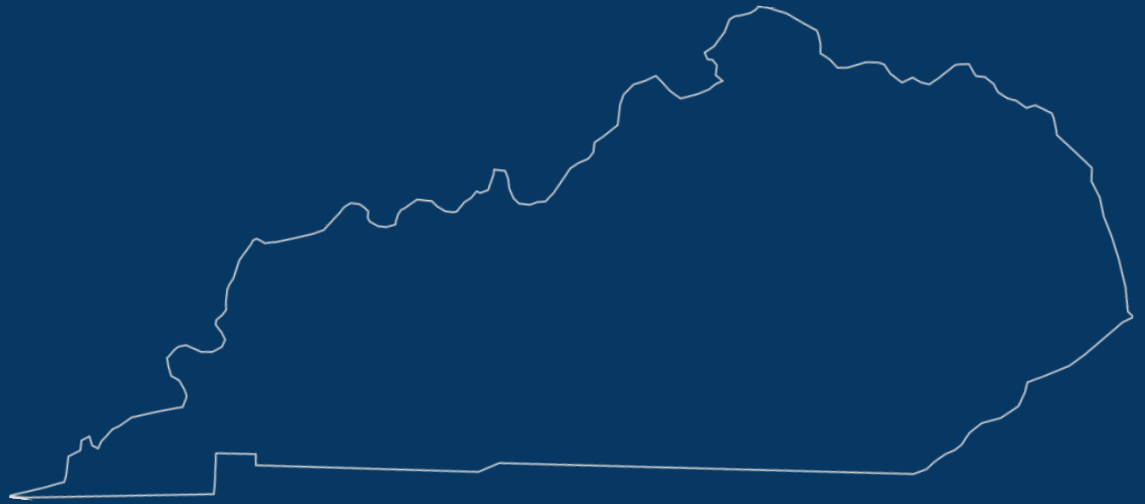
Paul Priest - 2022

Code Louisville

Discovering Python



Kentucky-bound



US Government Drug Spending:

A Visual Exploration

2012-2020

<code>
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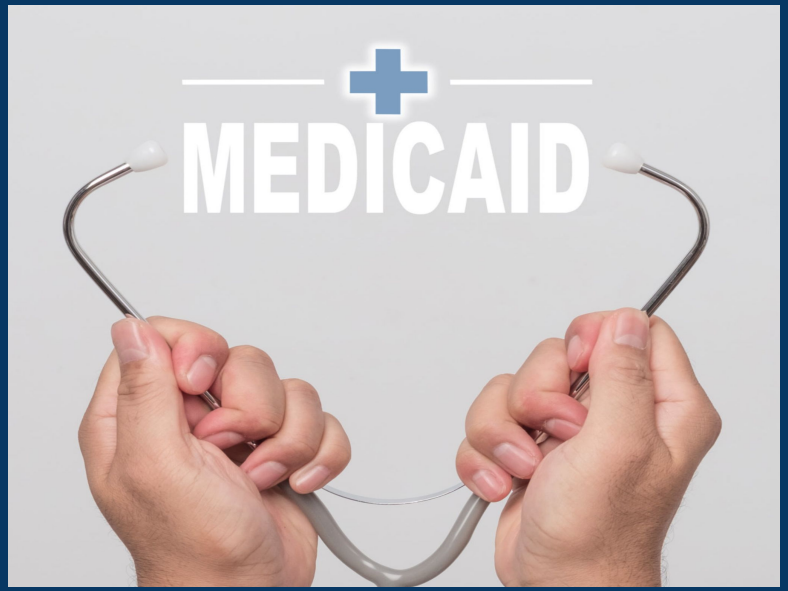
Medicare Part D

