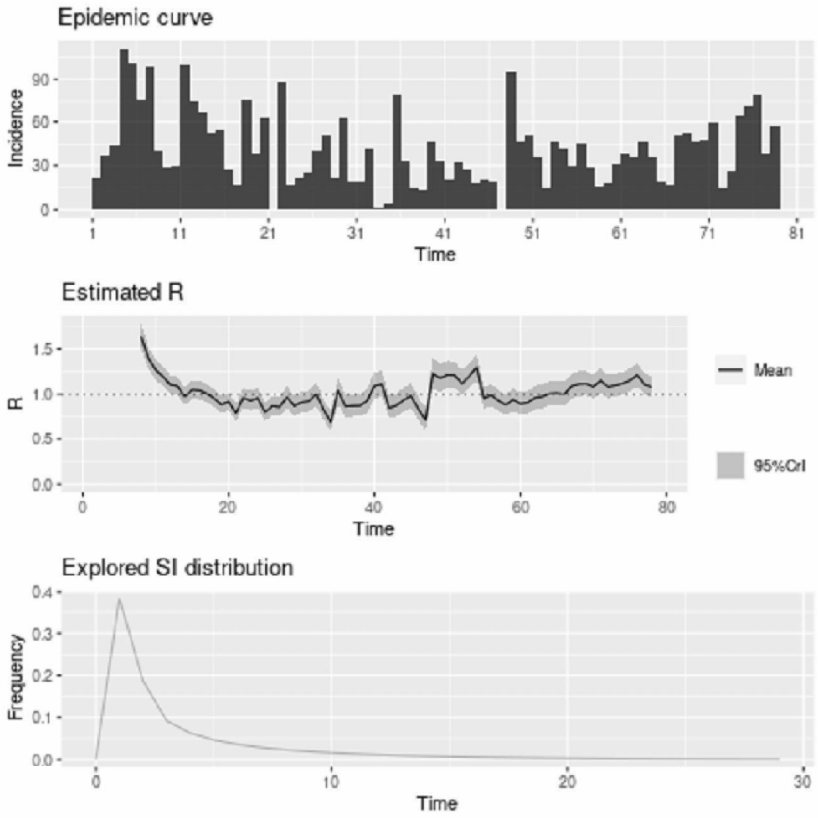
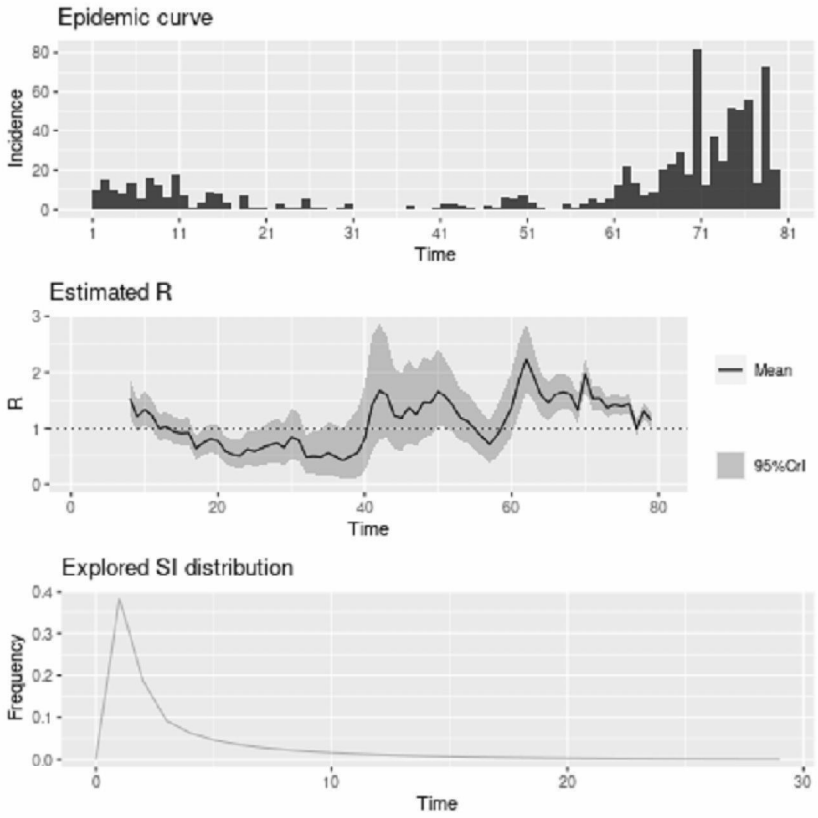
1. Estimate Rt for the ABC islands January 1-March 20, 2021

