

# Should we be more worried about Processed Sugar than Violent Crime?

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# Motivations & Objectives

- We were inspired to do this project after encountering a statistic that shows that we are much more likely to die from diabetes than from crime.
- Was the harm caused by diabetes as opposed to violent crime as simple as this statistic suggested?
- How we could compare the harm caused by diabetes and violent crime, and how this harm compared?



# Research Questions

- RQ1 - How can we measure and compare the harm caused by sugar and violent crime? Are we suffering more or less over time world-wide? Are there particular sub-demographic groups that suffer disproportionately? - *Evin*
- RQ2 - How does the harm of diabetes vs violent crime distribute within countries? - *Marcus*
- RQ3 - How effective is government financing at reducing the death and burden caused by interpersonal violence and diabetes on the population? - *Evin*
- RQ4 - Do high-crime areas reveal a substantial difference in the ratio of death rates from diabetes vs violence? - *Marcus*



# Datasets and Data Collection

- GHDX - Global Health Data Exchange
- Federal Bureau of Investigation
  - Crime Rates in States
  - Crime Rates in Metropolitan Areas
- US Census Bureau
  - Estimated Population
  - Population Density
  - State and Local Government Finances by Level of Government and by State

- CDC - Center for Disease Control and Prevention
  - Diabetes Atlas Data

Quite a lot of preprocessing was required for most of the datasets:

- Formatting
- Collection & Concat



# Key Findings - RQ1

**How can we measure and compare the harm caused by diabetes and violent crime? Are we suffering more or less over time world-wide? Are there particular sub-demographic groups that suffer disproportionately?**

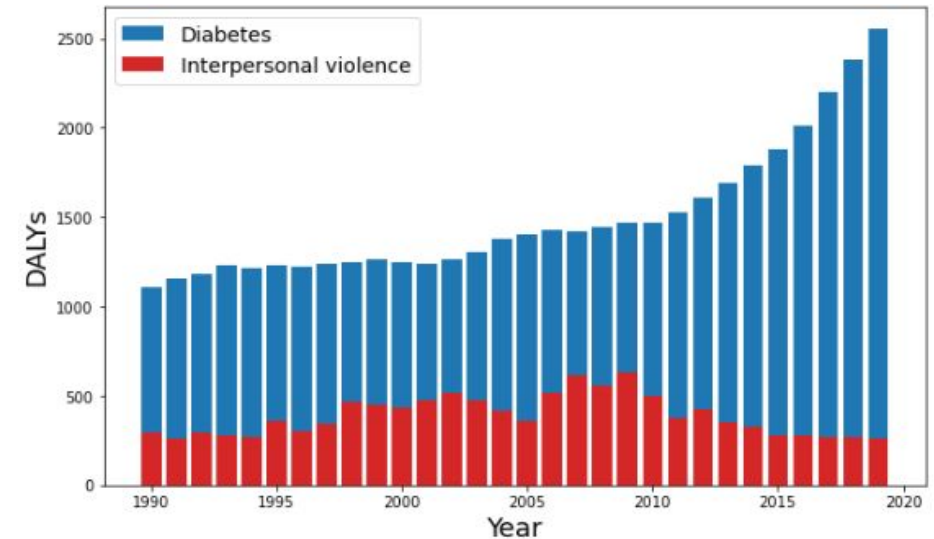
**Approach:**

- Disability Adjusted Life Years (DALYs)
- Years of life lost (YLLs)