Adults 65 years or older

Medicaid

Available to low-income households

> 50 % under age 21



Questions

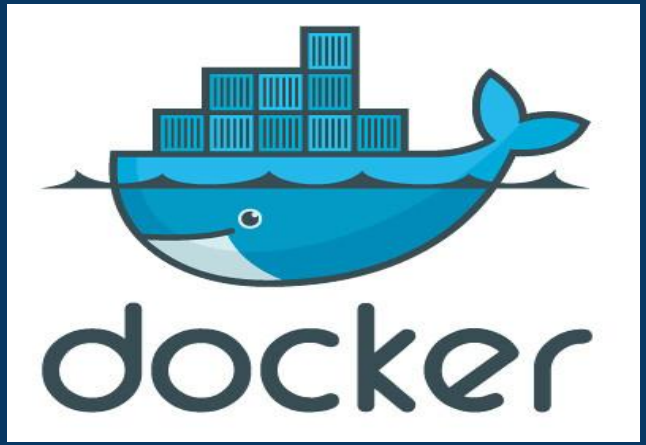
- Spending differences
- Trends over time
- Cost distribution

Tools:

>>print(“Hello world!”)

output: Hello World!

Tools:

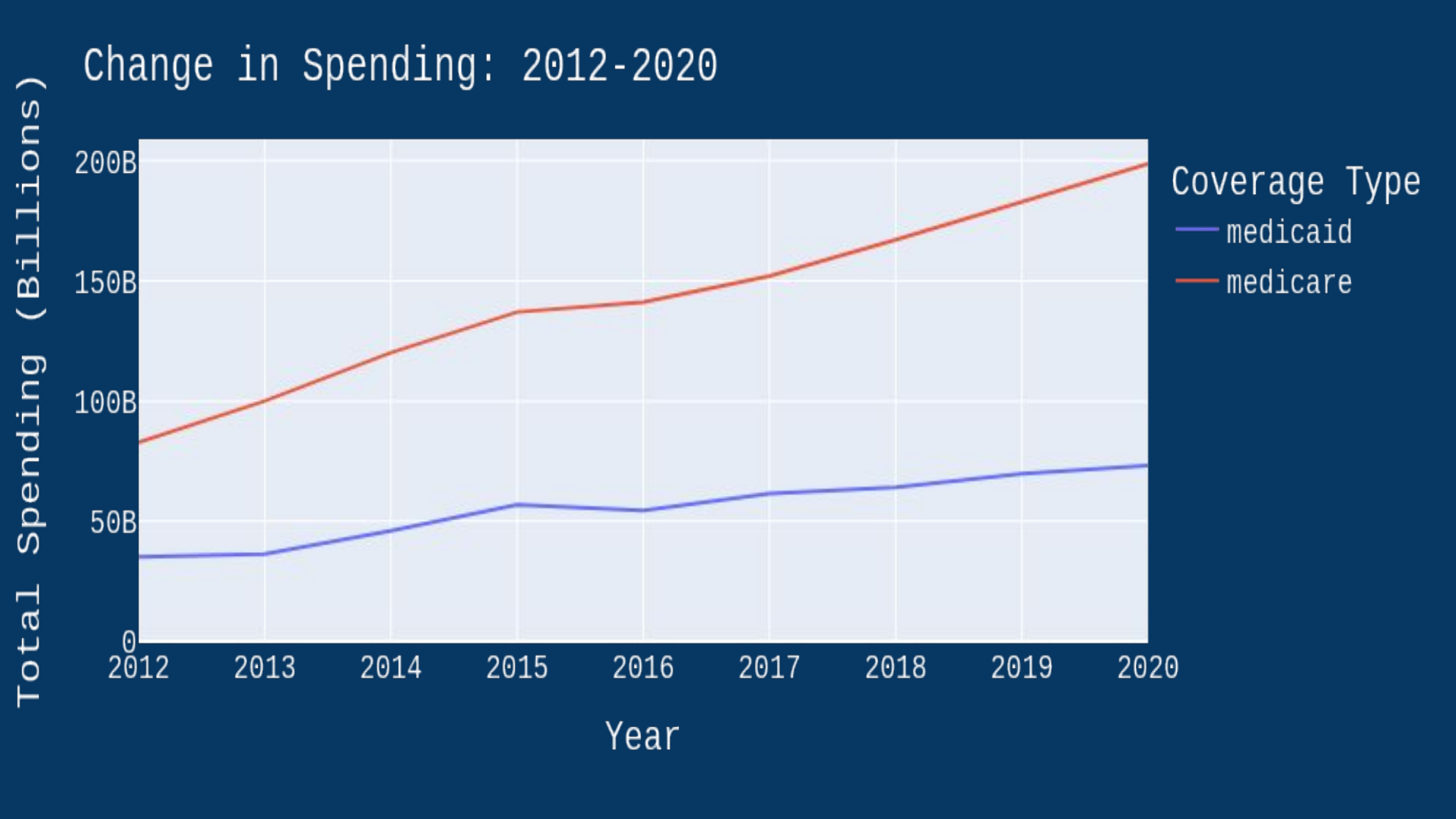


Cleaning the data

- Excel to CSV
- Wide to Long
- Removing duplicated/missing values

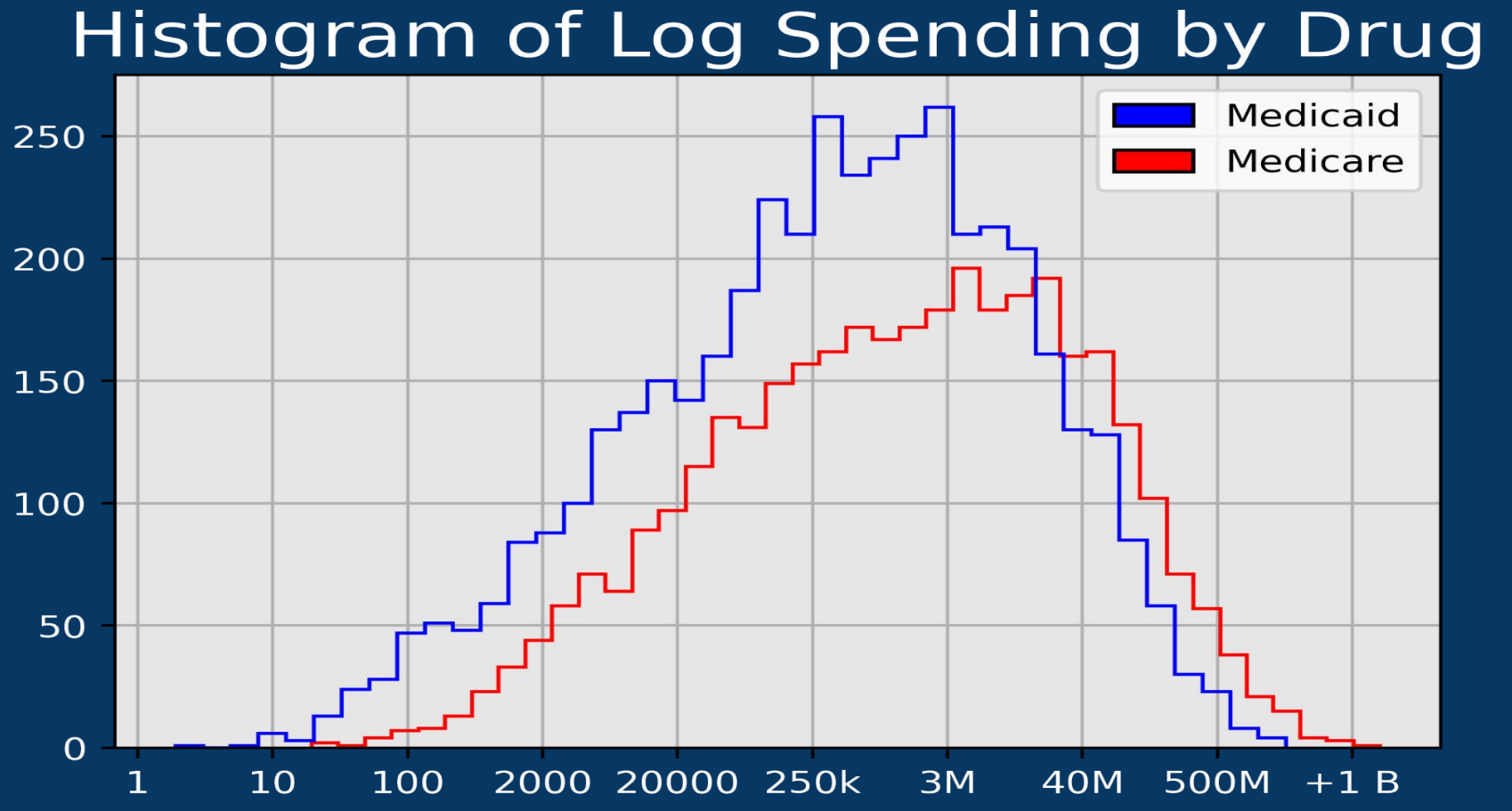
	2012	2020	% Increase
Medicare Recipients	49 million	62 million	27 %
Medicaid Recipients	51 million	70 million	37 %

