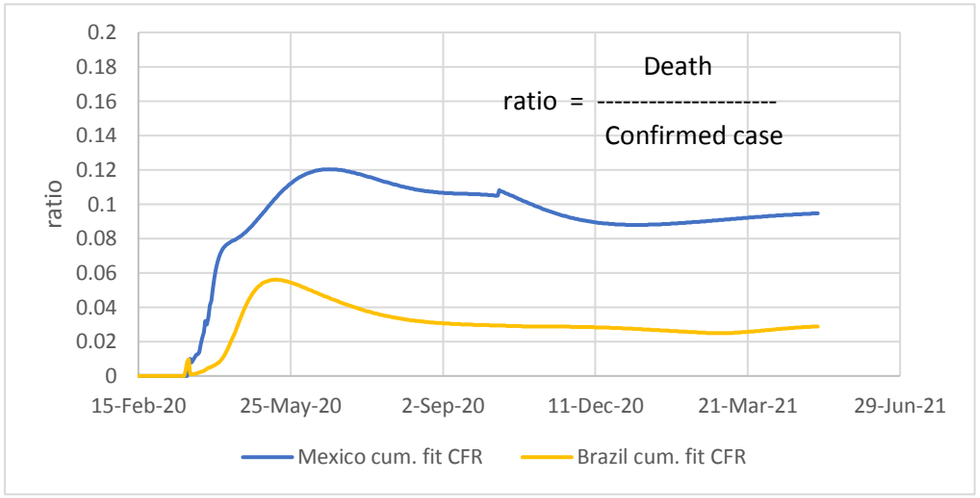
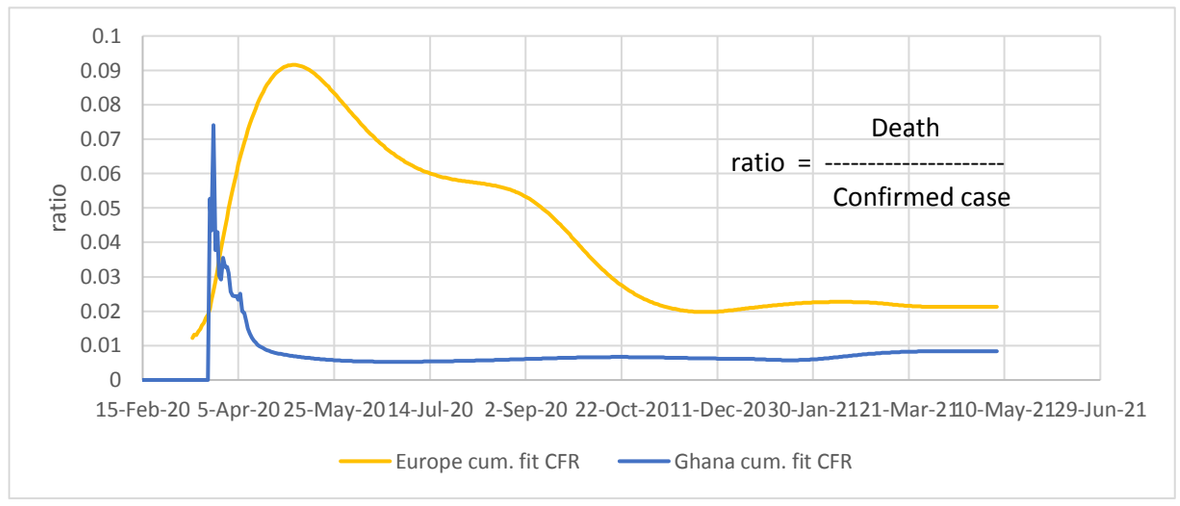
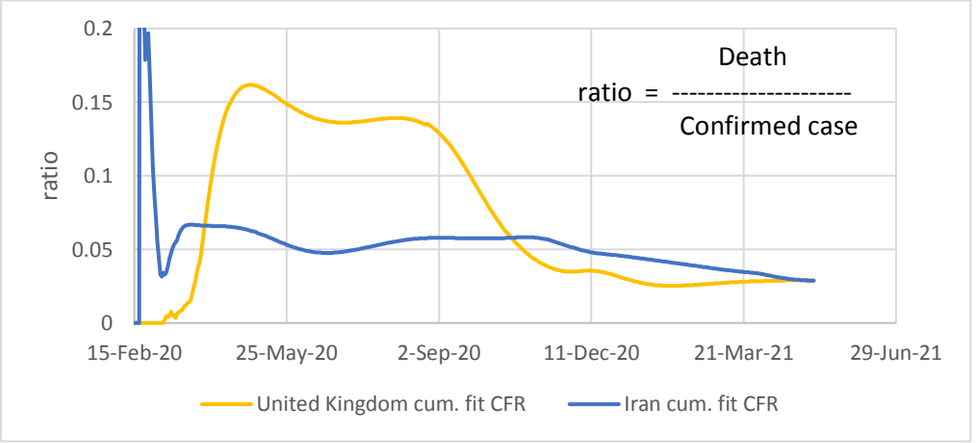
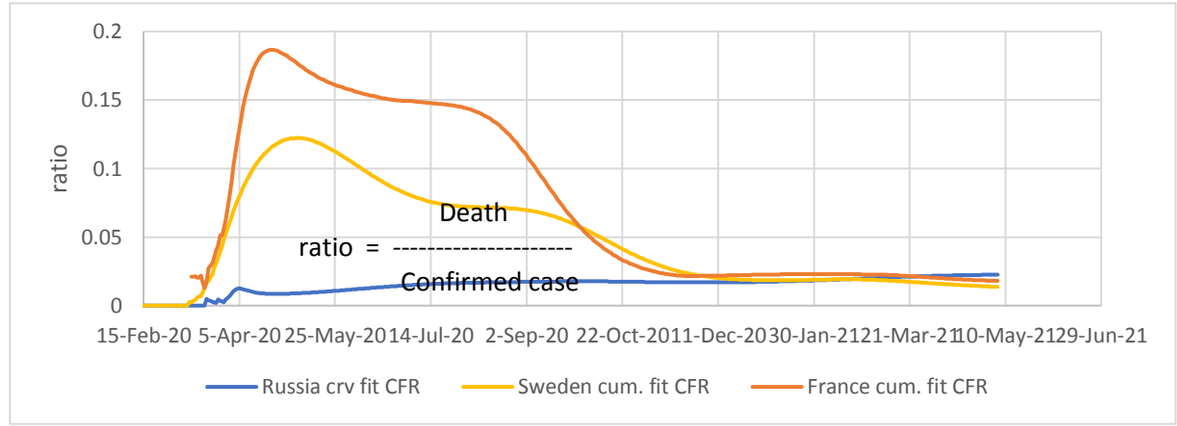
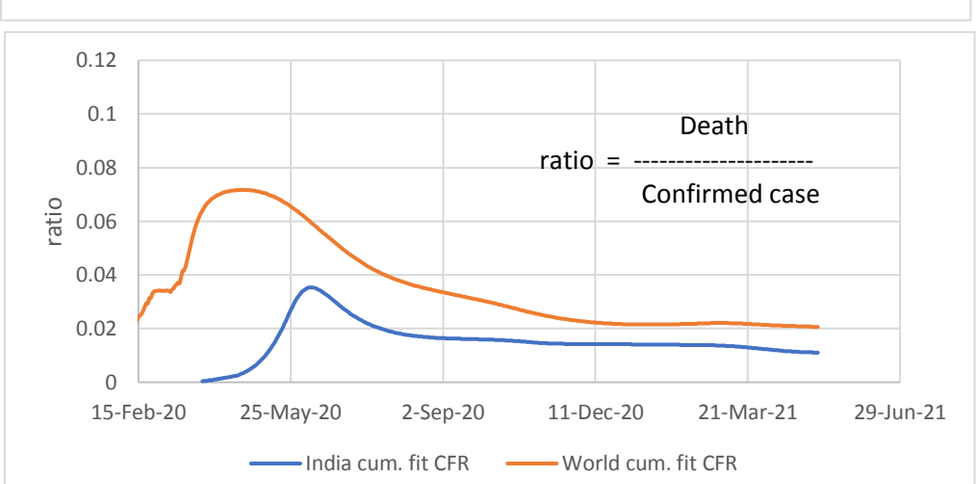
# Experimental page : ratios of curve fit deaths to curve fit confirmed cases (CFR)