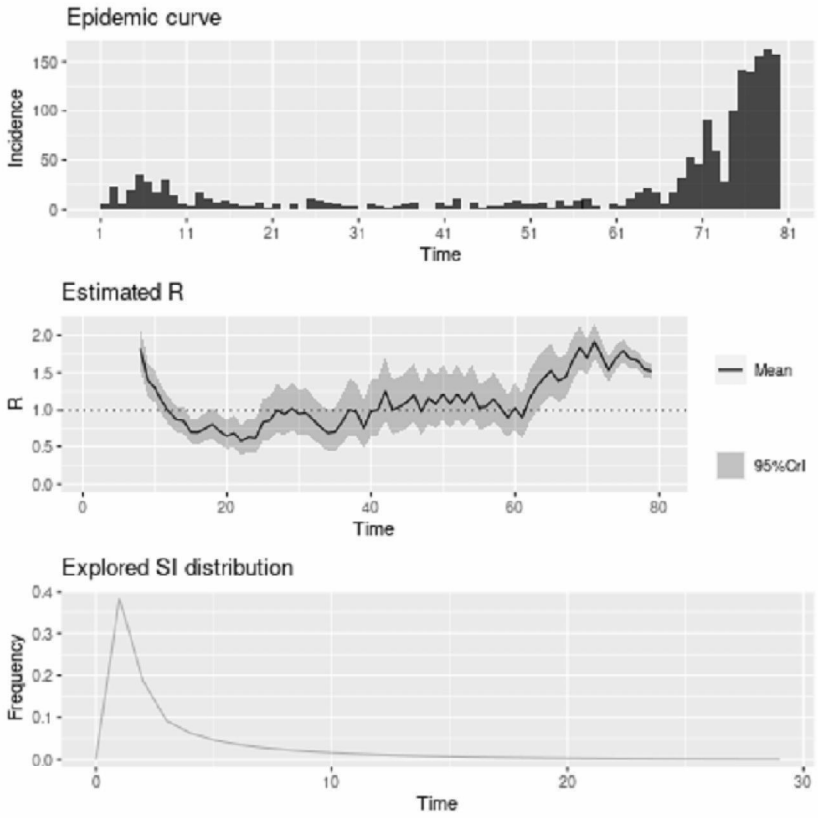
Aruba



Bonaire


Epidemic curve
Incidence
Time
Estimated R
R
Time
Mean
95%CrI
Explored SI distribution
Frequency
Time

Curacao




Rt estimated over last 7 days:

| | Rt 7d window | | |
|---|---|---|---|
| | mean | 0.025 | 0.97 |
| Aruba | 1.08 | 0.97 | 1.20 |
| Bonaire | 1.15 | 1.02 | 1.28 |
| Curacao | 1.52 | 1.42 | 1.62 |

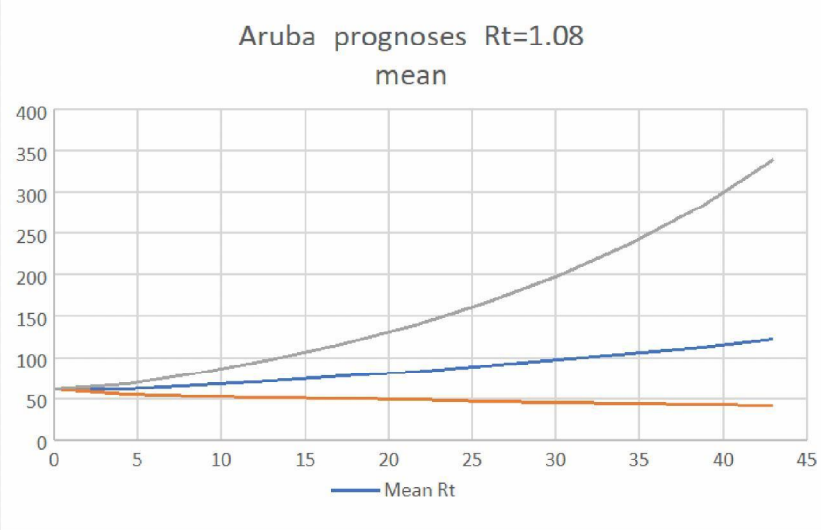
2. Make prognoses for infections and hospitalisations 1,5 month ahead (45 days) using Rt estimate for last week in section 1, assuming no vaccination and no change in measures compared to March 20.