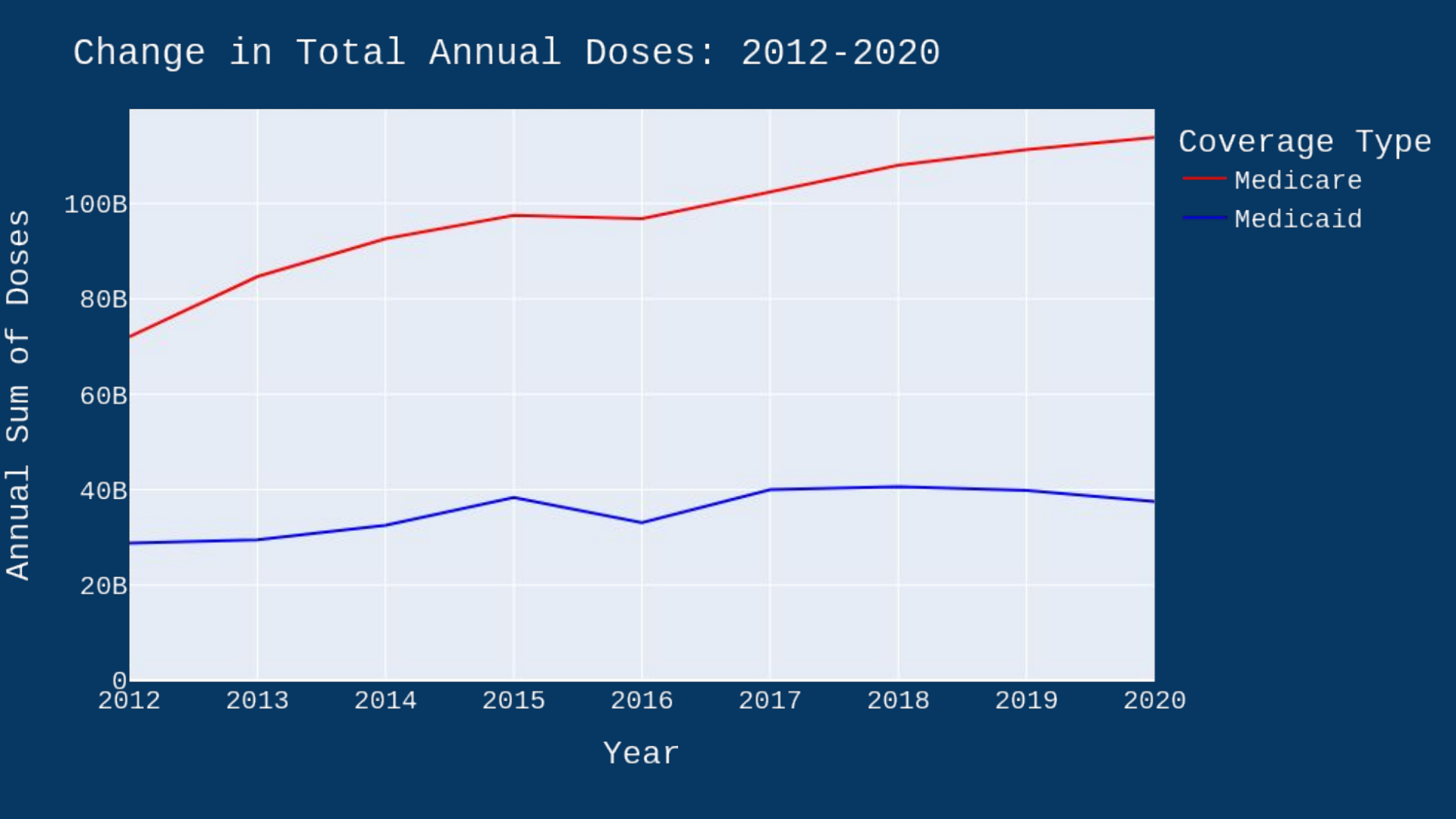
- https://www.federalregister.gov/documents/2012/03/23/2012-6560/medicaid-program-eligiblity-changes-under-the-affordable-care-act-of-2010
- https://www.medicaid.gov/medicaid/quality-of-care/downloads/beneficiary-ataglance-2021.pdf
- https://data.cms.gov/summary-statistics-on-use-and-payments/medicare-medicaid-spending-by-drug/medicare-part-d-spending-by-drug/data
- https://www.kff.org/medicare/state-indicator/total-medicare-beneficiaries/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D
- https://www.cms.gov/newsroom/press-releases/national-health-spending-2020-increases-due-impact-covid-19-pandemic#:~:text=Medicare%20spending%20totaled%20%24829.5%20billion,growth%20of%202.1%25%20in%202019.
- https://data.cms.gov/summary-statistics-on-use-and-payments/medicare-medicaid-spending-by-drug/medicaid-spending-by-drug