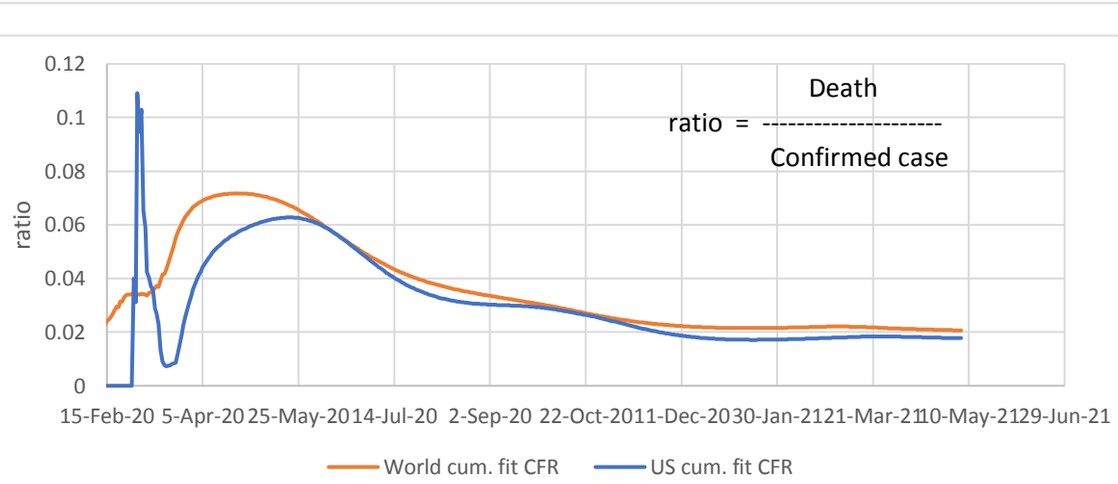


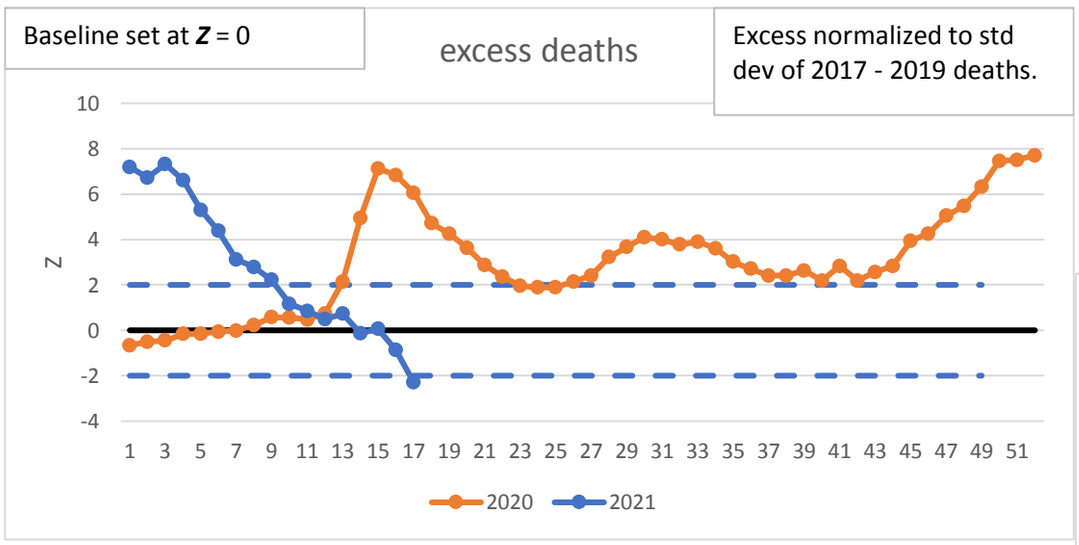



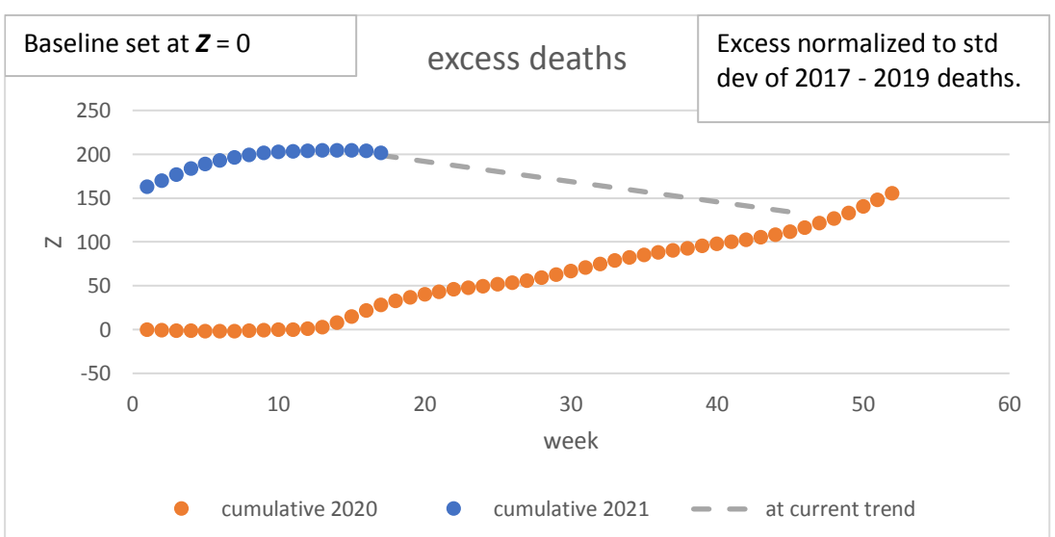



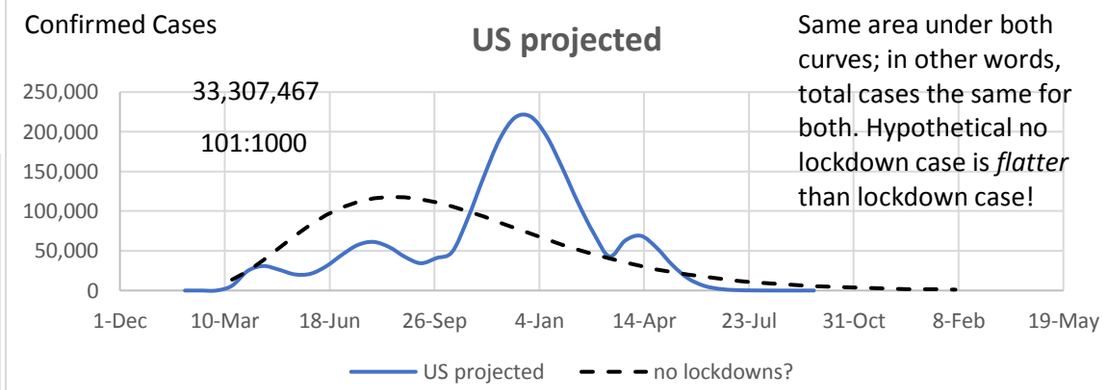

Excess deaths as a Z score:



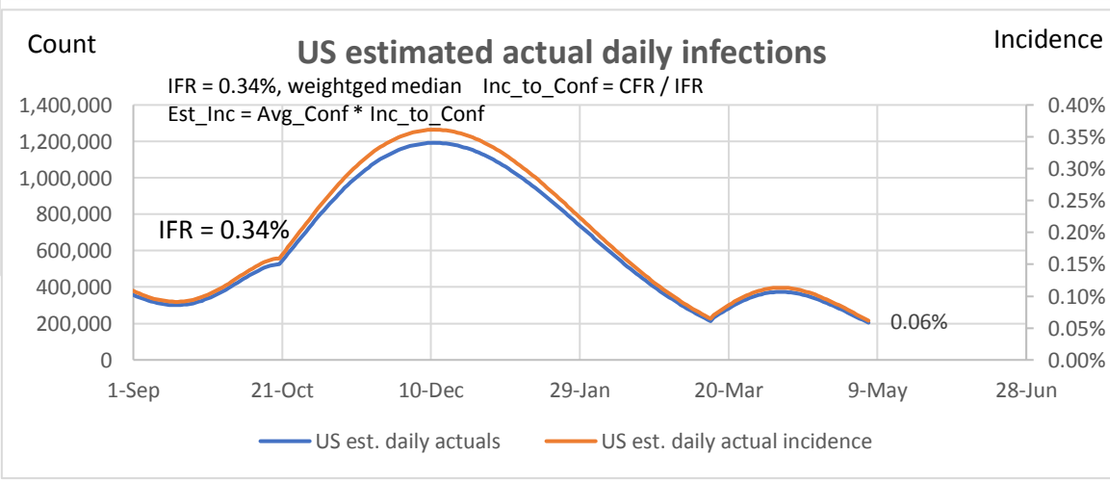

Above based on Z score of three year standard deviation from 2017-2019. What follows is cumulative plot of same.




https://data.cdc.gov/NCHS/Excess-Deaths-Associated-with-COVID-19/xkkf-xrst/data




Same area under both curves; in other words, total cases the same for both. Hypothetical no lockdown case is *flatter* than lockdown case!







<u>False Positives Demonstration</u>

Use 0.06% from US est. incidence above as estimated daily incidence

*Prevalence* estimated as avg. infected period of 2 weeks X incidence

99% accuracy of test

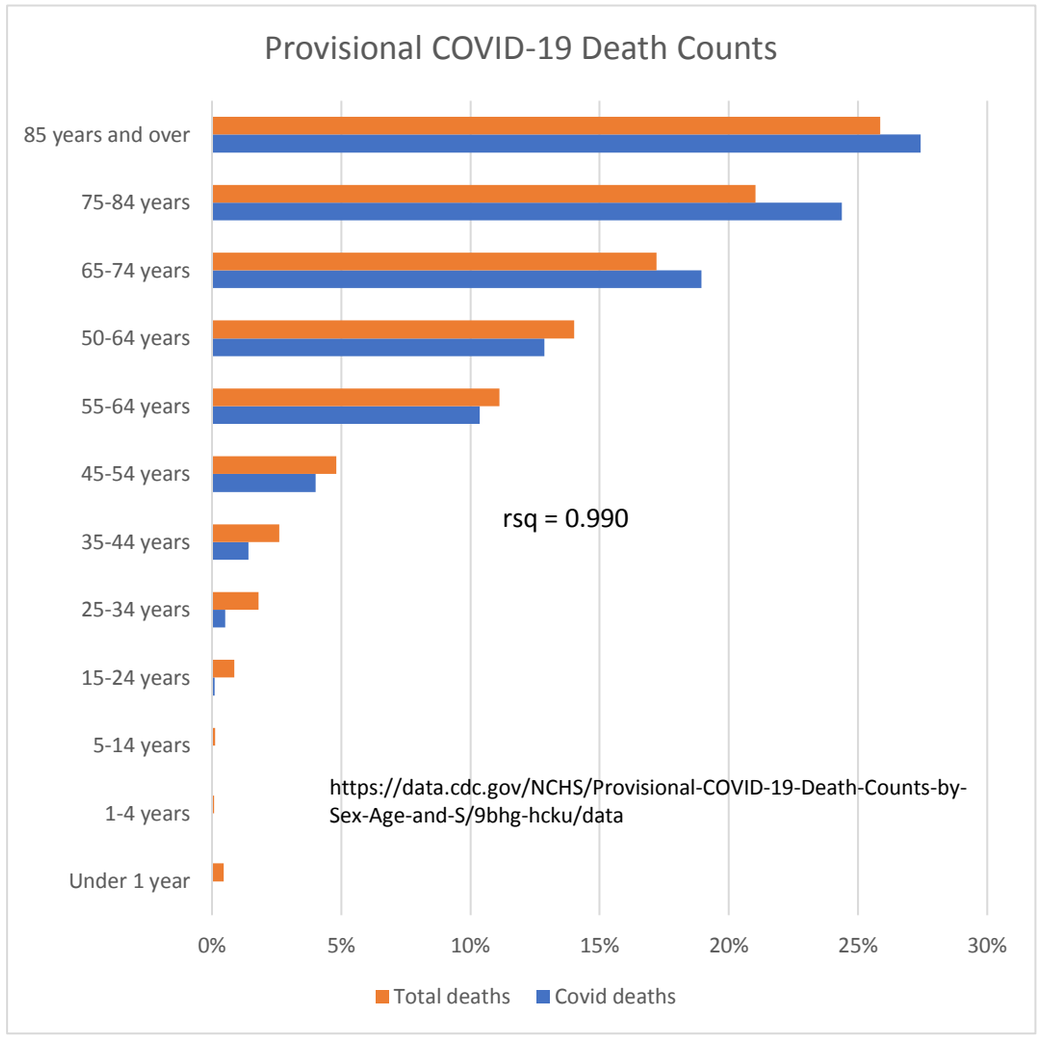
0.06% X 14 = 0.840%

| | Positive | Negative | |
|---|---|---|---|
| test pos | 0.832% | 0.992% | 1.82% |
| test neg | 0.008% | 98.168% | <u>98.18%</u> |
| | 0.840% | 99.160% | 100.00% |

False pos. is more than half of total positives.

| | | |
|---|---|---|
| TRUE + | 0.832%/1.82% | 45.6% |
| FALSE + | 0.992%/1.82% | <u>54.4%</u> |
| Total | ---------- | 100.00% |

Counter-act this tendency by increasing test sensitivity. However this may increase false negatives, the recipients of which may be positive, think they're negative, and go spread it around some more.