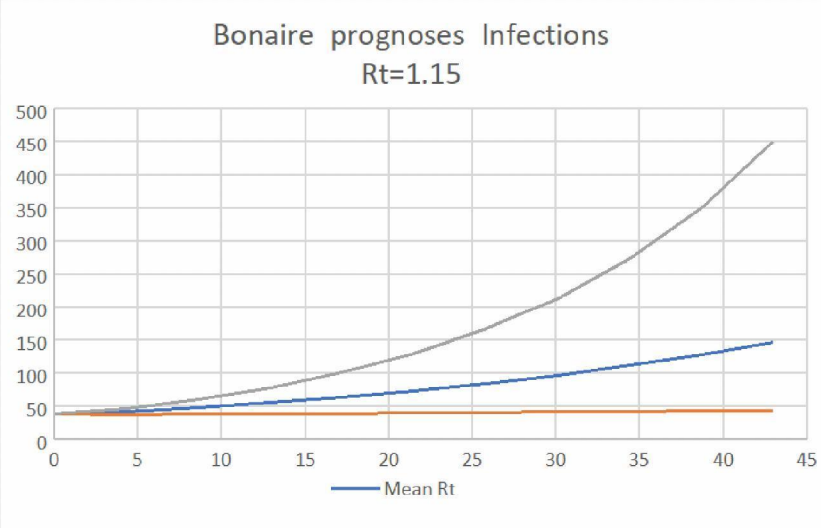
**Belangrijk is dat de prognoses indicatief zijn, en dat de prognoses zeer speculatief zijn voor meer dan drie weken vooruit. Bovendien ze gelden ze onder de aanname dat de omstandigheden precies zo zijn als nu/ als omschreven.**

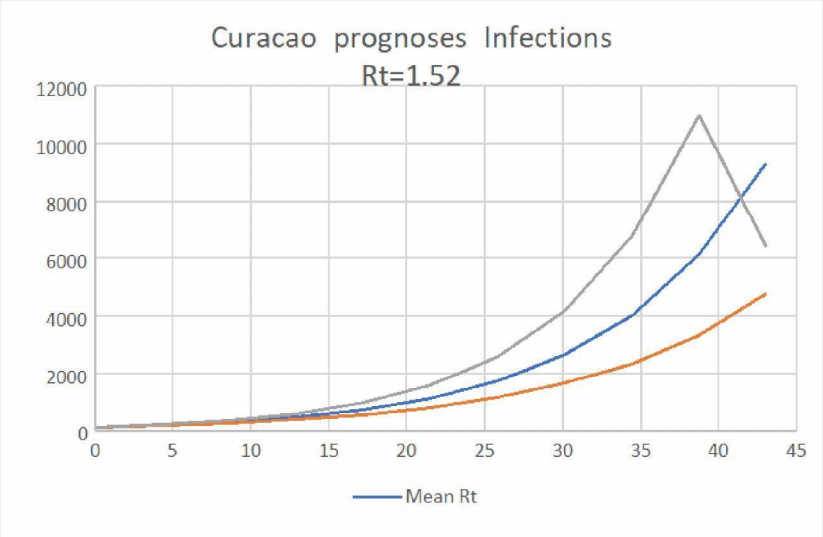
Prognoses for daily infections

Estimated by cumulating infections in the last 4 measured days $I_0$ (~1 generation interval), and this gives $Rt * I_{(T-1)}$, with T=4.3 days (assumed generation interval)

The 95%CI is considered for Rt variability.



