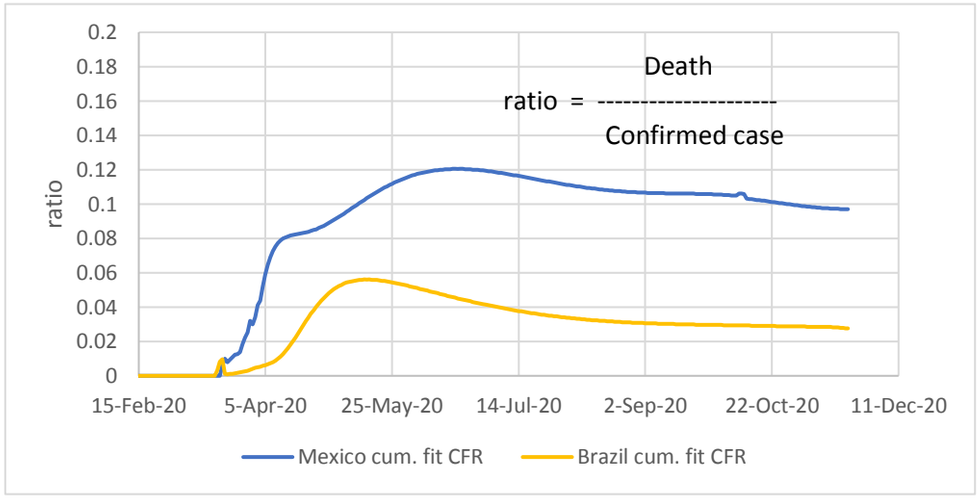
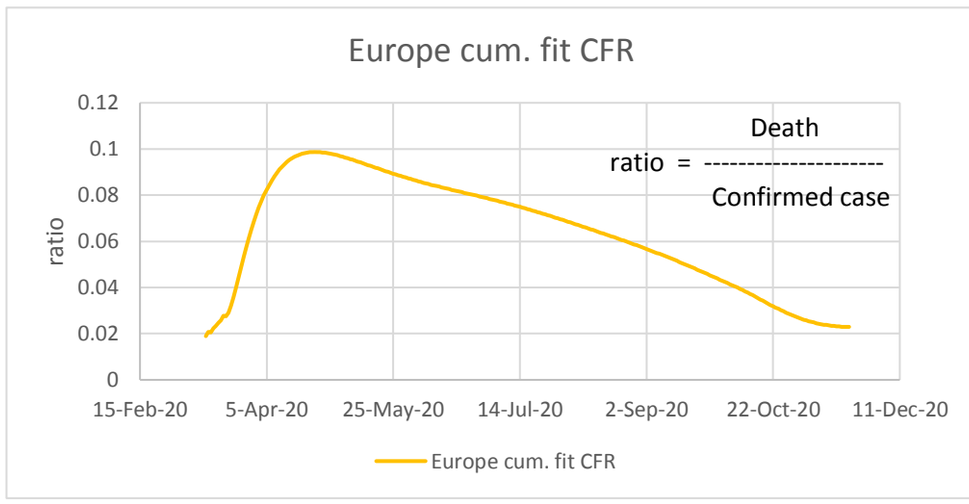
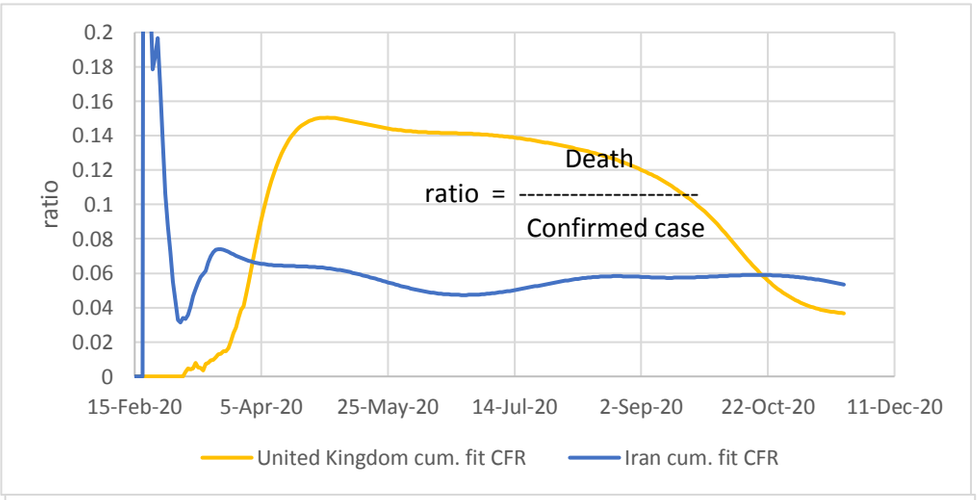
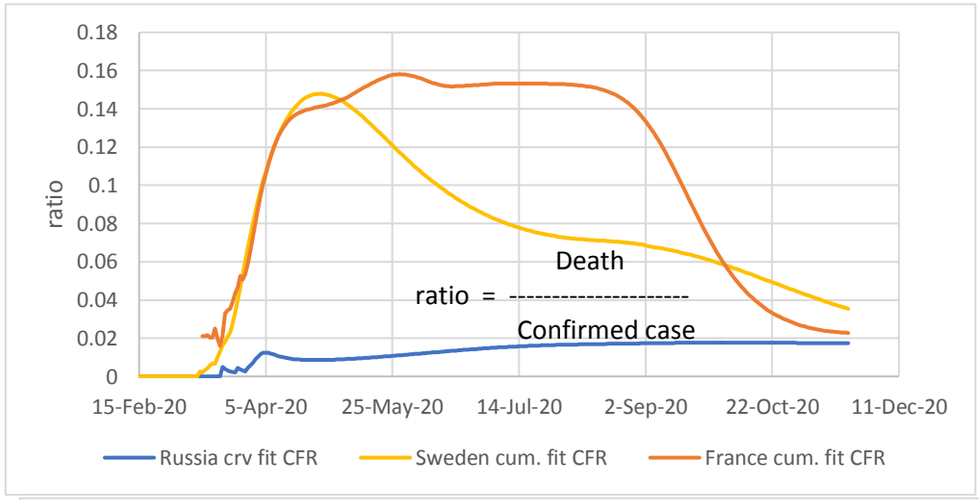
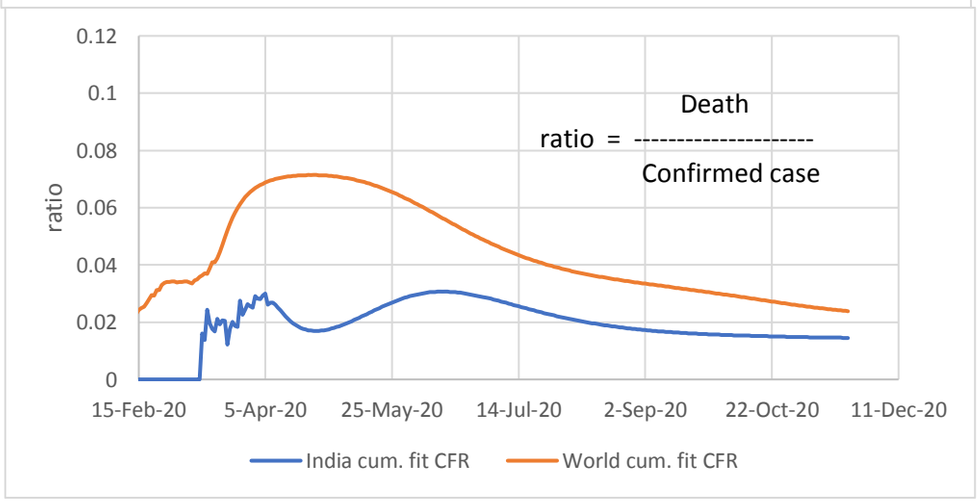
Experimental page : ratios of curve fit deaths to curve fit confirmed cases

