Parameters of the model that change to simulate different scenarios:

f1([(0,0)-(20,1)],(0,1),(1,1),(2.5,0.98),(5,0.85),(7.5,0.7),(10,0.65),(20,0.6))

Scenario1:**[(0,0)-(20,1)],(0,1),(1,1),(2.5,0.9),(5,0.7),(7.5,0.55),(10,0.5),(20,0.45)**

Scenario3:**[(0,0)-(20,1)],(0,1),(1,1),(2.5,0.98),(5,0.85),(7.5,0.7),(10,0.65),(20,0.6)**

f4([(0,0)-(20,10)],(0,0.4),(1,1),(2.5,2),(5,4),(7.5,6),(10,7),(20,8))

Scenario1: **[(0,0)-(20,1)],(0,1),(1,1),(2.5,0.6),(5,0.3),(7.5,0.15),(10,0.1),(20,0.08)**

Scenario2 and Scenario3:**[(0,0.4)-(20,1)],(0,1),(1,1),(2.5,0.9),(5,0.75),(7.5,0.65),(10,0.62),(20,0.6) testing**

Scenario1 & 2 & 3 without testing: **Time to start testing=20000**

Scenario1 & 2 & 3 with testing: **Time to start testing=0**

Scenario1 & 2 & 3 with testing after time 30: **Time to start testing=30**

Parameters of the model that don't change as different scenarios are simulated:

Normal infectivity=0.05

TT= 5

TER=14

IL=10

IPOP=8e+007

AIHR=0.33

FNH=0.2

TP=21

f6([(0,0)-(1,1)],(0,1),(0.125,0.7),(0.25,0.54),(0.5,0.35),(0.75,0.23),(1,0.16))

ADP=7

ARP=10

f7([(0,0)-(1,1)],(0,0),(0.25,0.25),(0.5,0.48),(0.75,0.67),(0.875,0.72),(1,0.75))

f2([(0,0)-(1,1)],(0,0.8),(0.25,0.89),(0.5,0.94),(0.75,0.97),(1,1))

[(0,0)-(1,1)],(0,0.25),(0.25,0.4),(0.5,0.75),(0.75,0.9),(1,1)

[(0,0)-(1,1)],(0,0.5),(0.25,0.6),(0.5,0.8),(0.75,0.9),(1,1)

f3([(0,0)-(1,4)],(0,4),(0.25,3.2),(0.5,2),(0.75,1.4),(1,1))

[(0,0)-(1,4)],(0,2),(0.25,1.75),(0.5,1.4),(0.75,1.15),(1,1)

[(0,0)-(1,4)],(0,2.5),(0.25,2.2),(0.5,1.6),(0.75,1.25),(1,1)

f8([(0,0)-(2,2)],(0,0),(1,1),(1.5,1.2),(2,1.25))

[(0,0)-(1,1)],(0,0),(0.25,0.15),(0.5,0.3),(0.75,0.4),(1,0.45)

TDR=10

NFQ=0.1

Portion of Hospitals Assigned to Corona=0.7

IP=7

Initial Number of Contact at Hospital=3

Number of Companions per Patient =0.3

NDC=15

FDC=0.024