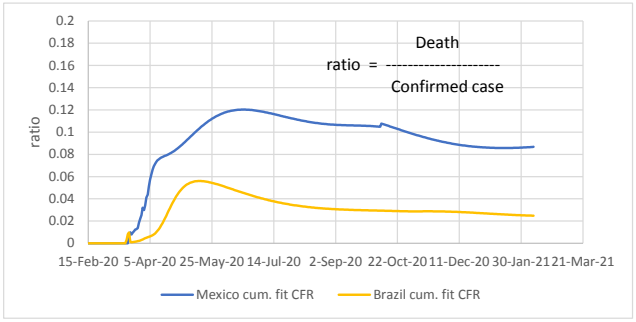
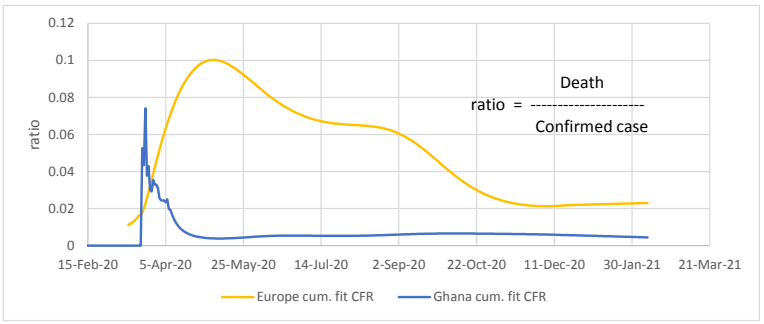
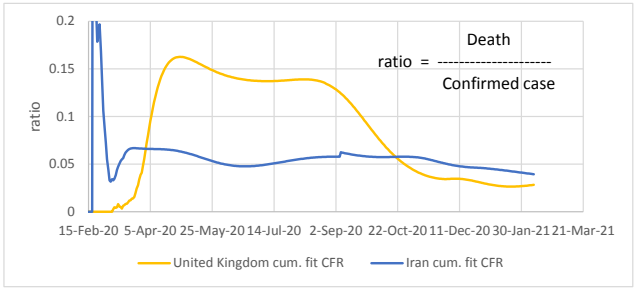
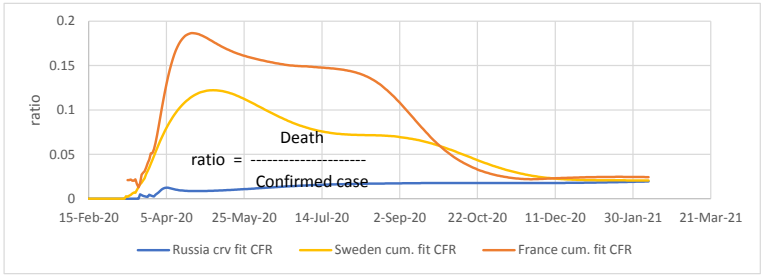
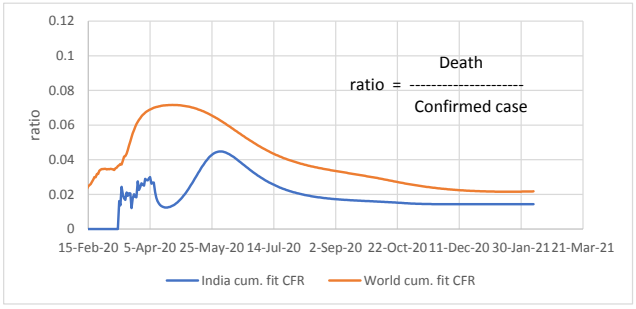
Experimental page : ratios of curve fit deaths to curve fit confirmed cases (CFR)