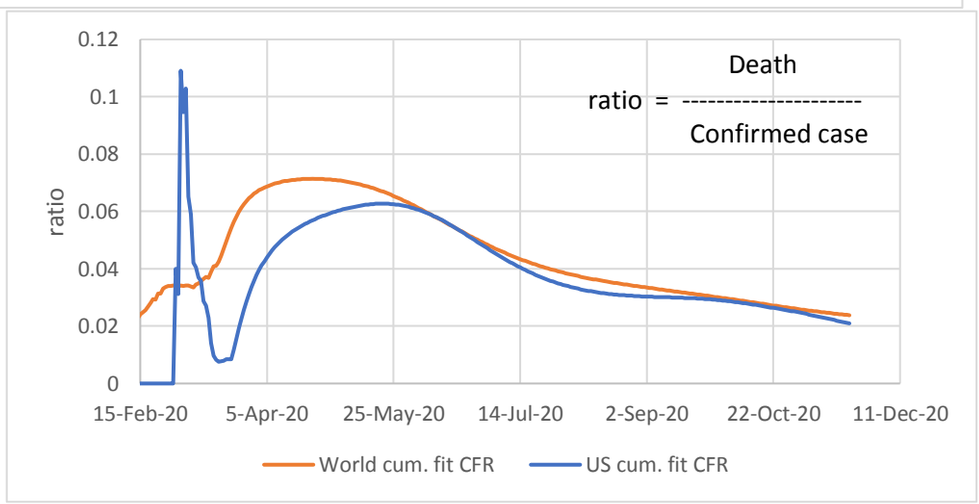


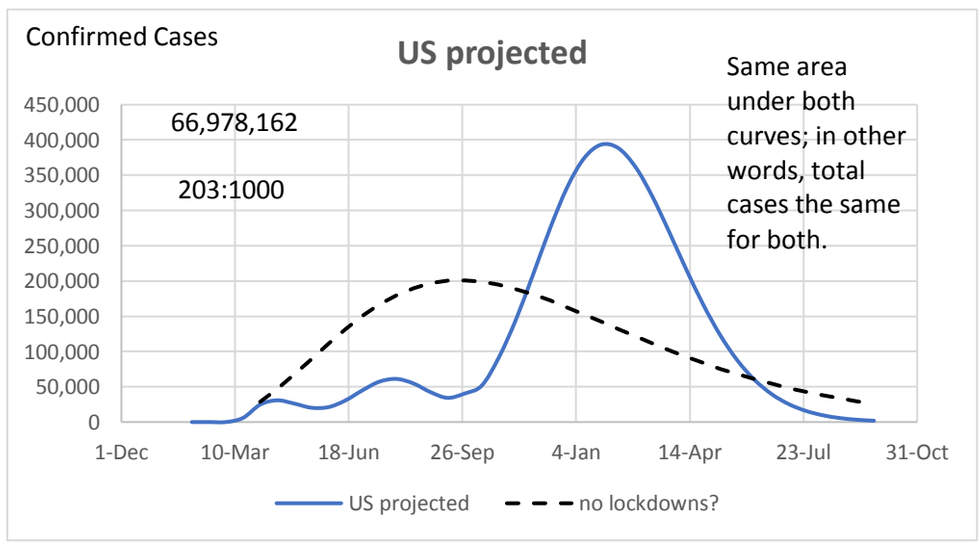



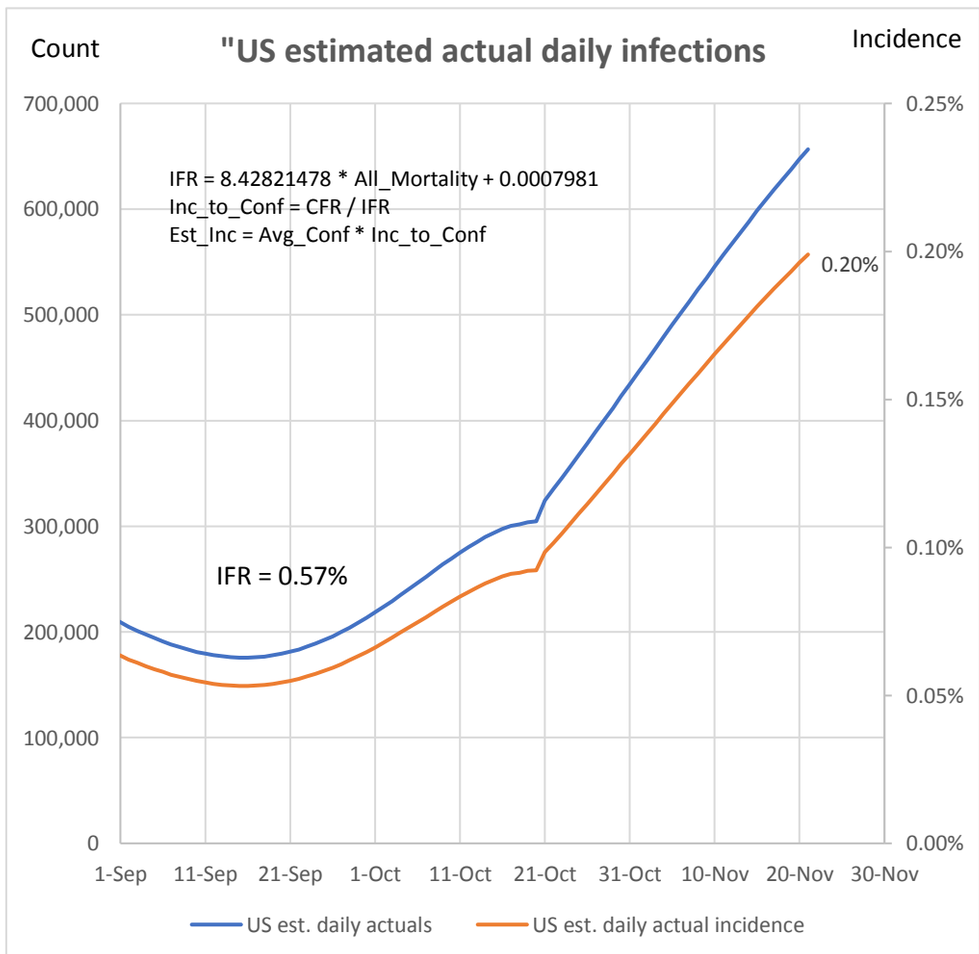



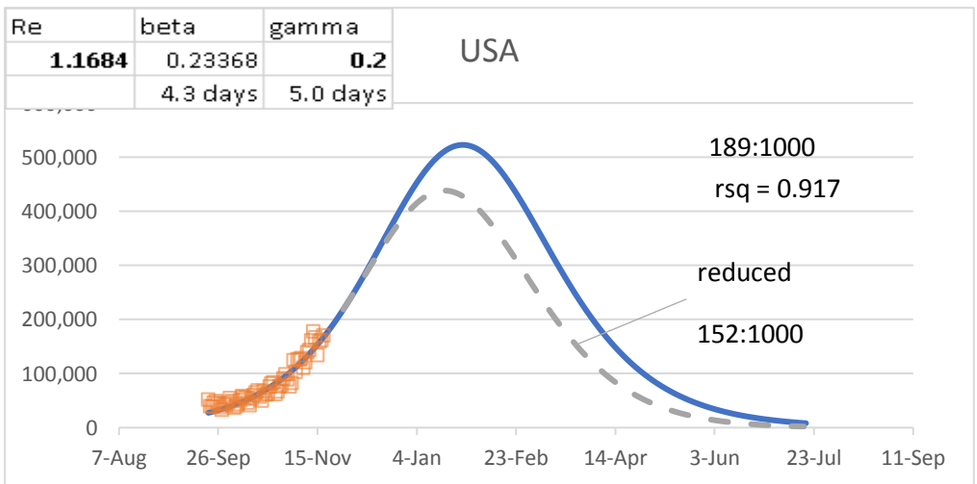



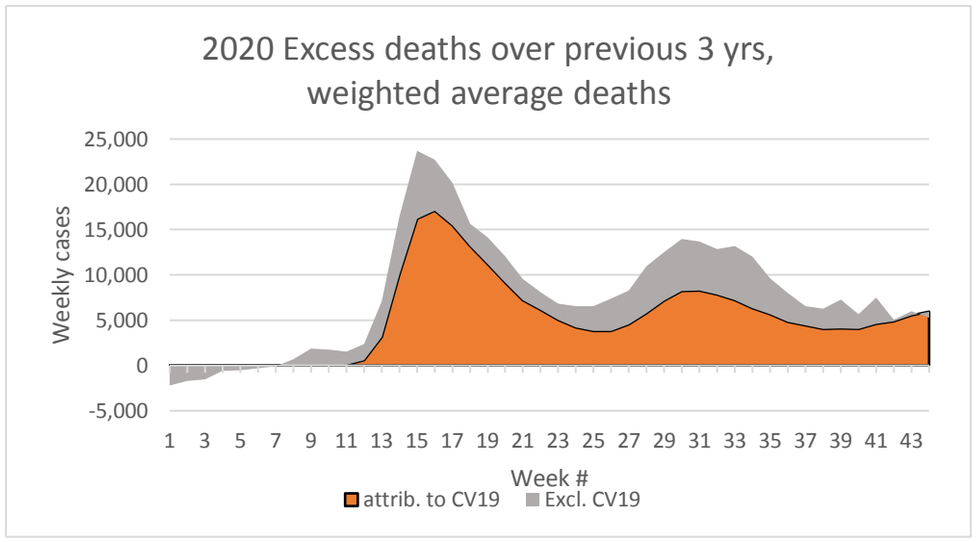




Demonstration of SIR model where $R_e$ is linearly reduced to 1 at the end of the sequence:




Reducing the $R_e$ while keeping gamma constant is the same as reducing contact rate. Contact rate is reduced through isolation, lockdowns, and vaccinations.