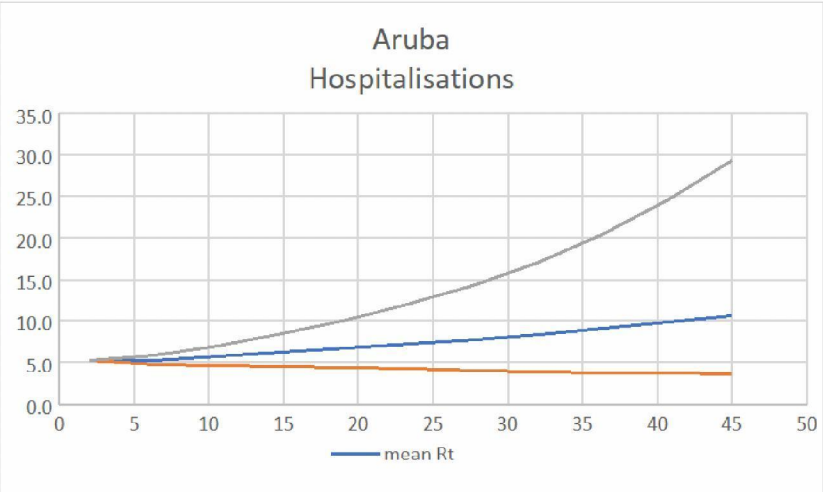


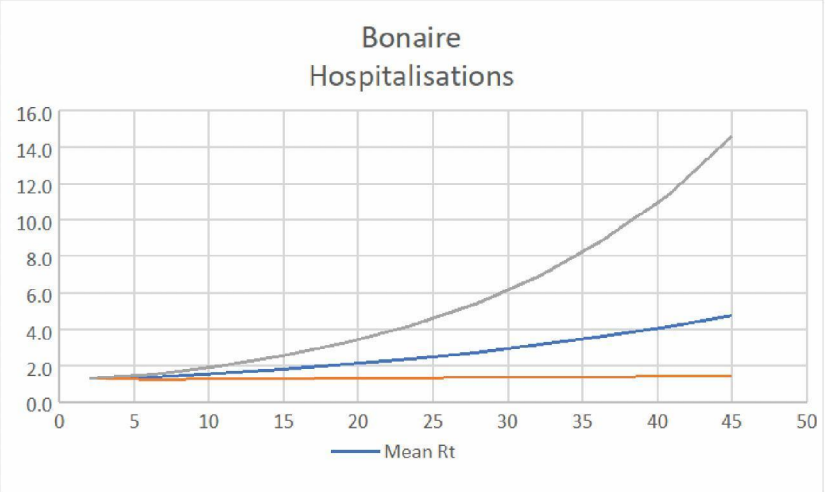

For Curacao, in the 95% Upper confidence value for Rt, the susceptibles are depleted at the last timepoint, so only a limited number of new infections can occur in the last 4-day period.

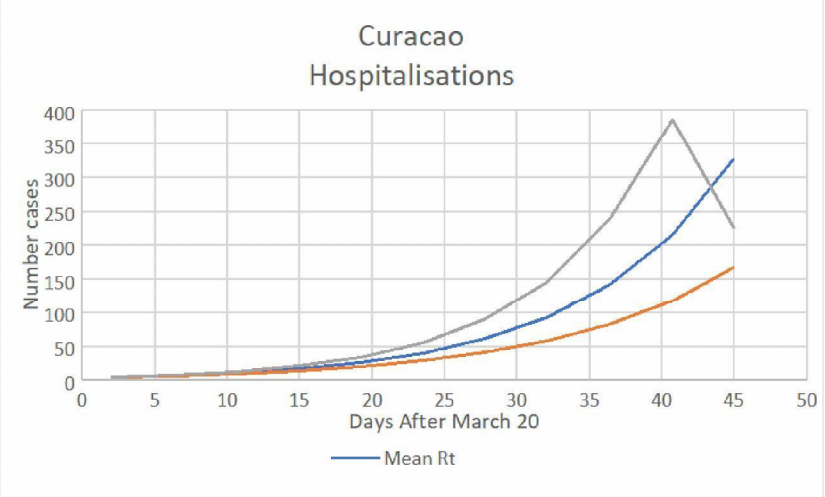
Risk of being ospitalized given an observed infection, given risk of being hospitalized (computed per 10y age class over whole epidemic period) and age structure observed in cases for week 11, in each different island. We multiply the measured hospitalization by a factor 1.6 (Danish study, Dutch seems same factor) to account for 100% UK variant

| hosp/inf ratio no uk | aruba | bonaire | curacao |
|---|---|---|---|
| var | 0.054 | 0.020 | 0.022 |
| UK var | 0.086 | 0.033 | 0.035 |