**USA Excess Deaths (from CDC data):**

Annualized on 52 weeks

| | All Cause | All Cause, excl. CV19 | CV19 |
|---|---|---|---|
| 3 yr average before 2020 | 859:100,000 | 859:100,000 | - |
| 2020 | 1016:100,000 | 905:100,000 | - |
| Diff. | 157:100,000 | 46:100,000 | 111:100,000 |

| 3 yr average |
|---|
| 859:100,000 |

29% of All-Cause excess deaths are non-CV19

https://data.cdc.gov/NCHS/Excess-Deaths-Associated-with-COVID-19/xkkf-xrst/data

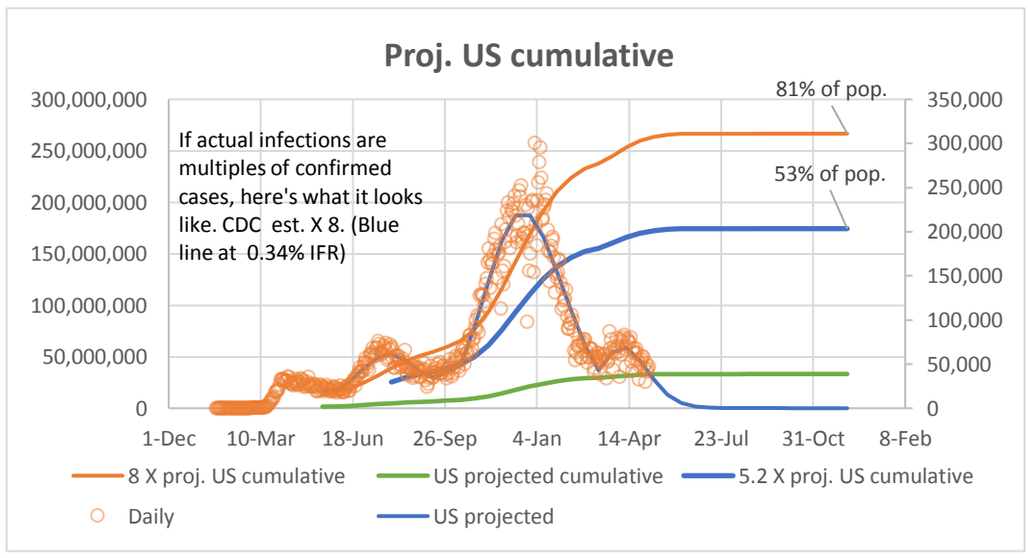
$K$ = 0.318 $R_o$: $R$ :

gamma = 0.171 $R_o = \exp(K/\text{gamma})$ = 6.42 84%

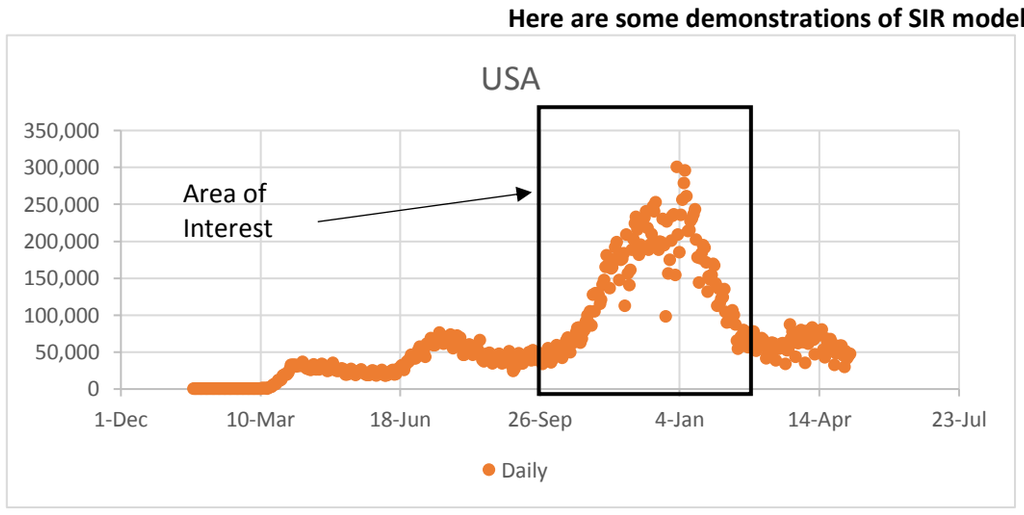
gamma = 0.286 $R > 1 - 1/R_o$ = 3.04 67%