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

Annualized on 45 weeks

| | All Cause | All Cause, excl. | CV19 |
|---|---|---|---|
| 3 yr average before 2020 | 854:100,000 | 854:100,000 | - |
| 2020 | 975:100,000 | 893:100,000 | - |
| Diff. | 121:100,000 | 38:100,000 | 82:100,000 |

3 yr average

859:100,000

32% of All-Cause excess deaths are non-CV19

<u>False Positives Demonstration</u>

Use 0.20% from US est. incidence above as estimated daily incidence

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

99% accuracy of test 0.20% X 14 = 2.800%

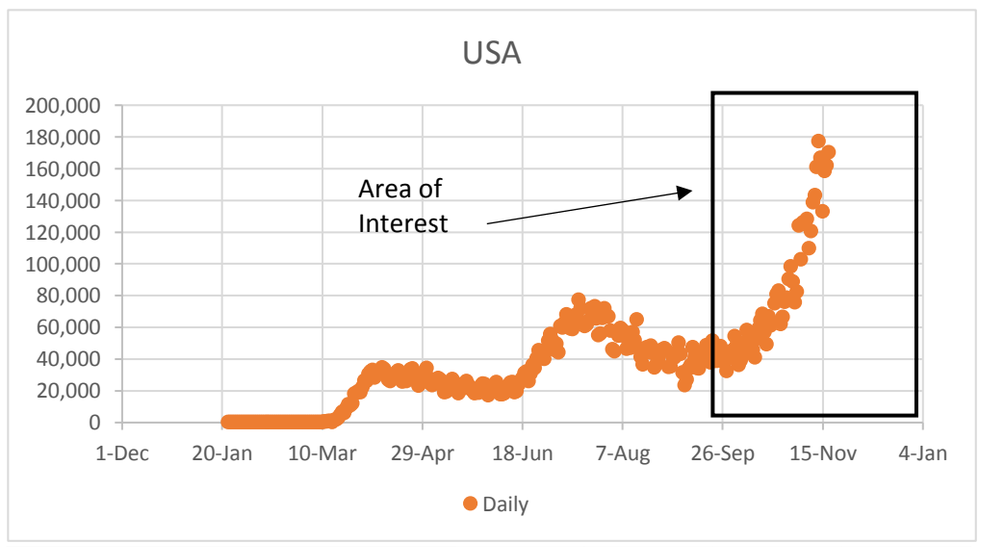
| | Positive | Negative | |
|---|---|---|---|
| test pos | 2.772% | 0.972% | 3.74% |
| test neg | 0.028% | 96.228% | <u>96.26%</u> |
| | 2.800% | 97.200% | 100.00% |

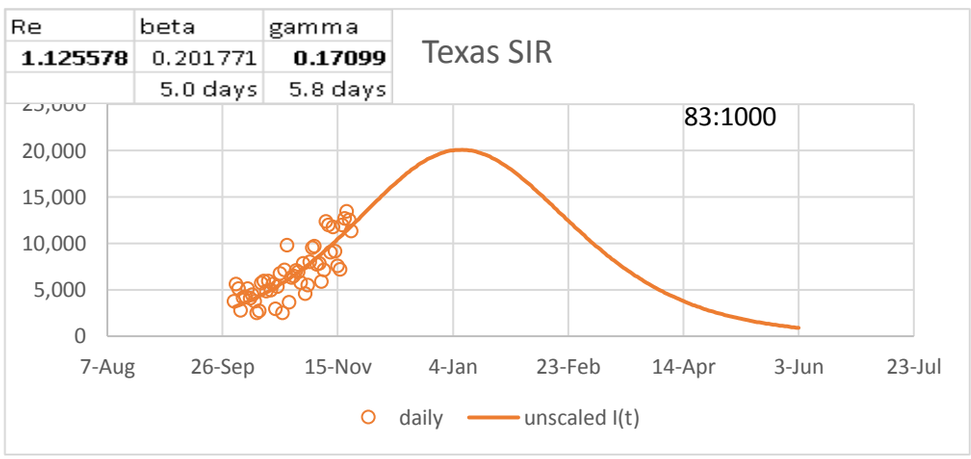
False pos. is nearly 1/4 of total positives!