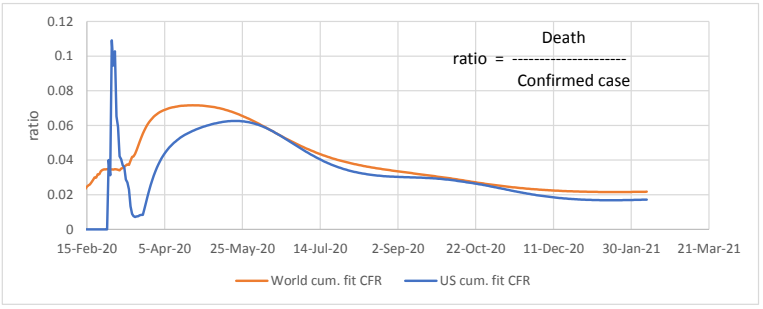




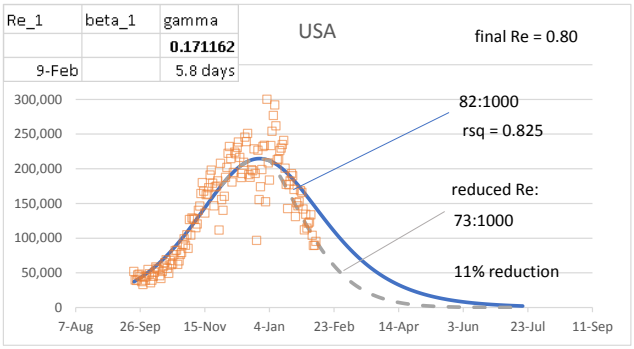


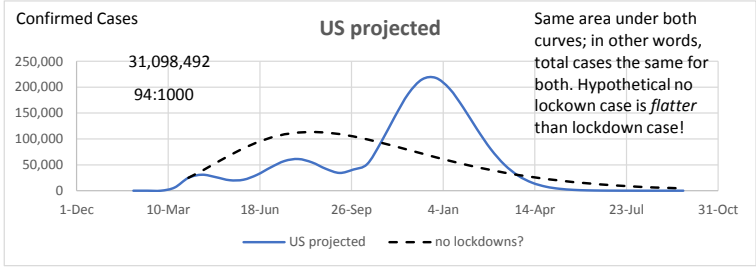




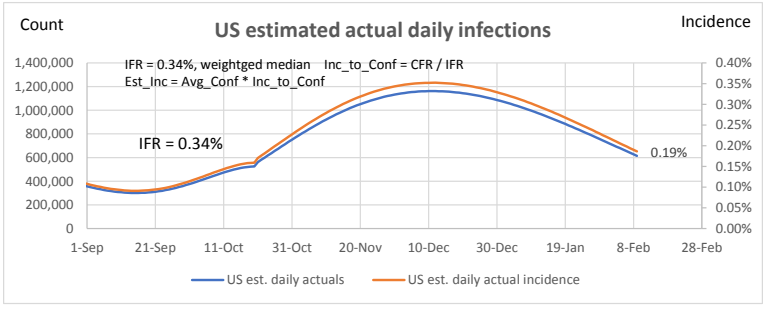


Demonstration of SIR model where R_e is linearly reduced to 0.80 at the end of the sequence:

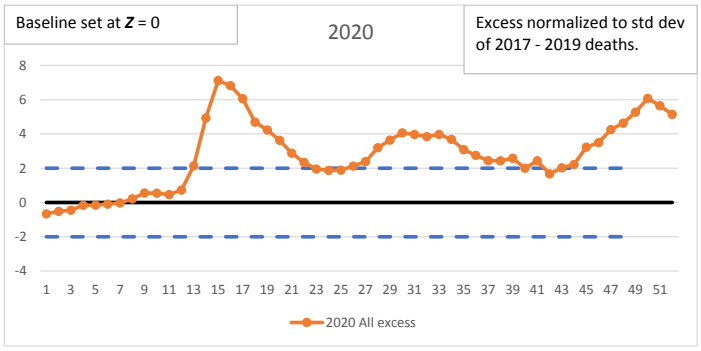




Same area under both curves; in other words, total cases the same for both. Hypothetical no lockown case is *flatter* than lockdown case!



Reducing the R_e while keeping gamma constant is the same as reducing contact rate. Contact rate is reduced through isolation, lockdowns, and vaccinations. Seems to indicate timing of start of measures is a big factor. The orange data taken as without measures, but we know certain measures were taken. Hard to determine effect, without a basis of comparison.