Hospitalisations

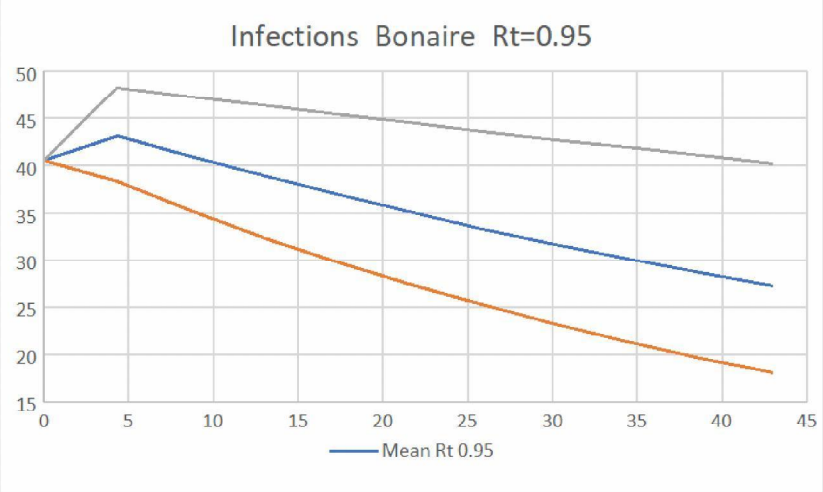


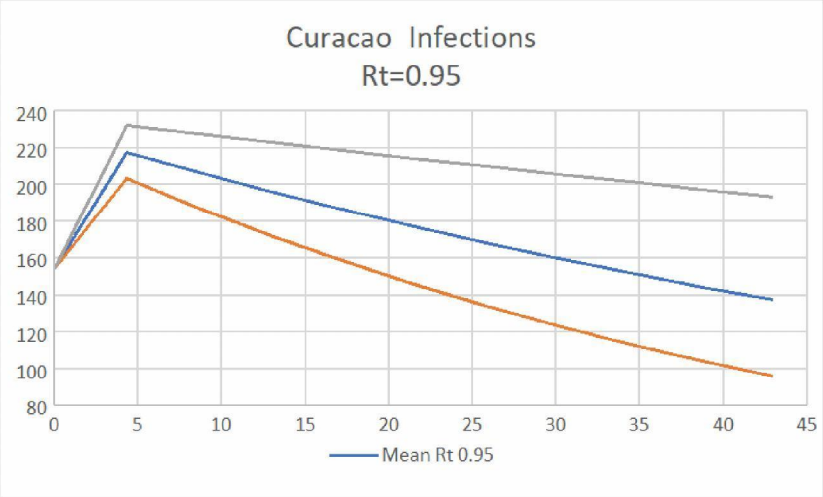

Bonaire
Hospitalisations
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
0
5
10
15
20
25
30
35
40
45
50
Mean Rt


Curacao
Hospitalisations
Number cases
400
350
300
250
200
150
100
50
0
0
5
10
15
20
25
30
35
40
45
50
Days After March 20
Mean Rt