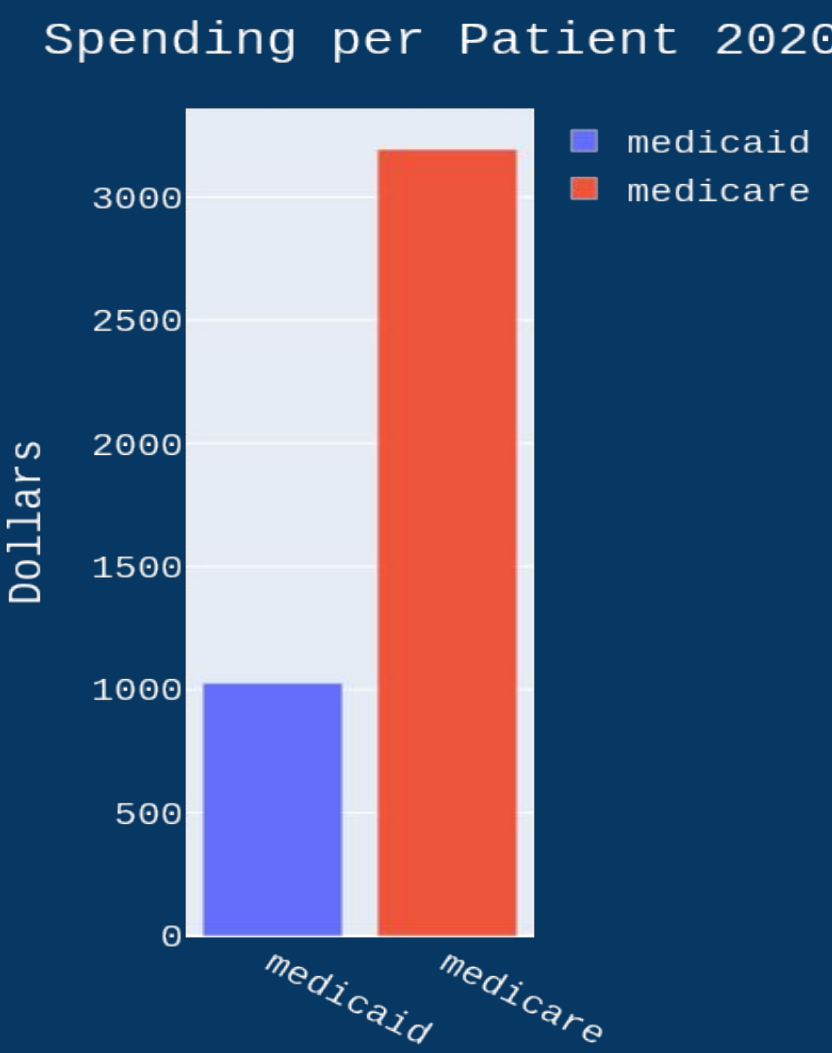

Change in Spending: 2012-2020
Total Spending (Billions)
200B
150B
100B
50B
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Year
Coverage Type
medicaid