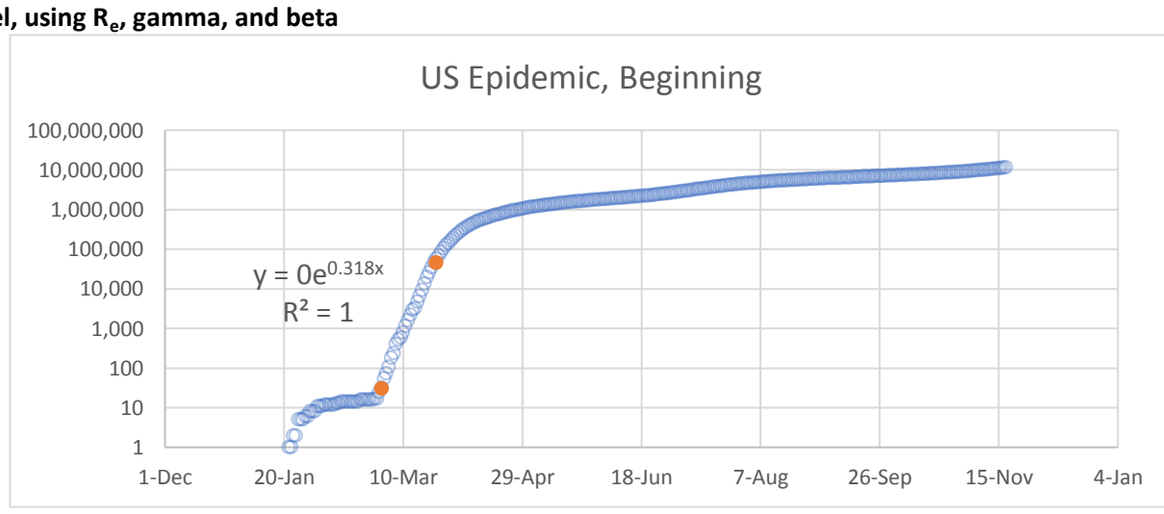
<=Herd immunity

$R$ is *recovered* variable.