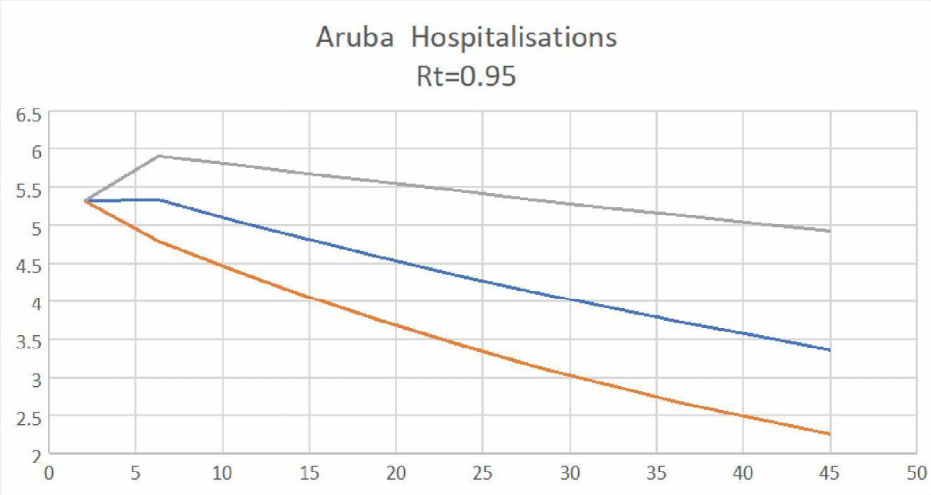
**Daily infections**

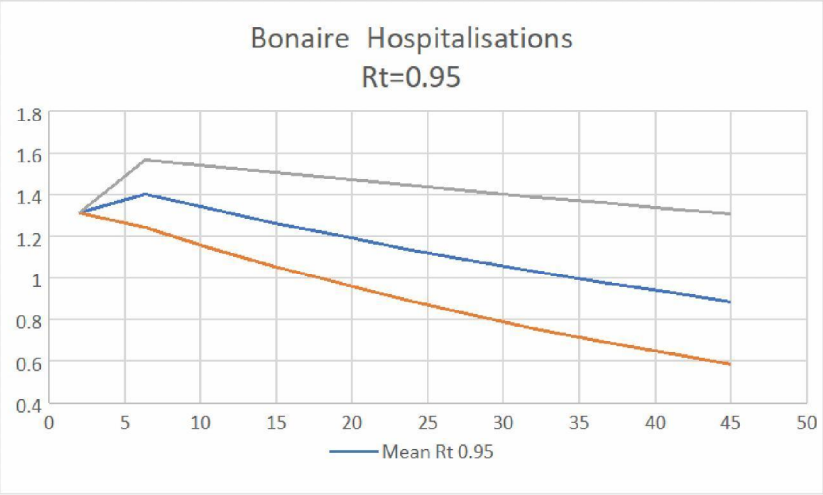
I chose a value of Rt=0.95 for the situation in which Rt would be below 1 within 4 days (95%CI 0.92-0.98). For an indication: combination of measures including a strong lockdown and vaccination led to an Rt between 0.8 and 1.0 in the UK at the end of January (vaccination programme started Dec 8 2020)