medicare

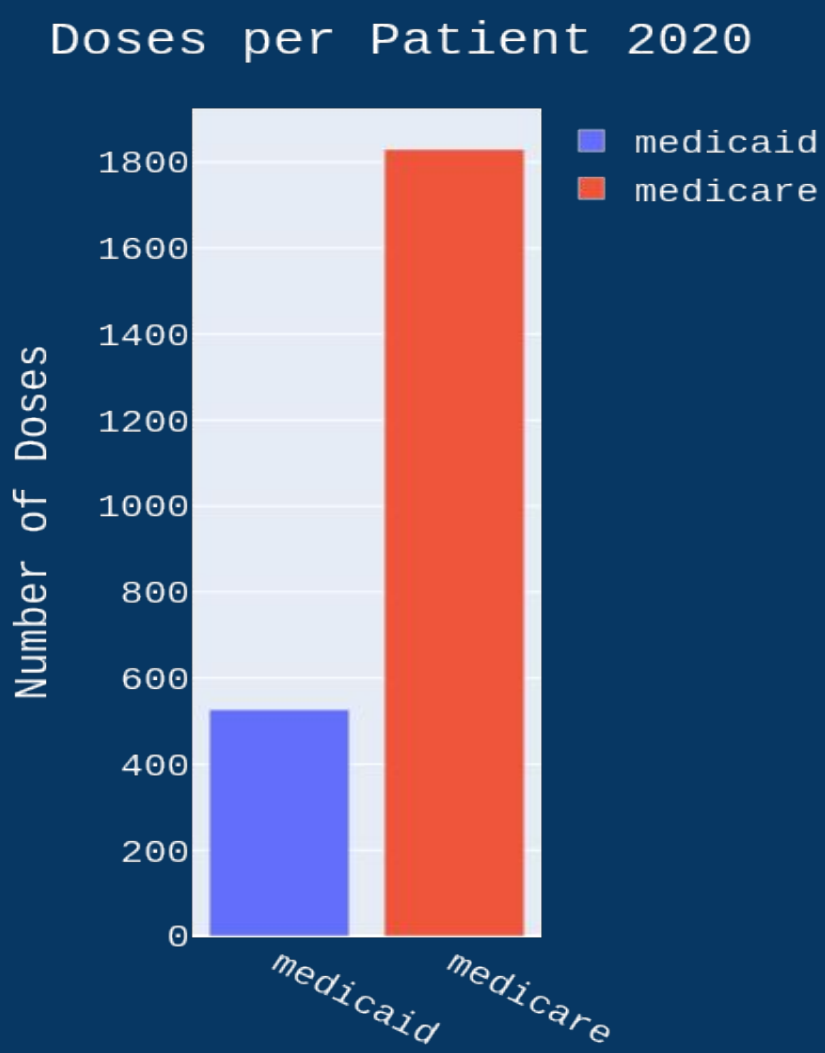
Change in Mean Dose Cost: 2012-2020
Coverage Type
Medicare
Medicaid
Dollars
0
0.5
1
1.5
2
2012
2013
2014
2015
2016
2017
2018
2019
2020
Year

