CORRELATION IN CAUSE OF DEATH

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Questions We Wanted to Answer

- Can we reproduce the findings of the CDC and other primary sources?
- Can we replicate the results of studies conducted by secondary analysts?
- Can we provide evidence for our unconventional cause of death assumptions?
 - Friday the 13th
 - Full moon
 - Stock market performance

Data Preprocessing

- Cleaning unnecessary attributes
 - Python script
- Date estimation
 - Previous examples
 - Uniformly-random distribution
- Adding date-dependent attributes

Tools Used Python R Github

Data Classification

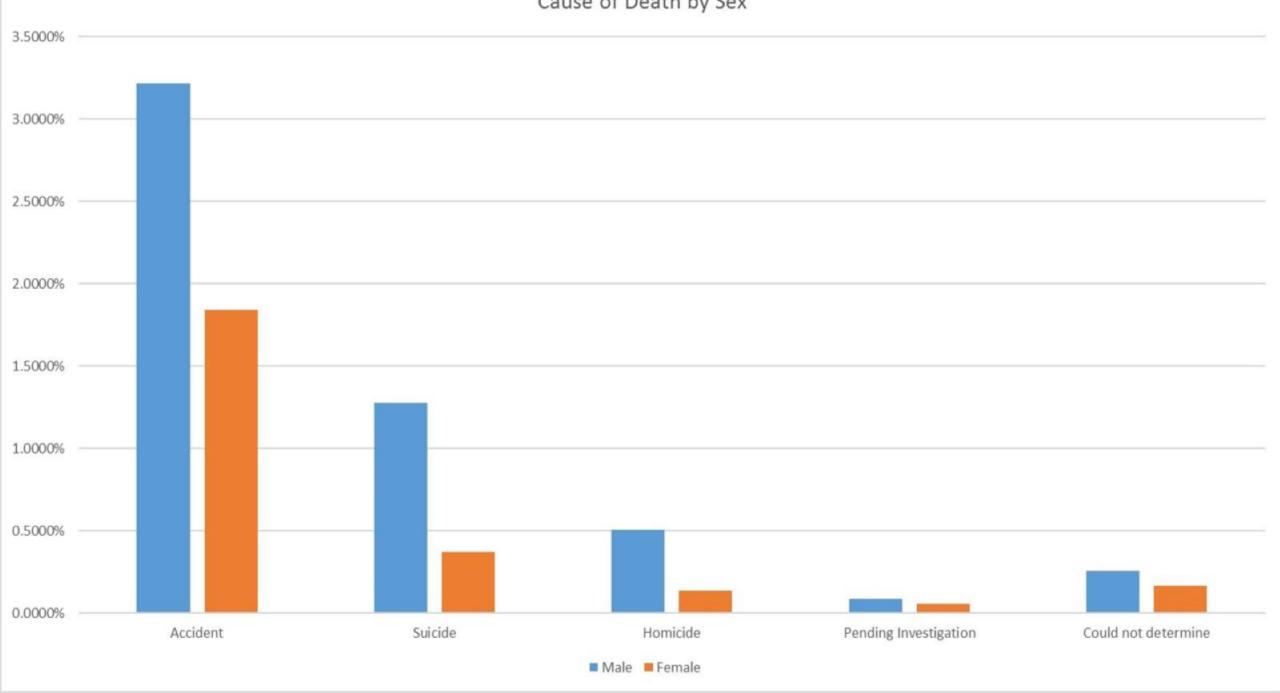
- Basic correlations calculations
- Bayesian technique
 - Does a full moon influence total daily suicides?

Total daily suicides given that it is a full moon

Interesting Findings...