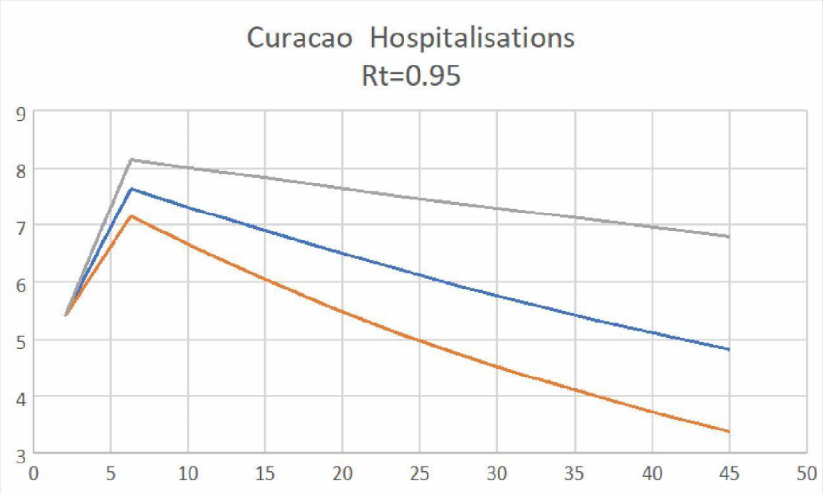





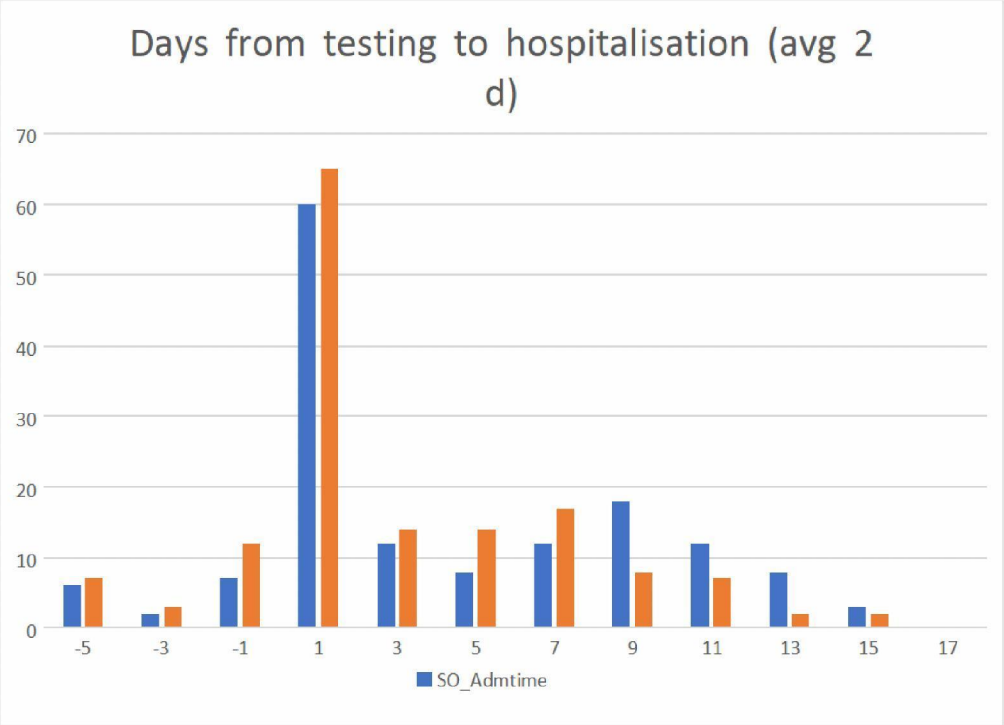

Daily hospitalisations; set Rt=0.95 (95%CI 0.92-0.98) after 4 days:






Hospitalised cases: (deze gebruik ik voor tijdsas zkh opnames, maar niet cruciaal)



3. Vaccination

Compare number of hospitalisations, given 1000 infections, given age distribution of cases in week 11 or the ABC islands.

Vaccination coverages considered in 60+ at 0.5 and 0.7, and alternative younger age groups included with 0.5 and 0.7 coverage

Feitelijk schaal je de hele y as in bovenstaande grafieken omlaag met een factor x als je vaccinaties meeneemt. Vraag is wanneer je onderstaande coverage (Vc in tabellen hieronder) bereiken?

For 1000 infections:

| | Hospitalisations | | | | |
|---|---|---|---|---|---|
| Aruba | No vacc | Vc 60+ 0.5 | Vc 60+ 0.7 | Vc 40+ 0.5 | Vc 40+ 0.7 |
| | 54.04 | 34.05 | 26.05 | 27.80 | 11.30 |
| Bonaire | No vacc | Vc 60+ 0.5 | Vc 60+ 0.7 | Vc 50+ 0.5 | Vc 50+ 0.7 |
| | 20.32 | 12.17 | 8.91 | 10.16 | 6.10 |
| Curacao | No vacc | Vc 60+ 0.5 | Vc 60+ 0.7 | Vc 40+ 0.5 | Vc 40+ 0.7 |
| | 21.95 | 13.56 | 10.20 | 11.39 | 4.65 |

UK Variant 100% in population, 1.6 higher hospitalisation rate

| | Hospitalisations | | | | |
|---|---|---|---|---|---|
| Aruba | No vacc | Vc 60+ 0.5 | Vc 60+ 0.7 | Vc 40+ 0.5 | Vc 40+ 0.7 |
| | 86.47 | 54.48 | 41.68 | 44.47 | 18.08 |
| Bonaire | No vacc | Vc 60+ 0.5 | Vc 60+ 0.7 | Vc 50+ 0.5 | Vc 50+ 0.7 |
| | 32.51 | 19.47 | 14.26 | 16.25 | 9.75 |
| Curacao | No vacc | Vc 60+ 0.5 | Vc 60+ 0.7 | Vc 40+ 0.5 | Vc 40+ 0.7 |
| | 35.12 | 21.70 | 16.33 | 18.23 | 7.44 |