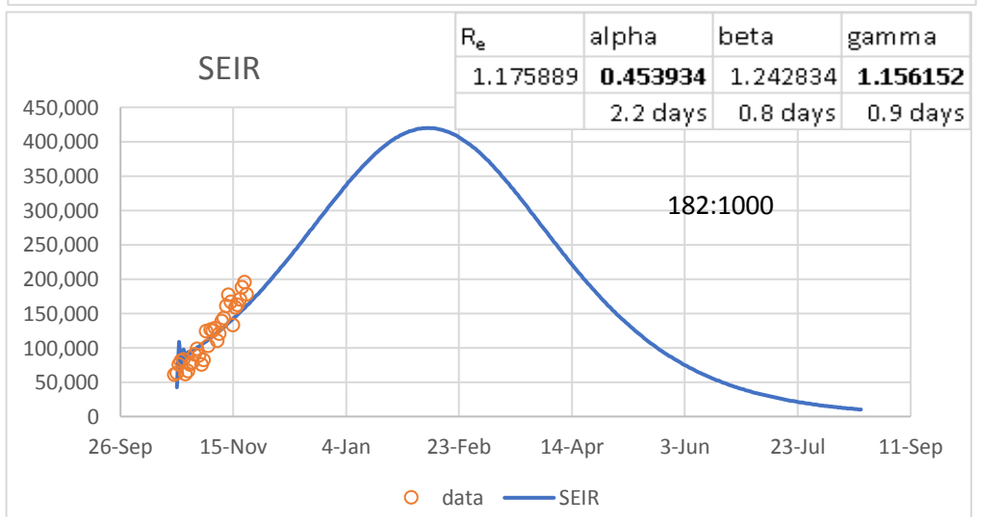
| | | |
|---|---|---|
| TRUE + | 2.772%/3.74% | 74.0% |
| FALSE + | 0.972%/3.74% | <u>26.0%</u> |
| Total | ---------- | 100.00% |

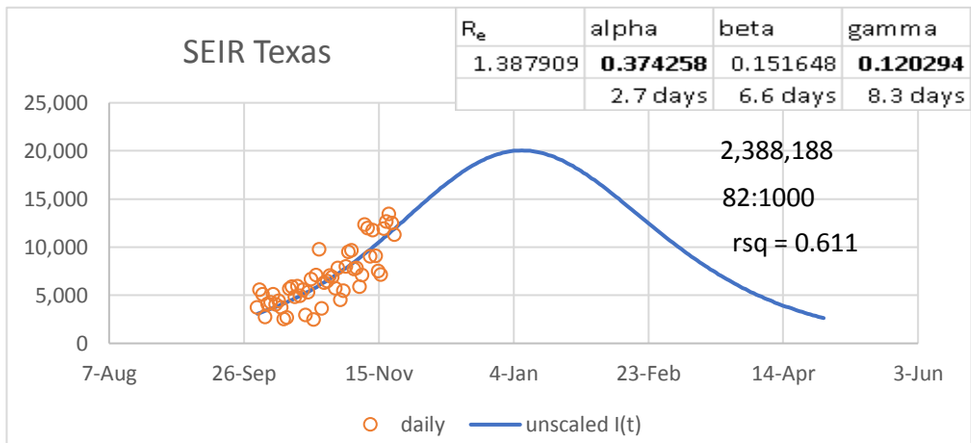
Counter-act this tendency by increasing test sensitivity. However this may increase false negatives, the recipients of which may be positive, think they're negative, and go spread it around some more.

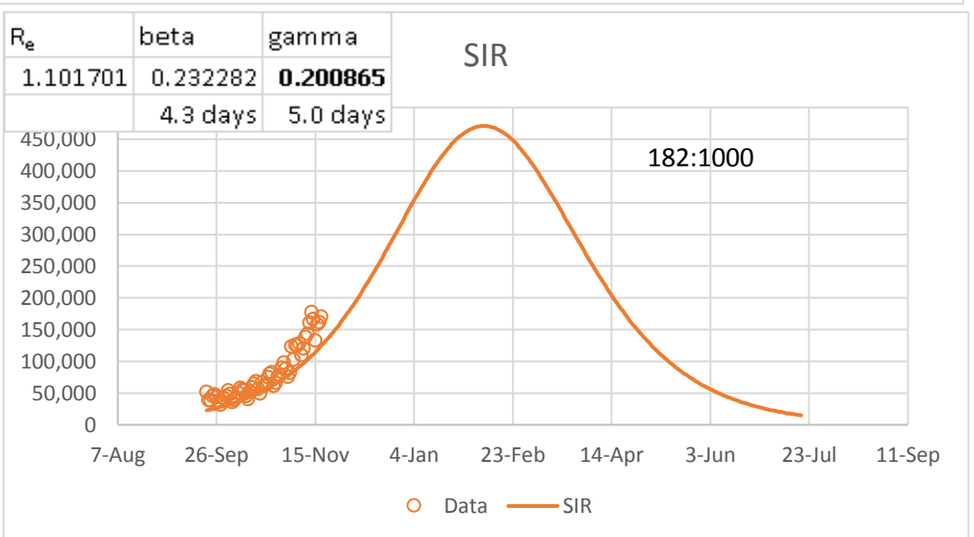
**Here are some demonstrations of SIR model (and a SEIR model), using $R_e$, gamma, and beta**