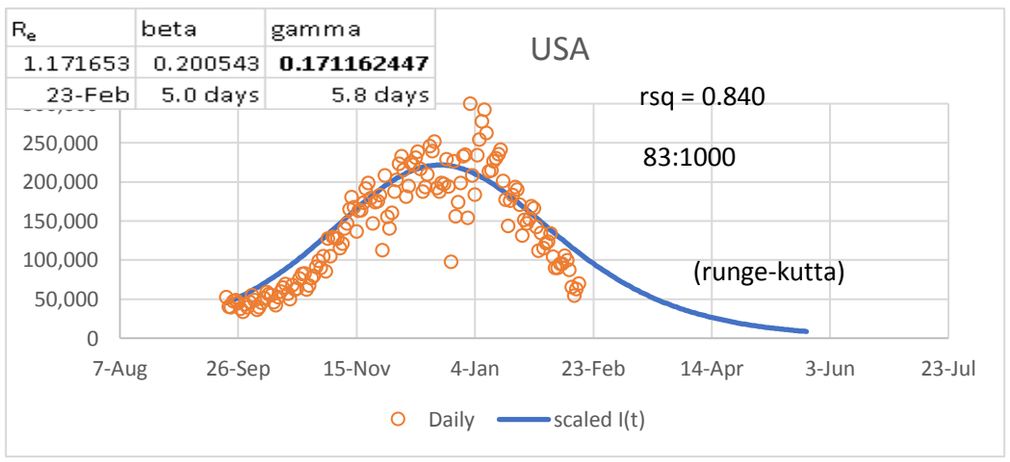


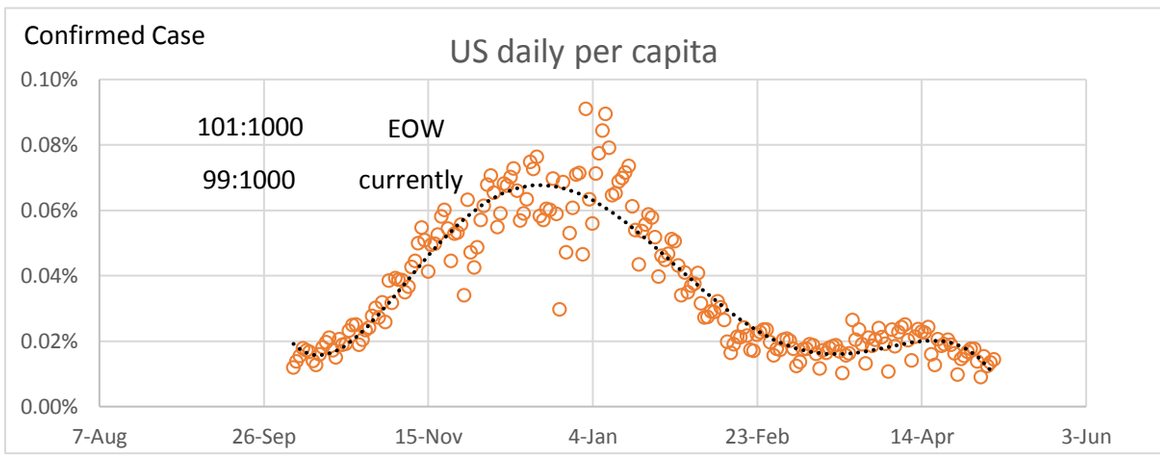

**Here are some demonstrations of SIR model, using $R_e$, gamma, and beta**



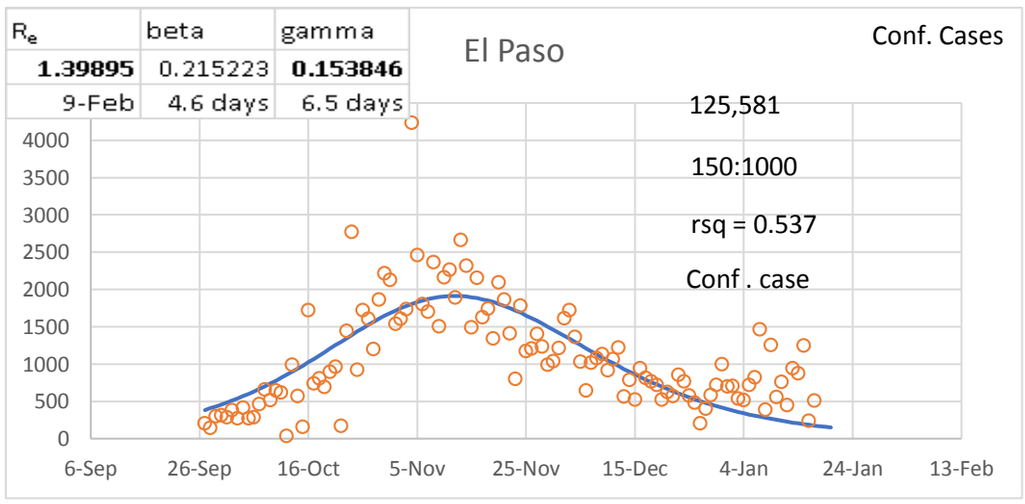



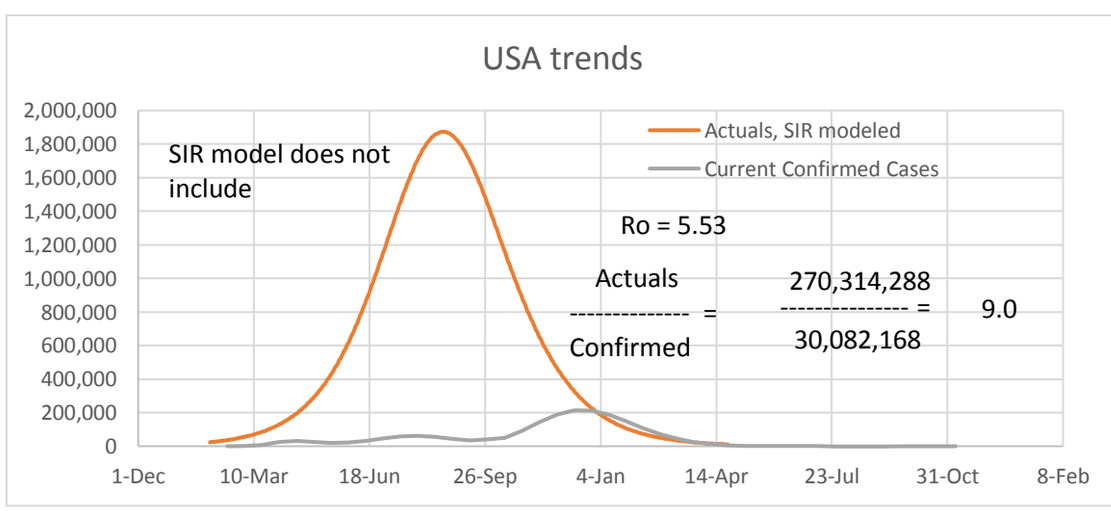

| $R_e$ | beta | gamma |