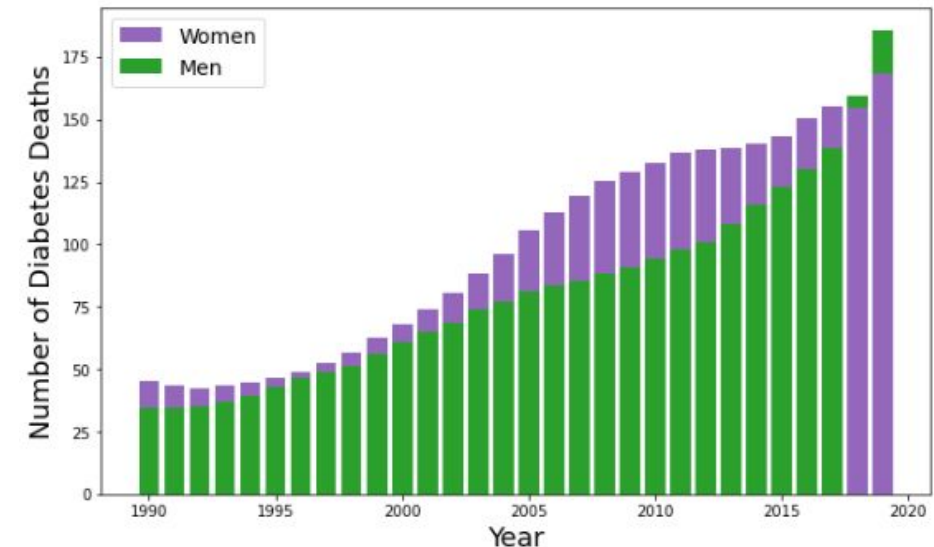
**Findings:**

- Diabetes on the rise, crime on the fall
- Men overtake women in Diabetes-related deaths

DALYs in the USA



Deaths from Diabetes in the US



# Key Findings - RQ2

**How does the harm of diabetes vs violent crime distribute within countries?**

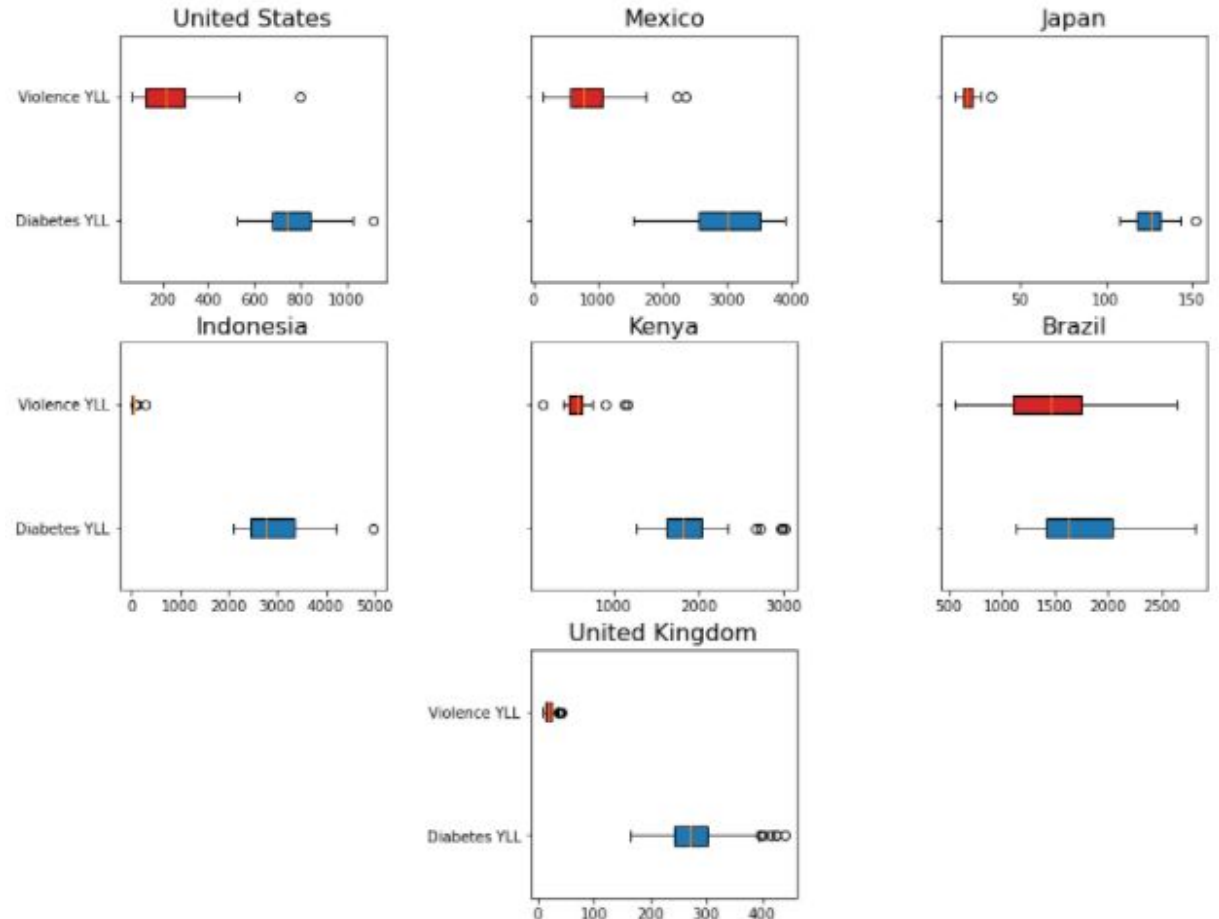
Approach:

- Explore distribution of Years of Life Lost for regions within countries

Findings:

- A similar disparity among all countries
- High violence demographic groups make up a very small percentage of all groups

Distribution of Years of Life Lost per 100,000 from Regions within Countries due to Interpersonal Violence and Diabetes



# Key Findings - RQ2

**How does the harm of diabetes vs violent crime distribute within countries?**

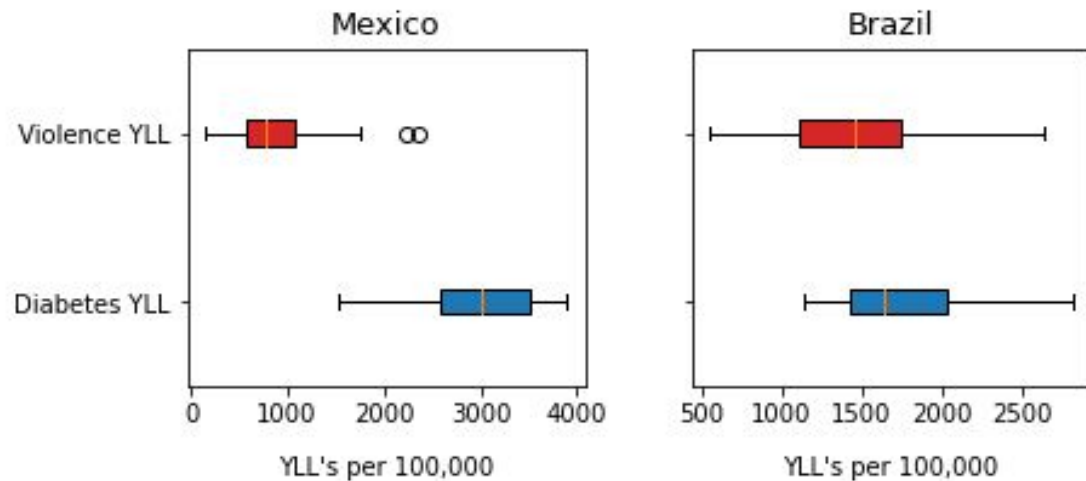
Approach:

- Explore distribution of Years of Life Lost for regions within countries

Findings:

- A similar disparity among all countries
- High violence demographic groups make up a very small percentage of all groups

Distribution of Years of Life Lost per 100,000 of regions within Mexico and Brazil due to Interpersonal Violence and Diabetes



# Key Findings - RQ3

**How effective is government financing at reducing the death and burden caused by interpersonal violence and diabetes on the population?**