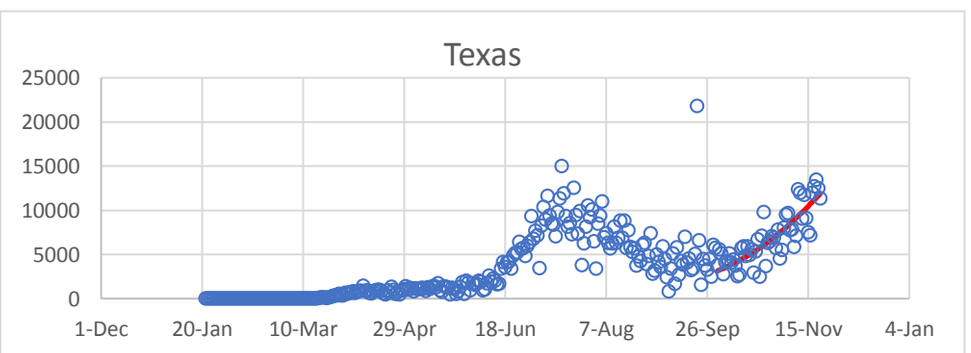


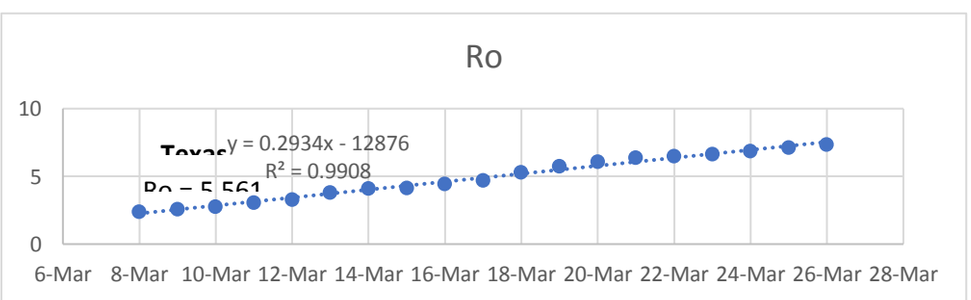



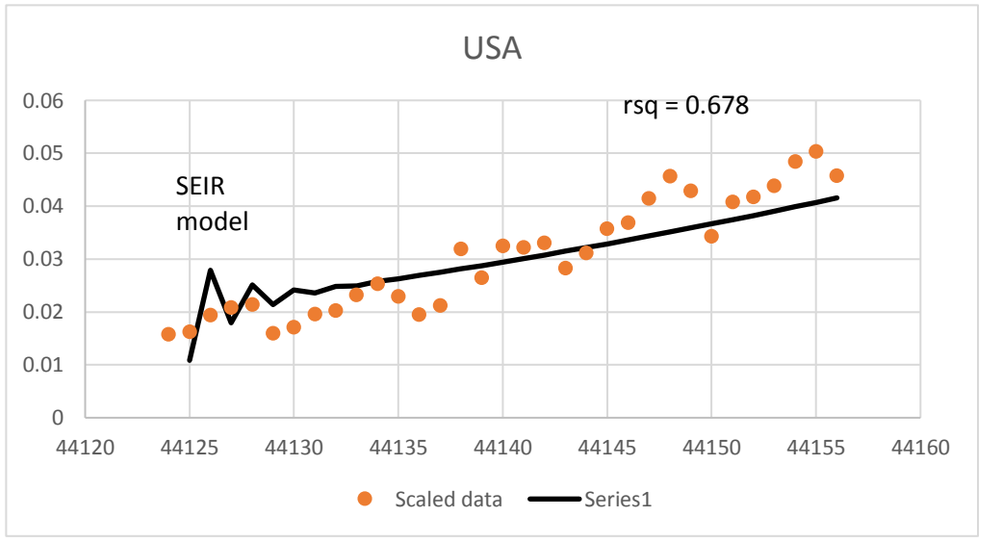



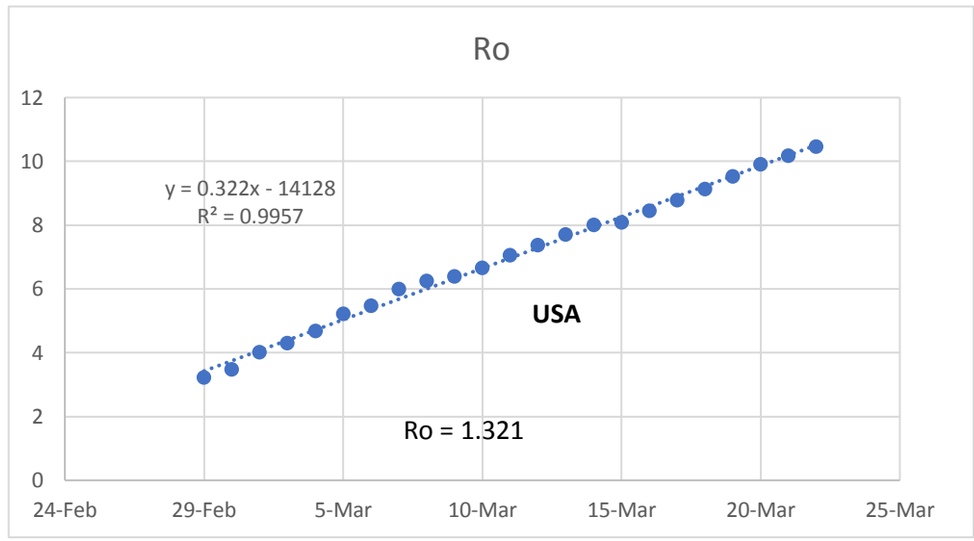



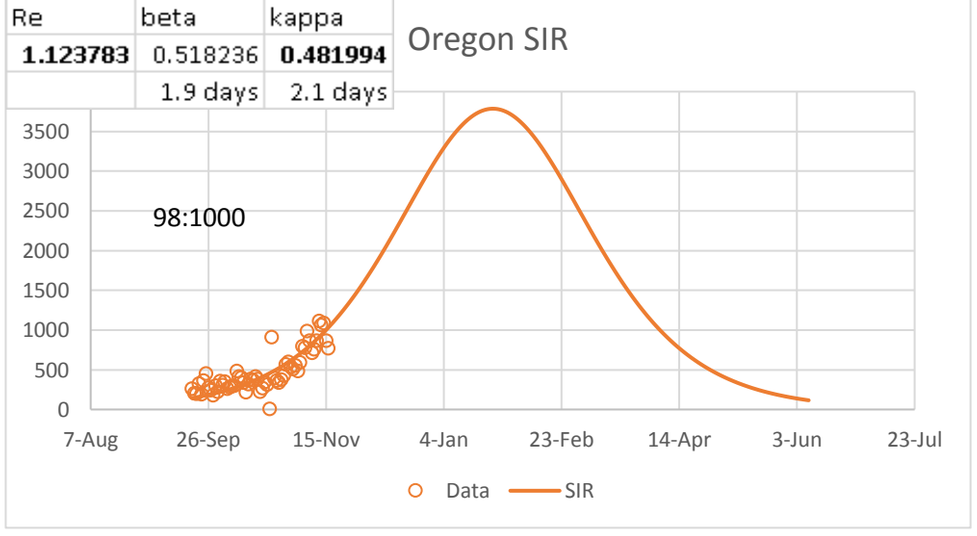



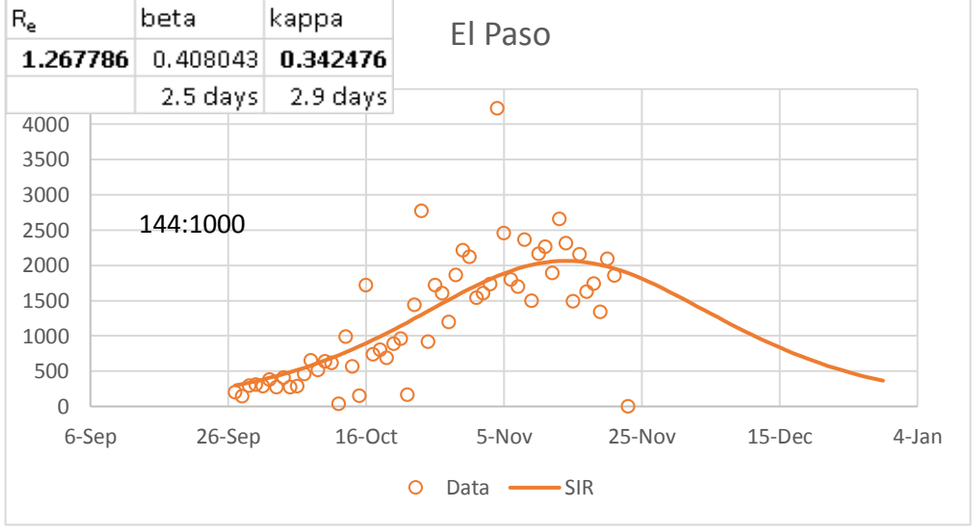



