Selecting Non-Pharmaceutical Interventions for Influenza
Supplementary Materials

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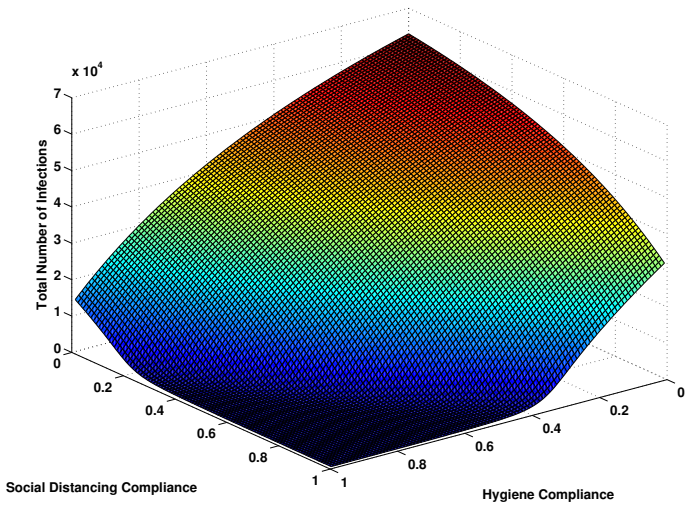
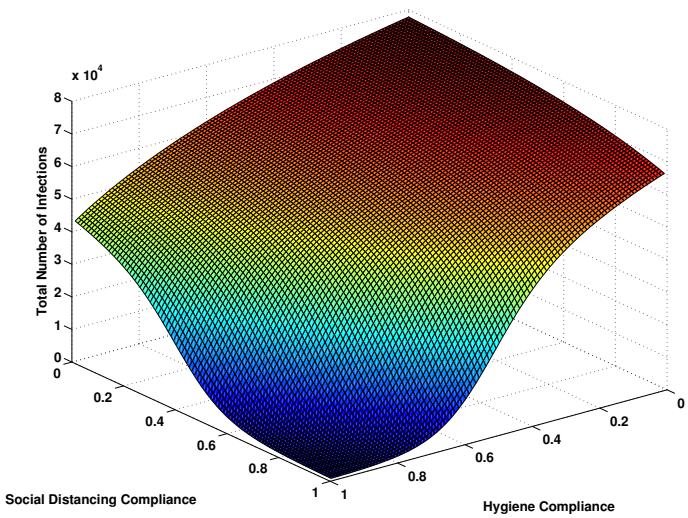
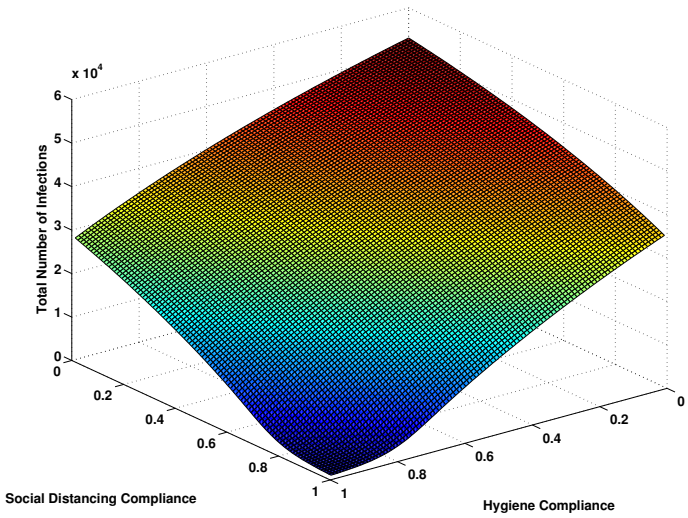


(a) Model I, p = 0.12

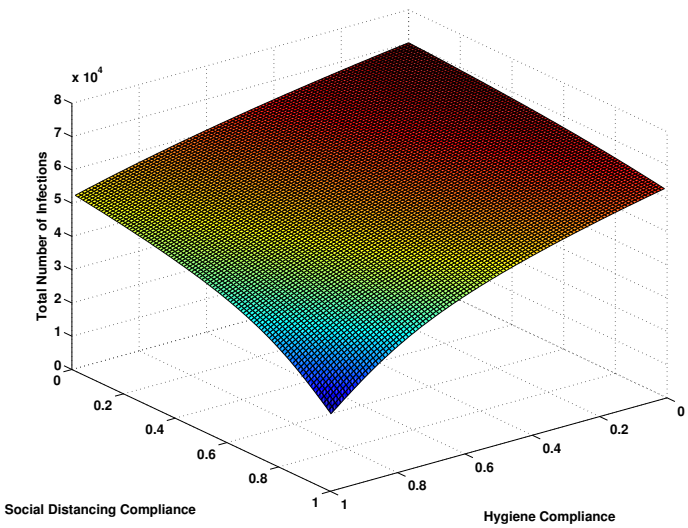


(b) Model II, p = 0.034

Figure S1: Total number of infections as a function of compliance for the higher probability of infection values in disease transmission models I and II.