<u>False Positives Demonstration</u>

Use 0.19% from US est. incidence above as estimated daily incidence

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

0.19% X 14 = 2.660%

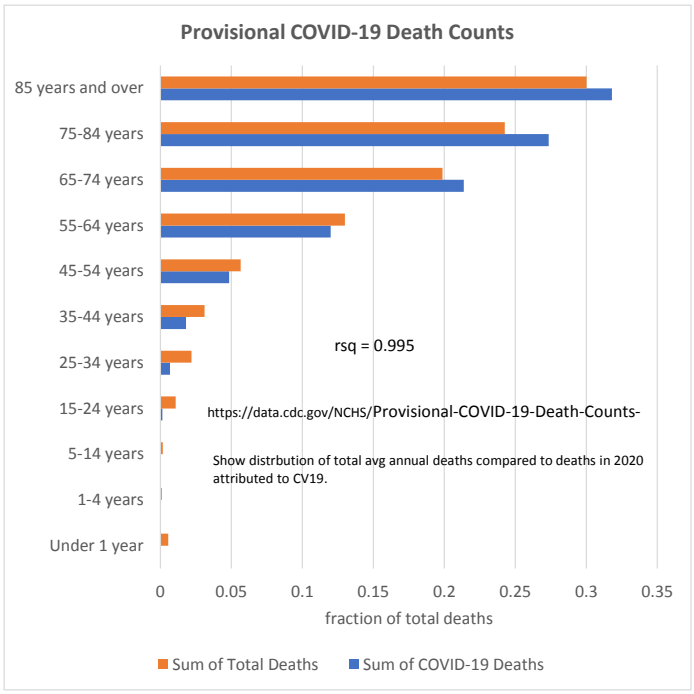
99% accuracy of test

	Positive	Negative	
test pos	2.633%	0.973%	3.61%
test neg	0.027%	96.367%	<u>96.39%</u>
	2.660%	97.340%	100.00%

False pos. is a 1/4 of total positives.

TRUE +	2.633%/3.61%	73.0%
FALSE +	0.973%/3.61%	<u>27.0%</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	1004:100,000	898:100,000	-
Diff.	148:100,000	39:100,000	109:100,000

3 yr average
859:100,000

26% of All-Cause excess deaths are non-CV19

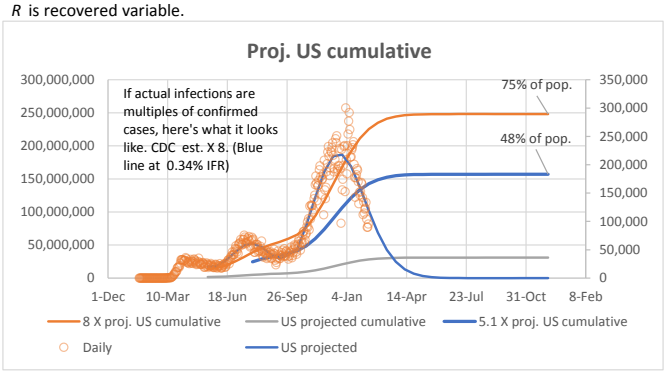
https://data.cdc.gov/NCHS/Excess-Deaths-Associated-with-COVID-19/xkkf-xrst/data

K = 0.318

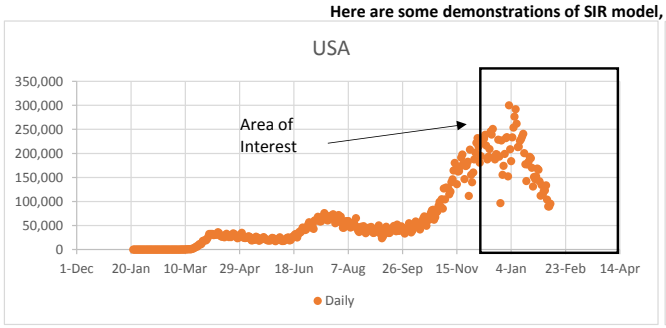
gamma = 0.171 R_o = exp(K /gamma) = 6.42 84%

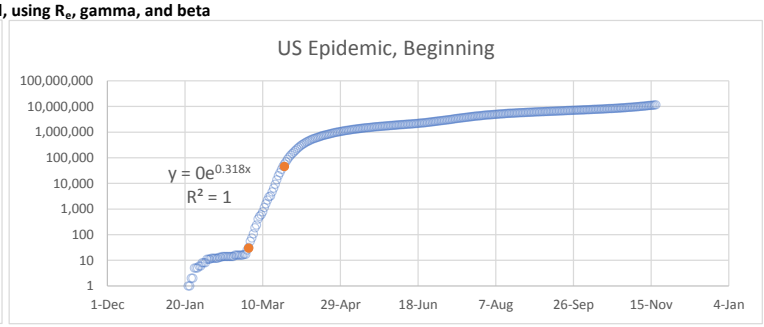
gamma = 0.286 $R > [1 - 1/R_0]/N$ = 3.04 67% <=Herd immunity

R is recovered variable.