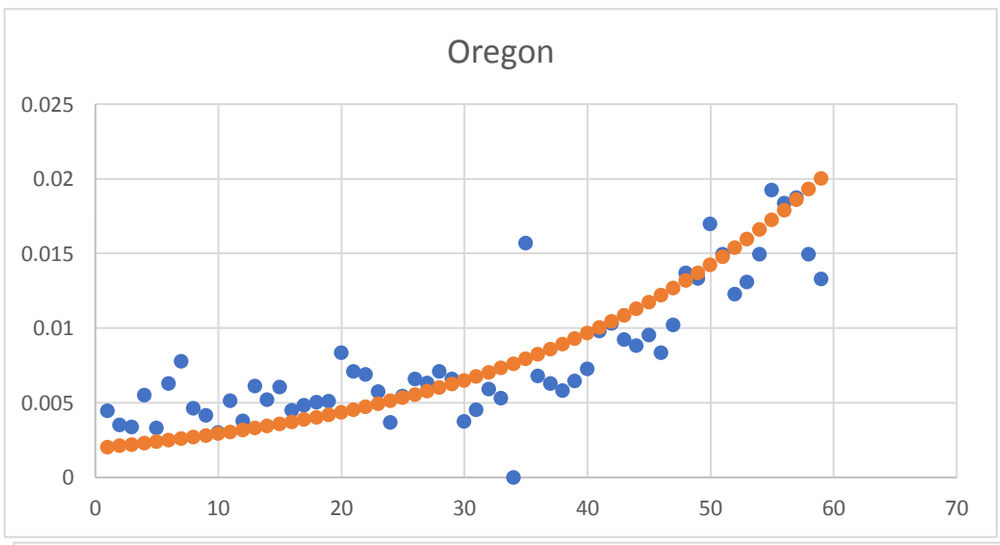



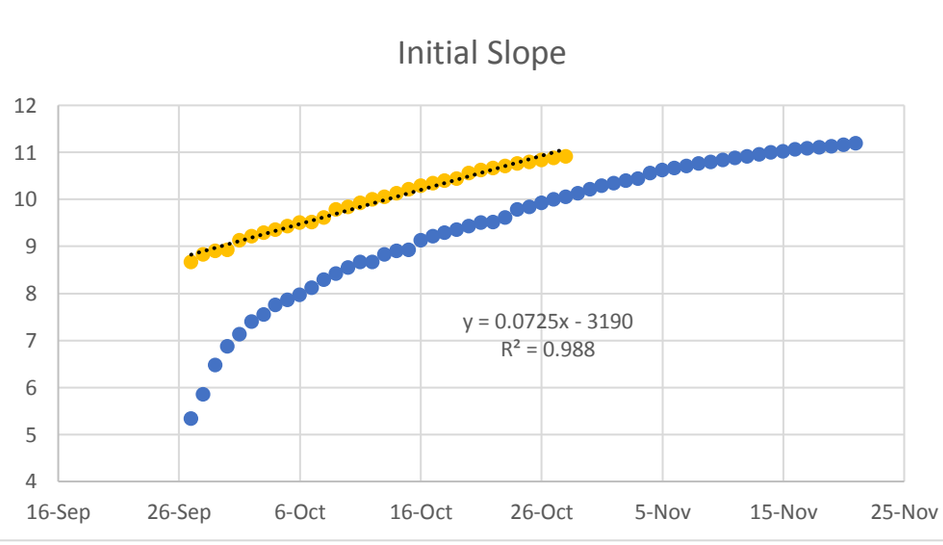

USA
rsq = 0.678
SEIR
model
0.06
0.05
0.04
0.03
0.02
0.01
0
44120
44125
44130
44135
44140
44145
44150
44155
44160
Scaled data
Series1

