# 05/29/2025

* Raw data includes all deaths
* Outcome:
  + Year: 2018-2023
    - We will first investigate yearly data (independently)
  + Pregnancy-related deaths (pregnancy status 2-4 from loc 143)
* Stratification
  + Age group: check the age group from the paper
  + Race/Ethnic group: Jackie’s crosswalk file
  + Cause of death
    - All
    - Suicide/homicide/overdose (ICD Code)
* Spatial information
  + Residence
  + Use occurrence if the residence is missing
  + Start with the county-level
* External information
  + Population size from ACS (women of reproductive age; same as the age group mentioned in the paper)
* Create separate csv file for each year (only including pregnancy-related deaths)

Ideas:

* Use the death rates of non-pregnant women to borrow strength across areas
* RSTr package

Jackie will send an R file to read in and clean the data, and the race/ethnicity bridge file.

Git is fine.

Read the paper first!

# 06/24/2025

Questions:

* Live births?
  + Jackie will send me this data
  + This is the best estimate we could get for the relevant denominator.
* Is it meaningful to look at
  + Mortality rate due to three causes of death (homicide + suicide + drug): yes
  + Combine some regions, such as the South: yes
* Why is data from 2018-2023 much larger than the other: pregnancy box implemented in 2018

EDA:

* Crude rate maps
* CAR results
  + Overly smooth but clearly can see the time-trend

To Do:

* Add the firearm-related death data using the ICD code in Jackie’s R file
* State-level time trend model
  + All three causes
  + Cause specific
* Uncertainty measurement
  + Relative precision
    - Two maps: 1) all rates 2) rates with RP > 1
  + Prob(county > state\_level)
* What are we more interested?
  + Higher than the state-level?
  + Higher than the mortality rate of women (both pregnant and not)?

# 07/07/2025

* Processing birth data
  + Age range of the death data: 10-44
  + Age range of the birth data from 2018 to 2019: 15-44 since this uses Recode9. We recognize this discrepancy, but the difference will be very marginal.
* Binomial or Poisson?
* For now, we focus on the state-level and yearly trends.
* MSTCAR model (spatio-temporal + group model)
  + ~~Can we treat preg vs all-women as two groups? Because the model itself doesn’t assume exclusivity of the groups.~~
  + I think it makes more sense to compare preg vs non-preg…
  + MSTCAR with two groups
* Comparison between preg vs non-preg
  + #women (from ACS) – preg = non-preg?
* To Do
  + Model the temporal trend using MSTCAR (but with no groups)
  + Make maps with common legend across different years
  + Additional data processing to compare preg vs non-preg
    - Add column to the death data: preg vs non-preg