|---|---|---|
| 1.171653 | 0.200543 | **0.171162447** |
| 23-Feb | 5.0 days | 5.8 days |



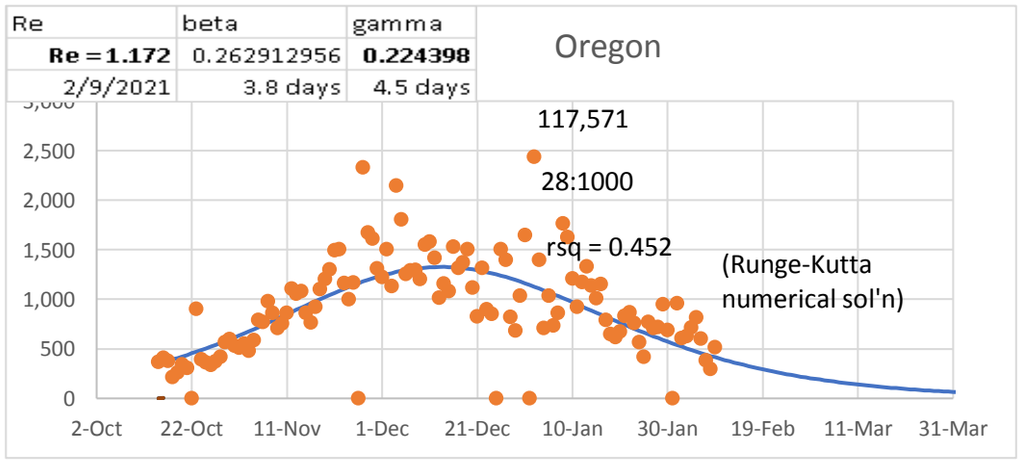




| $R_e$ | beta | gamma |
|---|---|---|
| **1.39895** | 0.215223 | **0.153846** |
| 9-Feb | 4.6 days | 6.5 days |