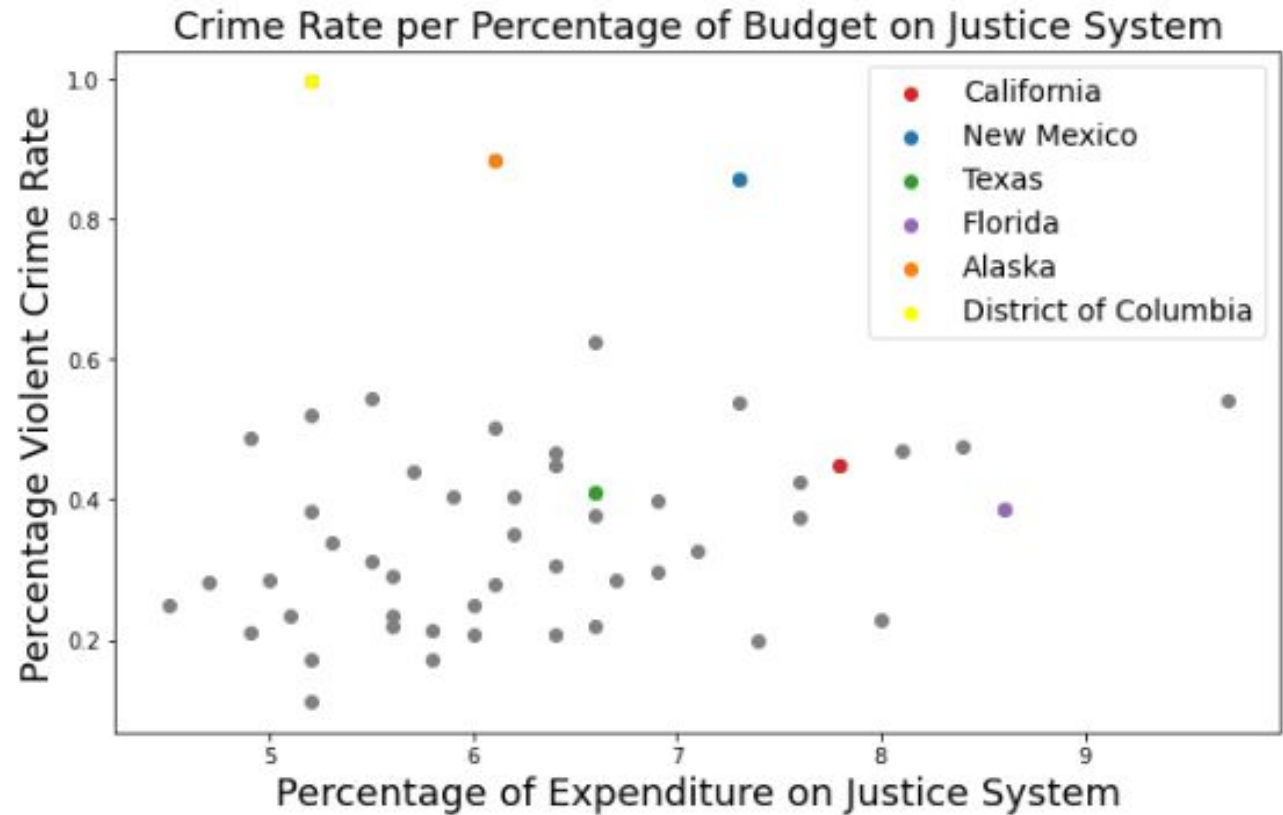
*CASE STUDY: The United States*

Approach:

- Violent Crime by Population vs Percentage of Expenditure on Justice

Findings:

- Higher population trends
- Lower population outliers (high crime)