Were able to reproduce the CDC's results

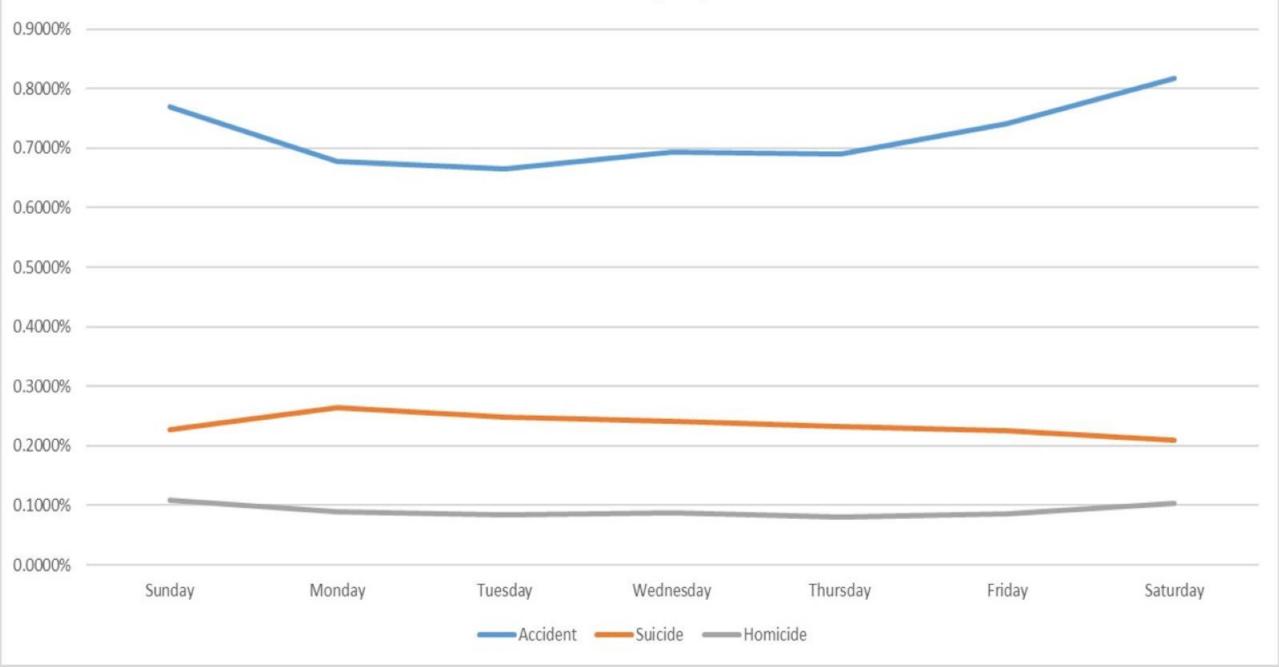
Cause of Death by Sex



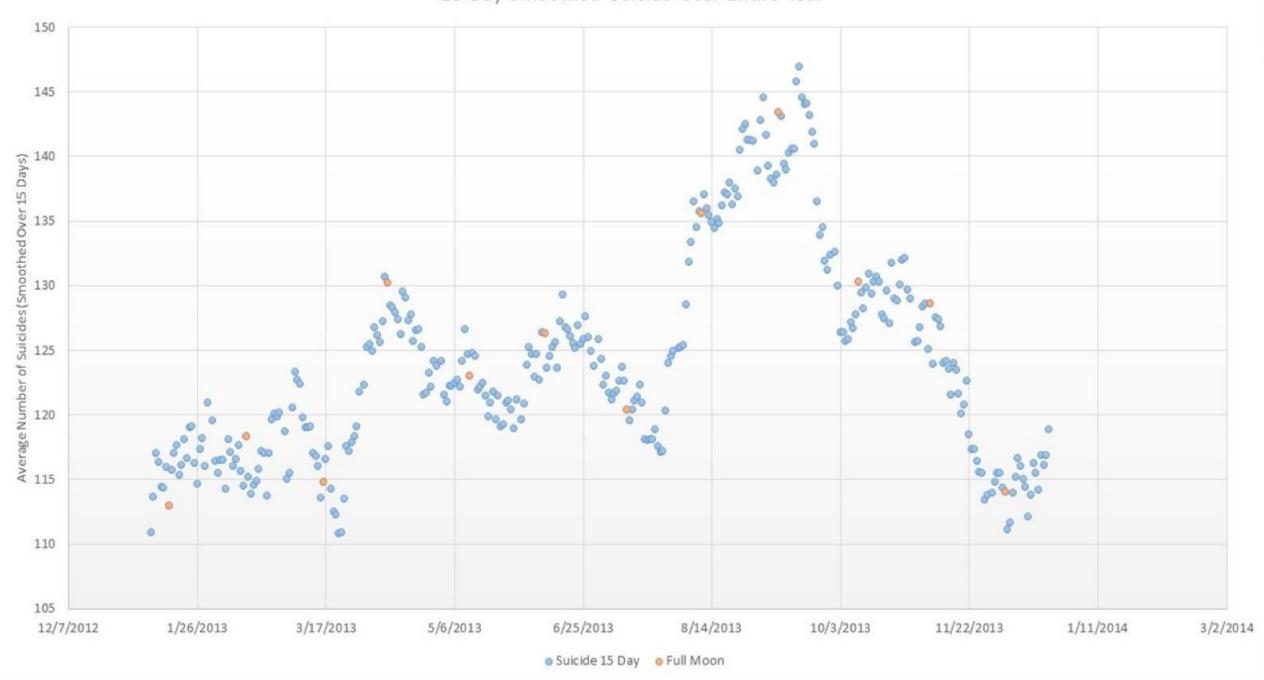
Cause of Death given Age



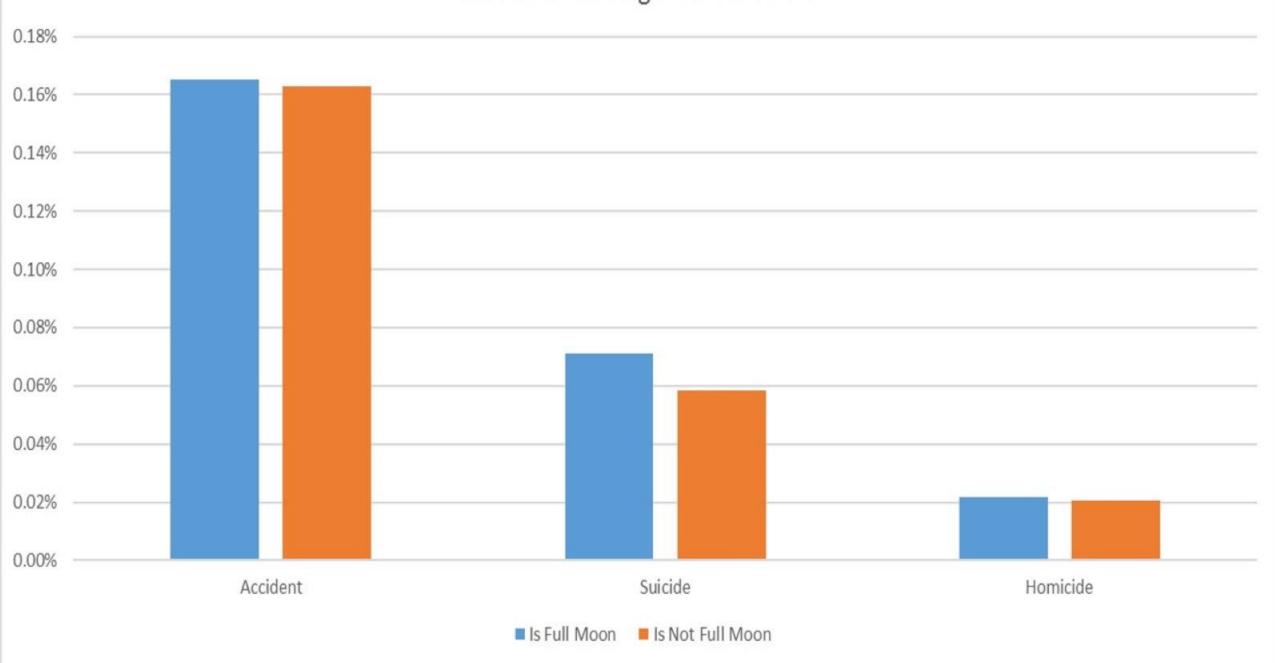
Cause of Death by Day of Week



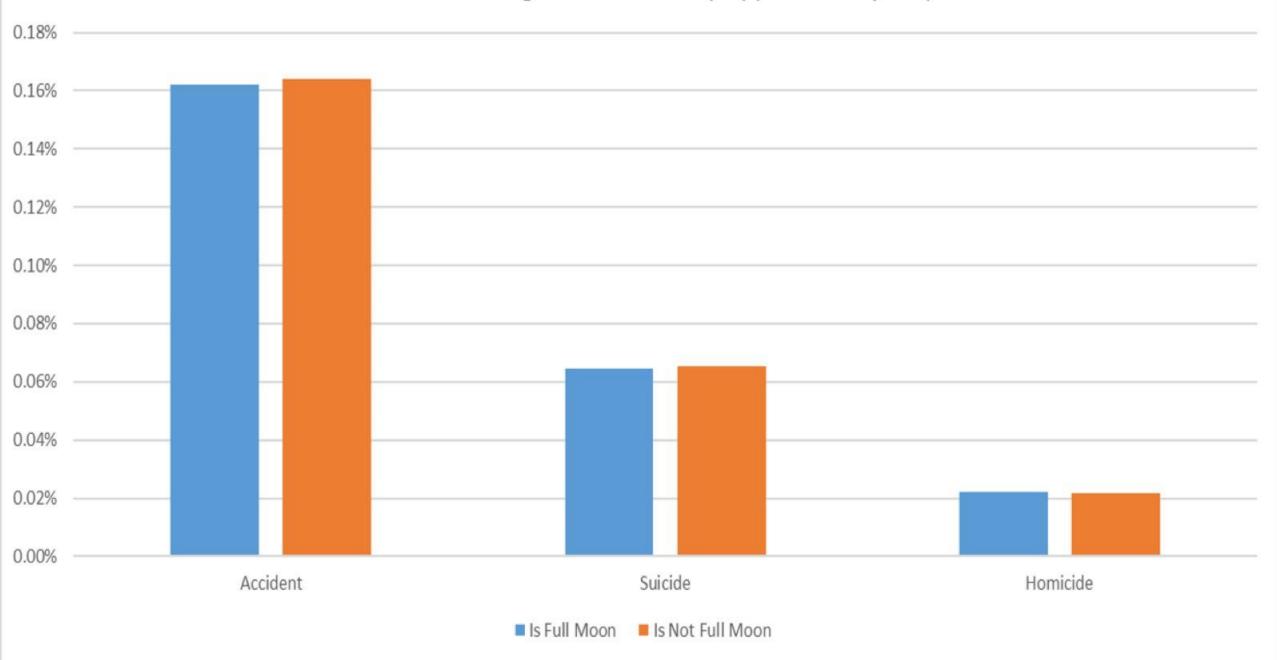
15-Day Smoothed Suicide over Entire Year



Cause of Death given Full Moon



Cause of Death given Full Moon (Supplementary Set)



Applications

- Given different granularity, identify the most useful measure(s) and remove the rest
- Identifying the distribution of the estimated attribute value
- Running sensitivity analysis to check results