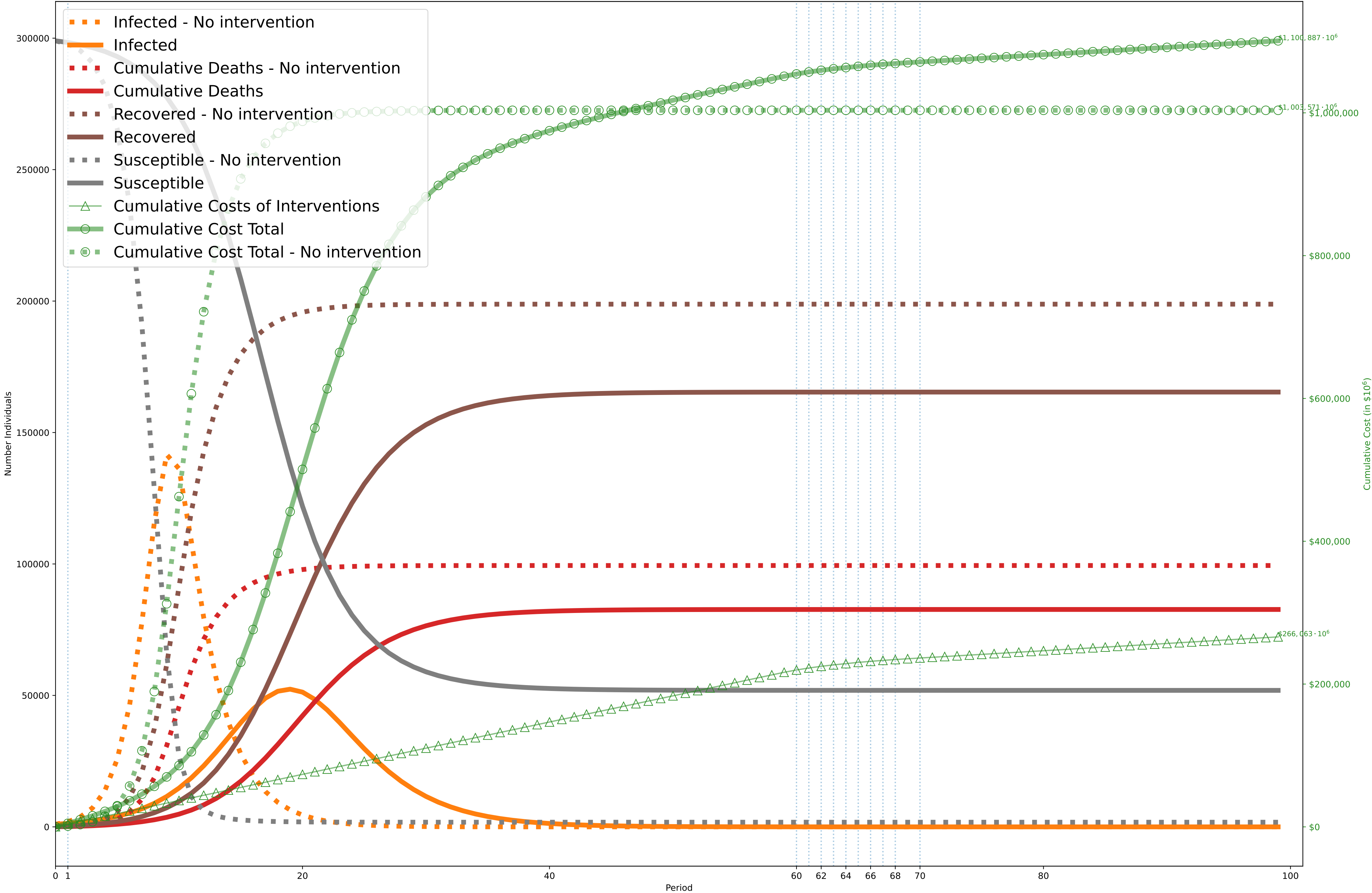


Objective: \$1, 100, 887, 661, 519; without intervention: \$1, 003, 571, 304, 682 (Desired optimality gap: 1%; actual: 25%. Lower Bound: \$826,865,000,000. Time to solve: 200s)

$C^I = \$10,000, C^D = \$10,000,000$

One Period=7 days (costs scaled by 1, 000, 000 during optimization)