2020

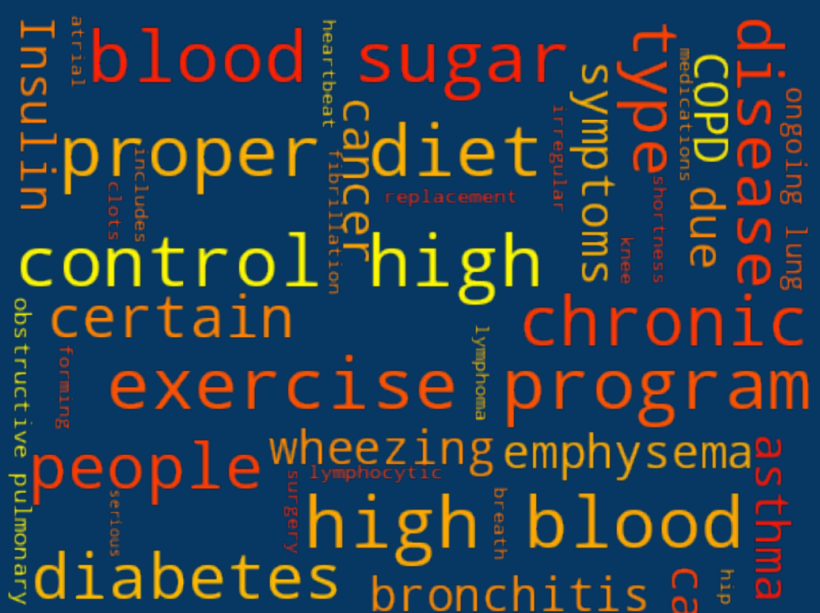

Histogram of Log Spending by Drug
Medicaid
Medicare
250
200
150
100
50
0
1
10
100
2000
20000
250k
3M
40M
500M
+1 B


Change in Total Annual Doses: 2012-2020
Annual Sum of Doses
100B
80B
60B
40B
20B
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Year
Coverage Type
Medicare
Medicaid


Spending per Patient 2020
medicaid
medicare
Dollars
3000
2500
2000
1500
1000
500
0
medicaid
medicare


Doses per Patient 2020
medicaid
medicare
Number of Doses
1800
1600
1400
1200
1000
800
600
400
200
0
medicaid
medicare

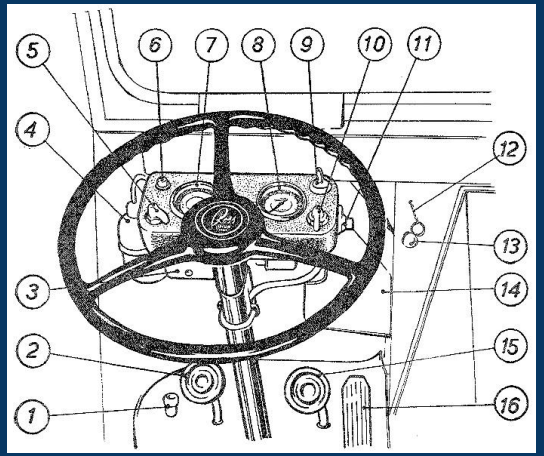
Medicare



Medicaid

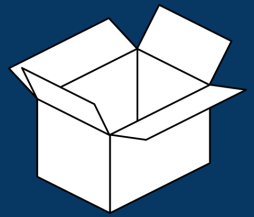
Challenges

- Dashboard/Visualization
- Data cleaning
- Reproducibility

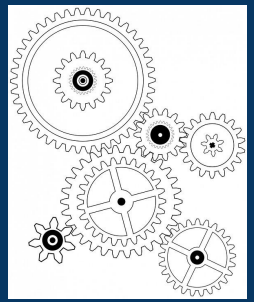


Personal Lessons

- Containerization with Docker



- Feature Engineering



- Functional vs. object oriented

Future Analysis

- Census Data
- State Medicaid Data
- Drug Manufacturers

Thank you!

<code>
LOUISVILLE

- Staff

  Brian Luerman, Emily Sullivan, Jenny Terry, Don Hansen
- Mentors

  Jenna Williams, Jeff Dillon, Steve Watkins
- Students:

  Duane, Jimmy, Vicky