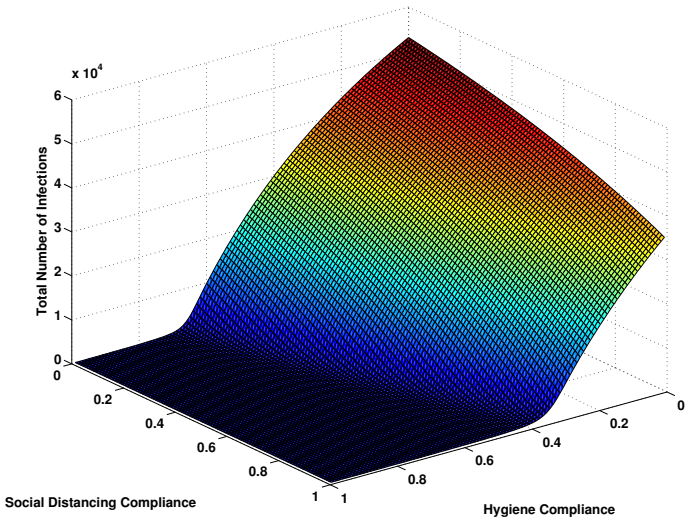


(a) Model I, $p = 0.10$

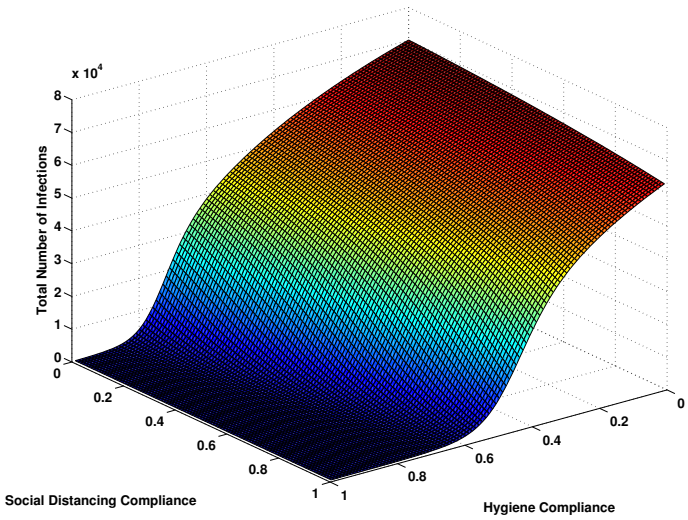


(b) Model II, $p = 0.028$

Figure S2: Total number of infections as a function of compliance given 70% probability of infection for respirator use ($f_h = 0.7$) and 70% contact rate in the high-activity group ($f_d = 0.7$) for disease transmission models I and II.