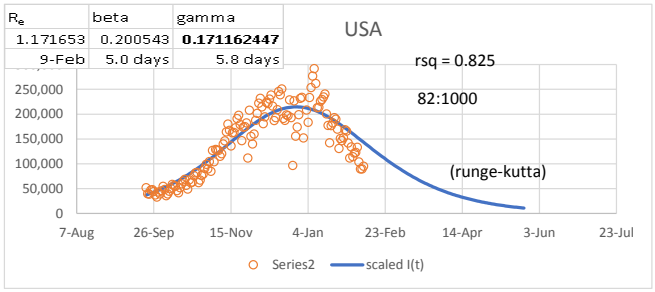


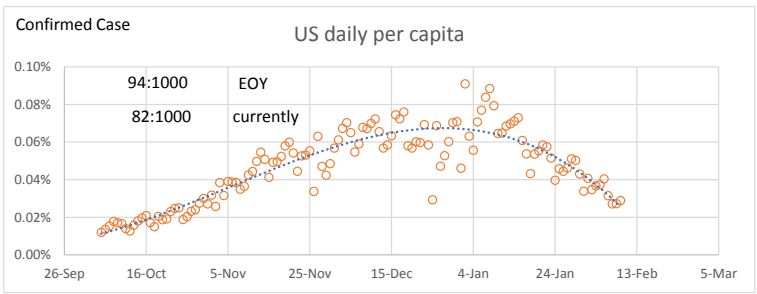
Here are some demonstrations of SIR model, using R_e, gamma, and beta



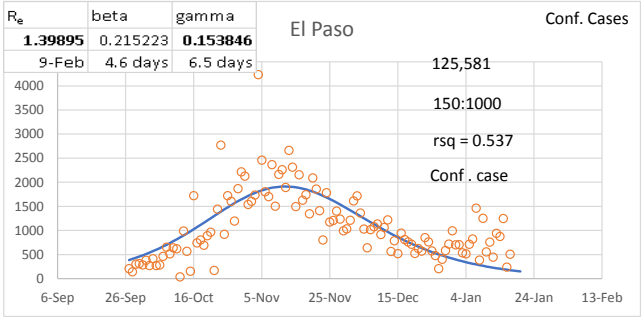


R_e	beta	gamma
1.171653	0.200543	**0.171162447**
9-Feb	5.0 days	5.8 days

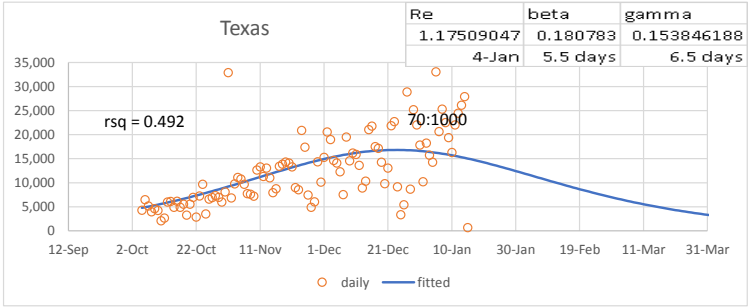




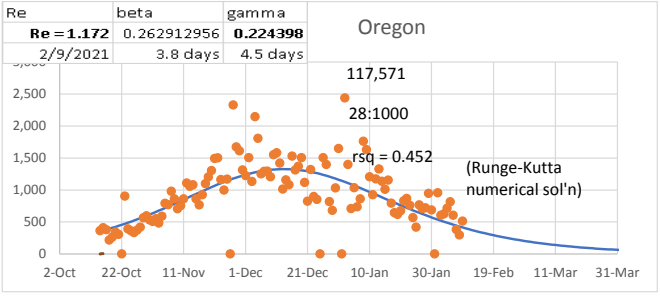
R_e	beta	gamma
1.39895	0.215223	**0.153846**
9-Feb	4.6 days	6.5 days



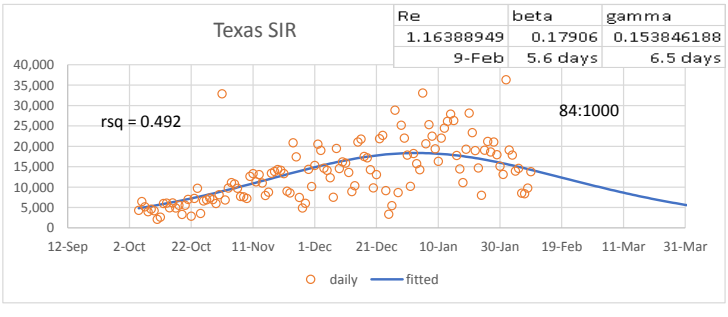
Re	beta	gamma
1.17509047	0.180783	0.153846188
4-Jan	5.5 days	6.5 days

