Objective: \$1,003,571,304,682; without intervention: \$1,003,571,304,682 (Desired optimality gap: 1%; actual: 9%. Lower Bound: \$917,138,000,000. Time to solve: 172s) $C^I = \$10,000,C^D = \$10,000,000$ One Period=7 days (costs scaled by 1,000,000 during optimization) $Solved\ using\ solve_and_process_lagrangian_threshold_0.1_use_smart_stepsize_True_L1_optGap_0.025_L2_optGap_0.1_L2_max_time_200$ Infected - No intervention Infected Cumulative Deaths - No intervention Cumulative Deaths Recovered - No intervention --- Recovered Susceptible - No intervention 250000 -Susceptible - \$800,000 Cumulative Costs of Interventions Cumulative Cost Total Cumulative Cost Total - No intervention 200000 -\$600,000 <u>은</u> 150000 -- \$400,000 100000 - \$200,000 120 100 140 60 80 Period

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<pre>0. Movement A: \$[5000 ,10000] · 10² B: \$[10000,20000] · 10² C: \$[10</pre>	
1. Education (University level) A: \$[0 ,0]·10 ² B: \$[0 ,0]·10 ² C: \$[10 ,14]·10 ² P: [.99 ,.95]	
2. Social Gatherings (in a house) A: \$[0 ,0 ,0 ,0]·10 ² B: \$[0 ,0 ,0 ,0]·10 ² C: \$[8 ,10 ,12 ,14]·10 ² P: [.99 ,.99 ,.97 ,.93]	
3. Non-Food Service (bank,retail, etc) A: \$[2500 ,5000 ,10000]·10 ² B: \$[5000 ,10000,20000]·10 ² C: \$[8 ,10 ,14]·10 ² P: [.99 ,.95 ,.93]	
<pre>4. Restaurants A: \$[5000 ,10000] \cdot 10^2 B: \$[10000,20000] \cdot 10^2 C: \$[10</pre>	
5. Masking A: \$[0 ,0 ,0]·10 ² B: \$[0 ,0 ,0]·10 ² C: \$[8 ,10 ,14]·10 ² P: [.99 ,.95 ,.93]	
6. Mega Events A: \$[2500 ,5000 ,10000]·10 ² B: \$[5000 ,10000,20000]·10 ² C: \$[8 ,10 ,14]·10 ² P: [.99 ,.95 ,.93]	
7. Border Control A: \$[5000 ,10000]·10 ² B: \$[10000,20000]·10 ² C: \$[10	
8. Physical Distancing A: \$[0]·10 ² B: \$[0]·10 ² C: \$[10]·10 ² P: [.93]	
Cost Per Period: TOTAL Cost Per Period: POLICY Cost Per Period: DISEASE Probability Factor	\$6.7e+09 \$0.0 \$6.7e+09 1.000