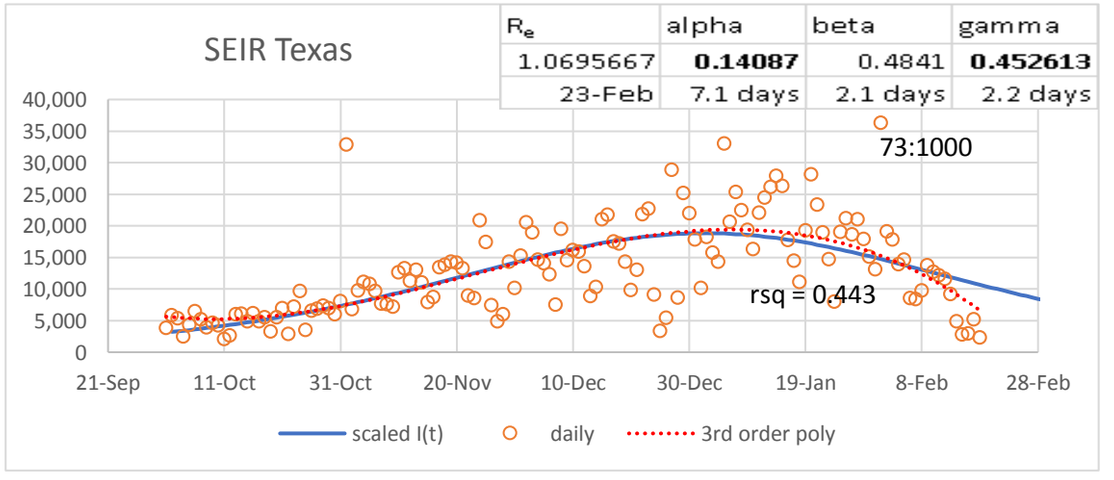


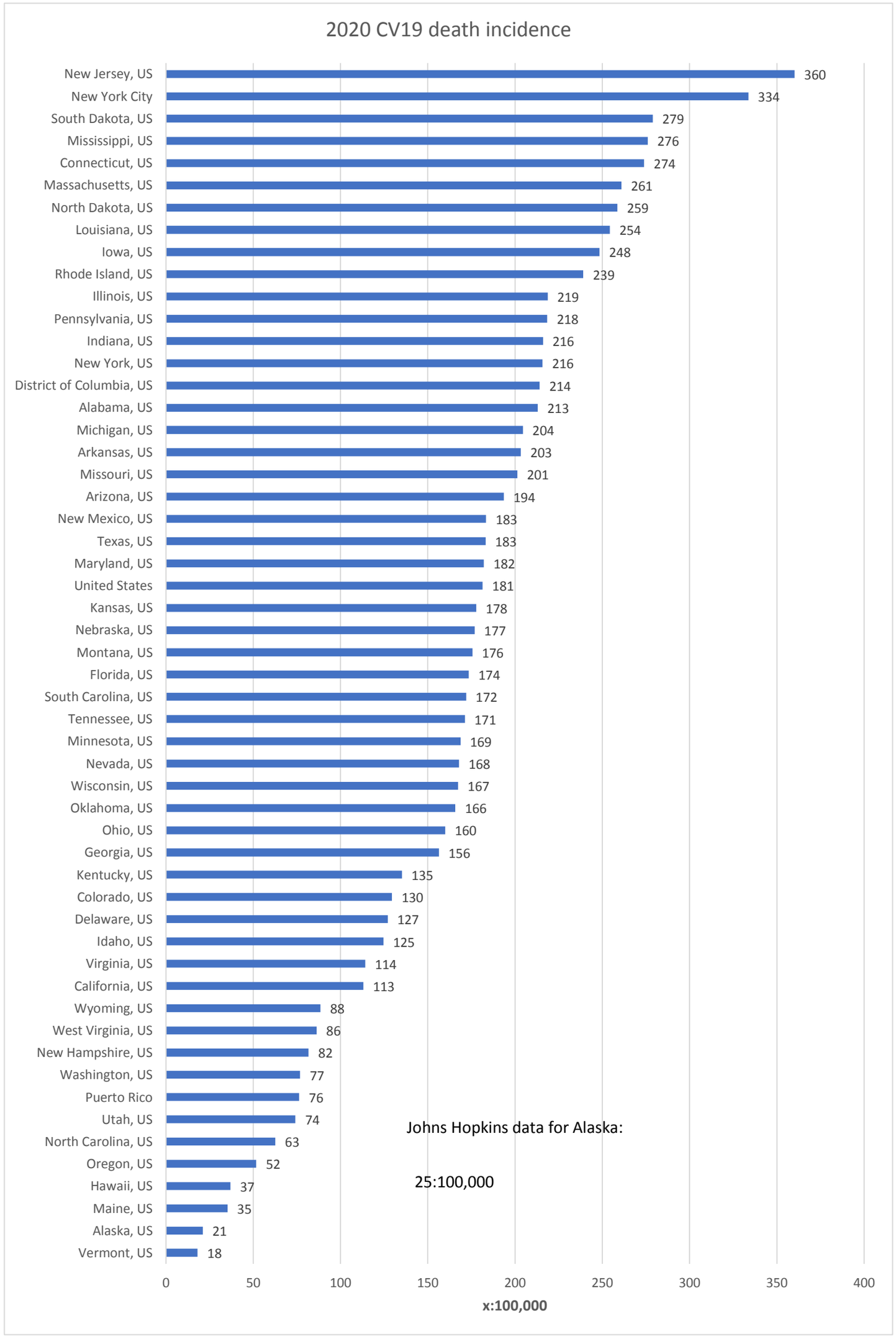




| Re | beta | gamma |
|---|---|---|
| **Re = 1.172** | 0.262912956 | **0.224398** |
| 2/9/2021 | 3.8 days | 4.5 days |




| $R_e$ | alpha | beta | gamma |
|---|---|---|---|
| 1.0695667 | **0.14087** | 0.4841 | **0.452613** |
| 23-Feb | 7.1 days | 2.1 days | 2.2 days |






https://data.cdc.gov/NCHS/Weekly-Counts-of-Deaths-by-State-and-Select-Causes/muzy-jte6/data