# Key Findings - RQ4

**Do high-crime areas reveal a substantial difference in the ratio of death rates from diabetes vs violence?**

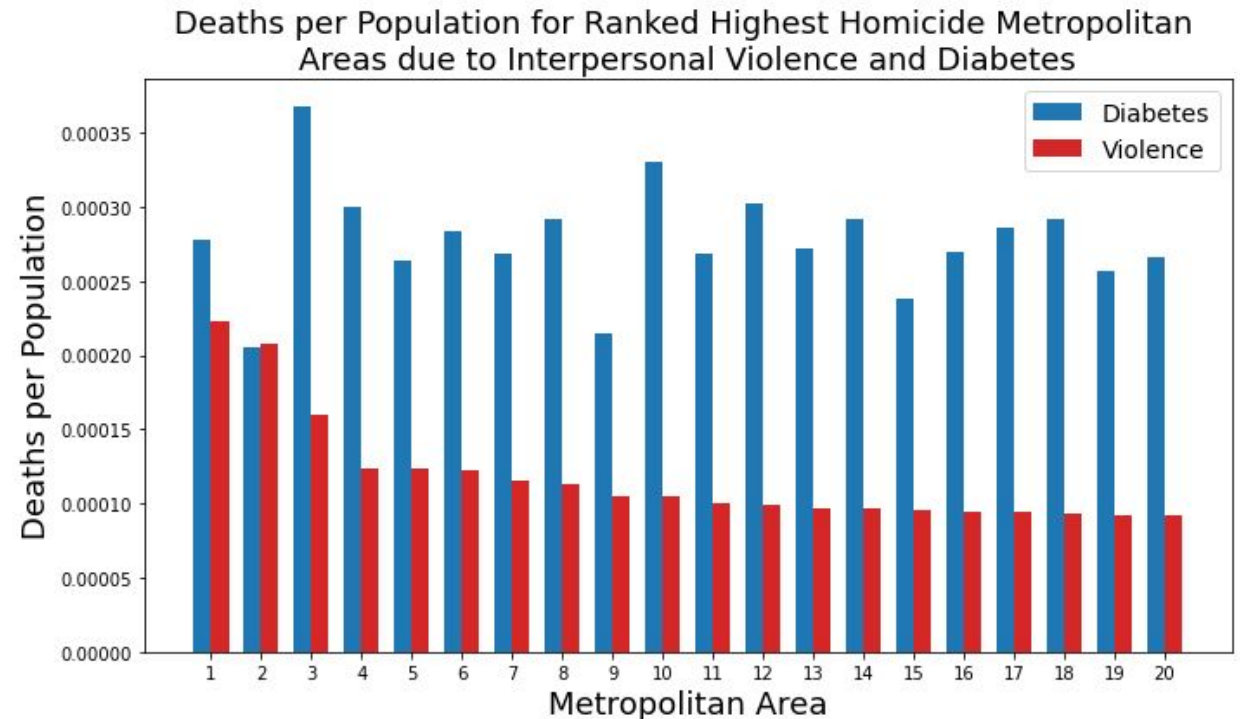
*CASE STUDY: The United States*

Approach:

- Calculate diabetes death estimate
- Rank each Metropolitan area by its death due to violent crime per population

Findings:

- We find no substantial difference in Metropolitan areas in the ratio of deaths



# Ethical Considerations

- We explore data on different sub-demographic groups based on gender, age, and location. The aim of this is to comparative harm of violence crime and diabetes on these groups.
- It is not the aim of this project to categorise any bad actors nor is the analysis undertaken in this project sufficient to do so.
- Whatever the findings and conclusions in our project may be, we wish to emphasise that it is not our intention to undermine any of the individual suffering caused to victims of either diabetes or violent crime.

# Conclusions

- We believe our project will improve people's perspective on the dangers of two specific harms to well being.
- Limitations:
  - Lack of specificity in Diabetes prevention/expenditure datasets
  - No data on diabetes deaths from Cities in the USA
- In conclusion: Sugar has been for some time, and will continue to be, more of a threat to the average person than violent crime, and it will only likely get worse in the future.



# Q & A



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