Solved using solve\_and\_process\_quadratic. Quadratic approximation objective: \$835, 133, 728, 054



|  | 1<br>-59                                     | 60<br>-60  | 61<br>-61 | 62<br>-62 | 63<br>-63 | 64<br>-64 | 65<br>-65 | 66<br>-66 | 67<br>-67 | 68<br>-69 | 70<br>-99                                |
|--|--|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| 0. Movement<br>A: \$[5000 ,10000]·10 <sup>2</sup><br>B: \$[10000,20000]·10 <sup>2</sup><br>C: \$[10 ,14 ]·10 <sup>2</sup><br>P: [.95 ,.93 ]  | 2  | 2  | 1         | 1         | 1         | 1         | 1         | 1         |           |           |  |
| 1. Education (University level)<br>A: \$[0 ,0 ]·10 <sup>2</sup><br>B: \$[0 ,0 ]·10 <sup>2</sup><br>C: \$[10 ,14 ]·10 <sup>2</sup><br>P: [.99 ,.95 ]  | 2  | 2  |           |           |           | 2         |           |           |           |           |  |
| 2. Social Gatherings (in a house)<br>A: \$[0 ,0 ,0 ,0 ]·10 <sup>2</sup><br>B: \$[0 ,0 ,0 ,0 ]·10 <sup>2</sup><br>C: \$[8 ,10 ,12 ,14 ]·10 <sup>2</sup><br>P: [.99 ,.99 ,.97 ,.93 ]         | 4  | 4  | 4         | 4         | 4         | 4         | 4         | 4         | 4         | 4         | 4  |
| 3. Non-Food Service (bank,retail, etc)<br>A: \$[2500 ,5000 ,10000]·10 <sup>2</sup><br>B: \$[5000 ,10000,20000]·10 <sup>2</sup><br>C: \$[8 ,10 ,14 ]·10 <sup>2</sup><br>P: [.99 ,.95 ,.93 ] | 3  | 3  | 2         | 2         | 2         | 2         |           | 1         |           |           |  |
| 4. Restaurants<br>A: \$[5000 ,10000]·10 <sup>2</sup><br>B: \$[10000,20000]·10 <sup>2</sup><br>C: \$[10 ,14 ]·10 <sup>2</sup><br>P: [.95 ,.93 ]   | 2  | 2  | 1         | 1         | 1         |           |           |           |           |           |  |
| 5. Masking<br>A: \$[0 ,0 ,0 ]·10 <sup>2</sup><br>B: \$[0 ,0 ,0 ]·10 <sup>2</sup><br>C: \$[8 ,10 ,14 ]·10 <sup>2</sup><br>P: [.99 ,.95 ,.93 ]   | 3  | 3  | 3         | 3         | 3         | 2         | 3         | 3         | 3         |           | 2  |
| 6. Mega Events<br>A: \$[2500 ,5000 ,10000]·10 <sup>2</sup><br>B: \$[5000 ,10000,20000]·10 <sup>2</sup><br>C: \$[8 ,10 ,14 ]·10 <sup>2</sup><br>P: [.99 ,.95 ,.93 ]                         | 3  | 3  | 3         | 2         |           |           |           |           |           |           |  |
| 7. Border Control<br>A: \$[5000 ,10000]·10 <sup>2</sup><br>B: \$[10000,20000]·10 <sup>2</sup><br>C: \$[10 ,14 ]·10 <sup>2</sup><br>P: [.95 ,.93 ]  | 2  |  | 1         |           |           |           |           |           |           |           |  |
| 8. Physical Distancing<br>A: \$[0 ]·10 <sup>2</sup><br>B: \$[0 ]·10 <sup>2</sup><br>C: \$[10 ]·10 <sup>2</sup><br>P: [.93 ]  | 1  | 1  | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1  |
| Cost Per Period: TOTAL<br>Cost Per Period: POLICY<br>Cost Per Period: DISEASE<br>Probability Factor  | \$1.8e+10<br>\$3.7e+09<br>\$1.4e+10<br>0.589 | \$3.3e+ \$2.8e+ \$2.4e+ \$2.1e+ \$1.7e+ \$1.7e+ \$1.4e+ \$1.4e+ \$1.1e+<br>\$3.2e+ \$2.8e+ \$2.2e+ \$2e+ \$1.7e+ \$1.7e+ \$1.4e+ \$1.4e+ \$1e+<br>\$1.8e+ \$1.4e+ \$1.2e+ \$9.7e+ \$8.1e+ \$6.8e+ \$5.8e+ \$4.9e+ \$3.9e+<br>0.550 0.596 0.645 0.679 0.714 0.734 0.752 0.767 0.791 |           |           |           |           |           |           |           |           | \$1e+09<br>\$1e+09<br>\$7.4e+05<br>0.813 |