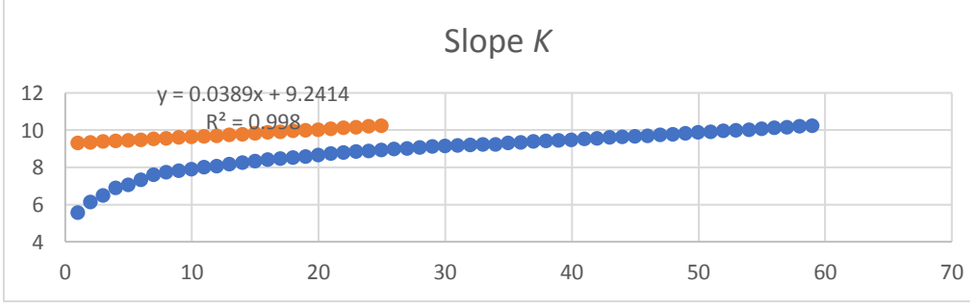

Ro
y = 0.322x - 14128
R² = 0.9957
USA
Ro = 1.321
12
10
8
6
4
2
0
24-Feb
29-Feb
5-Mar
10-Mar
15-Mar
20-Mar
25-Mar

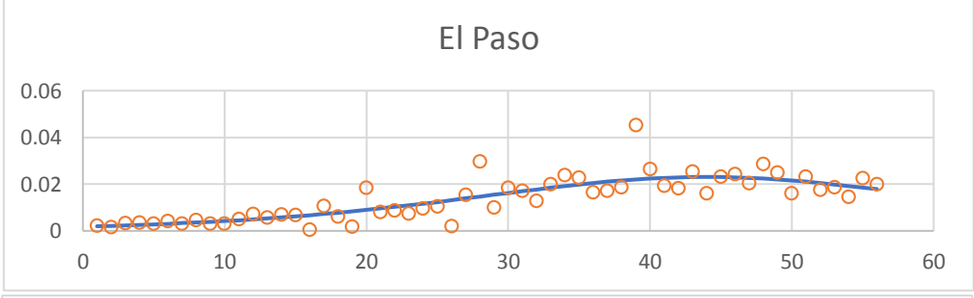

Re
beta
kappa
1.123783
0.518236
0.481994
1.9 days
2.1 days
Oregon SIR
98:1000
3500
3000
2500
2000
1500
1000
500
0
7-Aug
26-Sep
15-Nov
4-Jan
23-Feb
14-Apr
3-Jun
23-Jul
Data
SIR

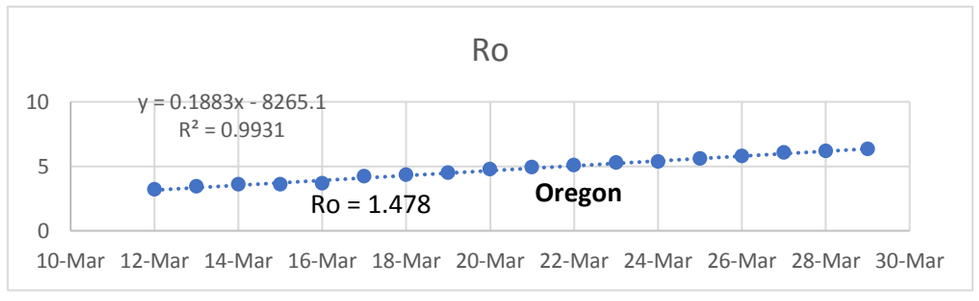

Re
beta
kappa
1.267786
0.408043
0.342476
2.5 days
2.9 days
El Paso
144:1000
4000
3500
3000
2500
2000
1500
1000
500
0
6-Sep
26-Sep
16-Oct
5-Nov
25-Nov
15-Dec
4-Jan
Data
SIR

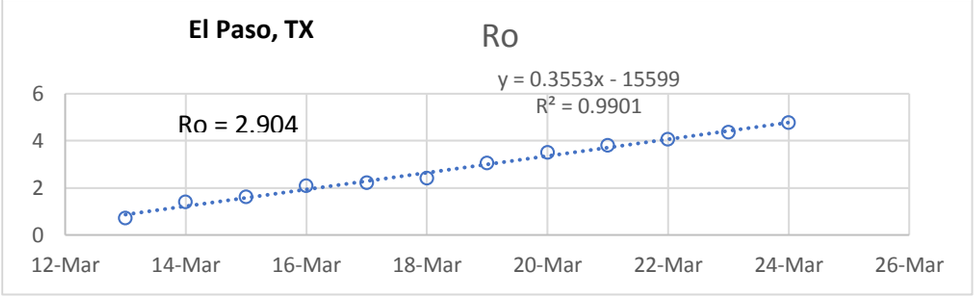

Oregon
0.025
0.02
0.015
0.01
0.005
0
0
10
20
30
40
50
60
70


Initial Slope
y = 0.0725x - 3190
R² = 0.988
12
11
10
9
8
7
6
5
4
16-Sep
26-Sep
6-Oct
16-Oct
26-Oct
5-Nov
15-Nov
25-Nov


Slope K
y = 0.0389x + 9.2414
R² = 0.998
12
10
8
6
4
0
10
20
30
40
50
60
70


El Paso
0.06
0.04
0.02
0
0
10
20
30
40
50
60


Ro
y = 0.1883x - 8265.1
R² = 0.9931
Ro = 1.478
Oregon
10
5
0
10-Mar
12-Mar
14-Mar
16-Mar
18-Mar
20-Mar
22-Mar
24-Mar
26-Mar
28-Mar
30-Mar


El Paso, TX
Ro
y = 0.3553x - 15599
R² = 0.9901
Ro = 2.904
6
4
2
0
12-Mar
14-Mar
16-Mar
18-Mar
20-Mar
22-Mar
24-Mar
26-Mar