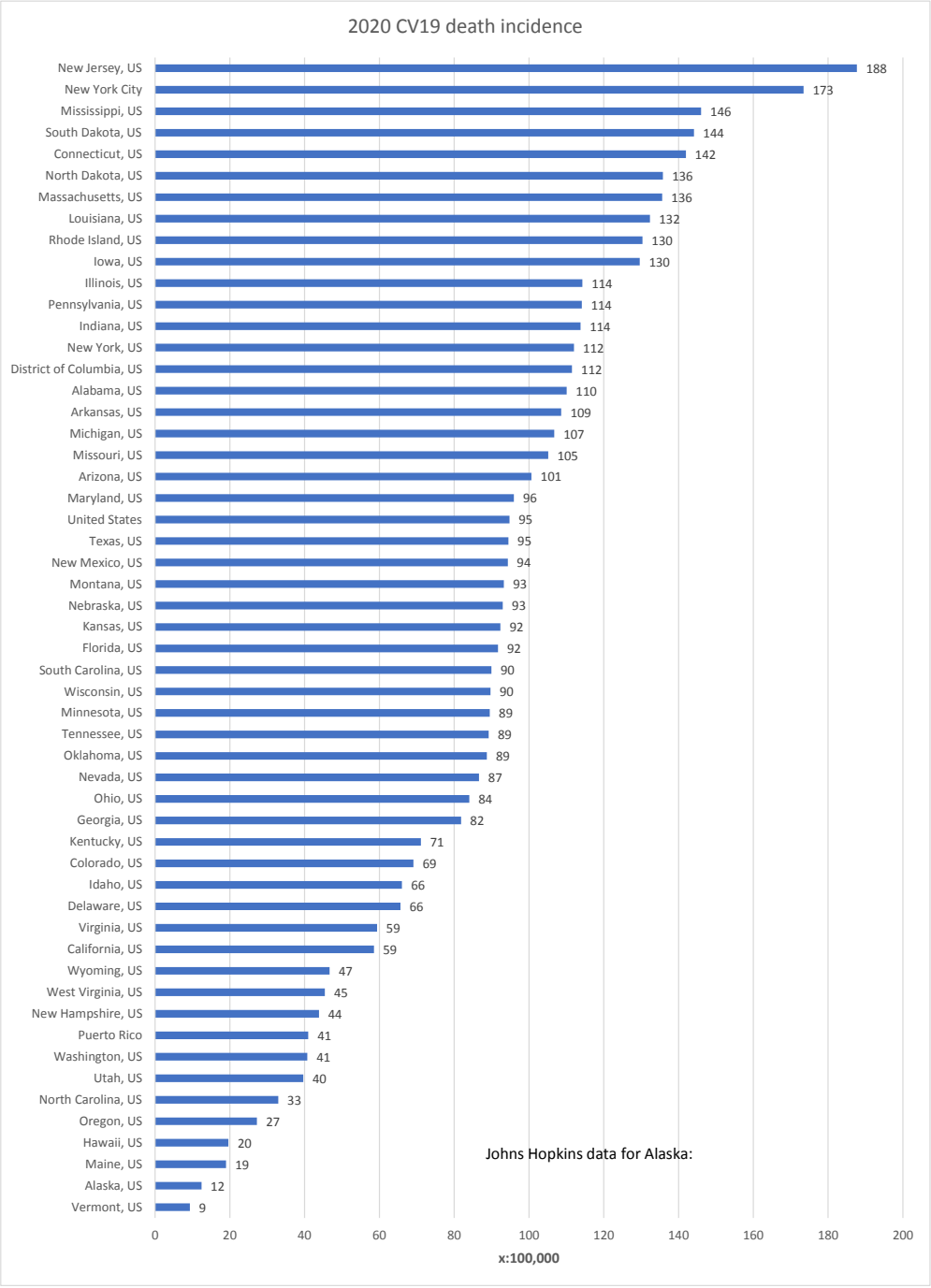


Re	beta	gamma
Re = 1.172	0.262912956	**0.224398**
2/9/2021	3.8 days	4.5 days



Re	beta	gamma
1.16388949	0.17906	0.153846188
9-Feb	5.6 days	6.5 days





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