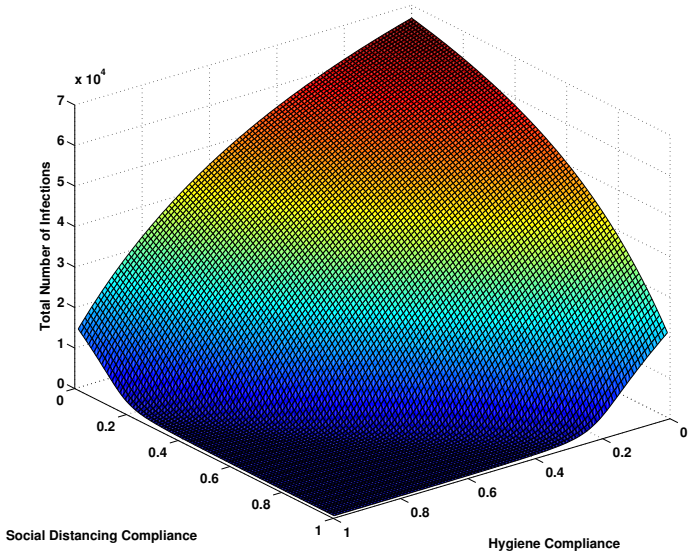


(a) Model I, $p = 0.10$

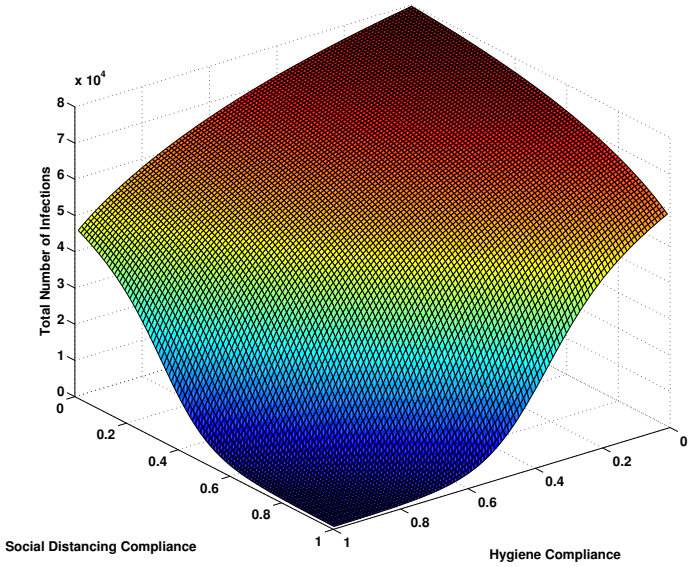


(b) Model II, $p = 0.028$

Figure S3: Total number of infections as a function of compliance given 30% probability of infection for respirator use ($f_h = 0.3$) and 70% contact rate in the high-activity group ($f_d = 0.7$) for disease transmission models I and II.

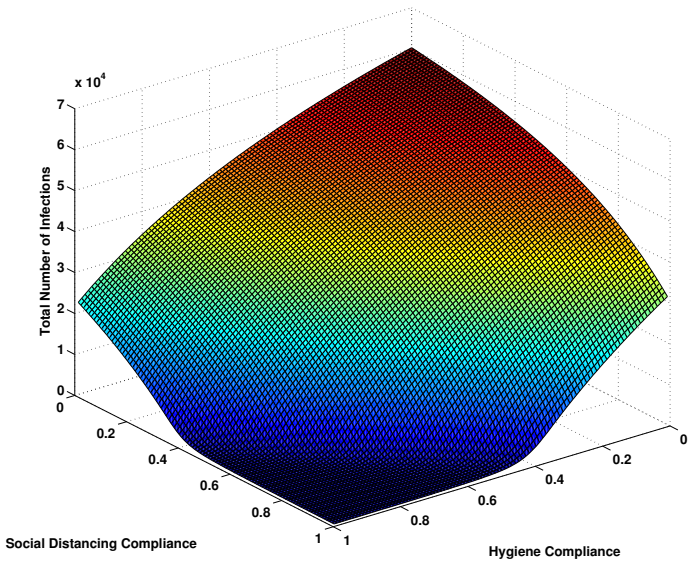


(a) Model I, $p = 0.10$

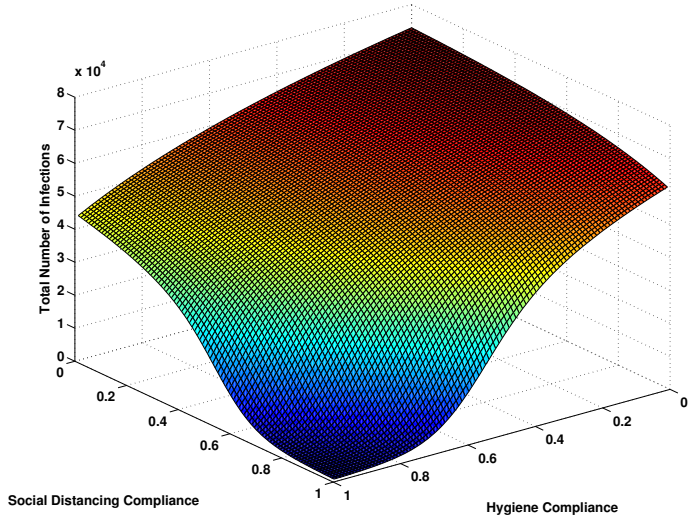


(b) Model II, $p = 0.028$

Figure S4: Infections as a function of compliance given $n_H = n_L = 50,000$ persons in disease transmission models I and II.

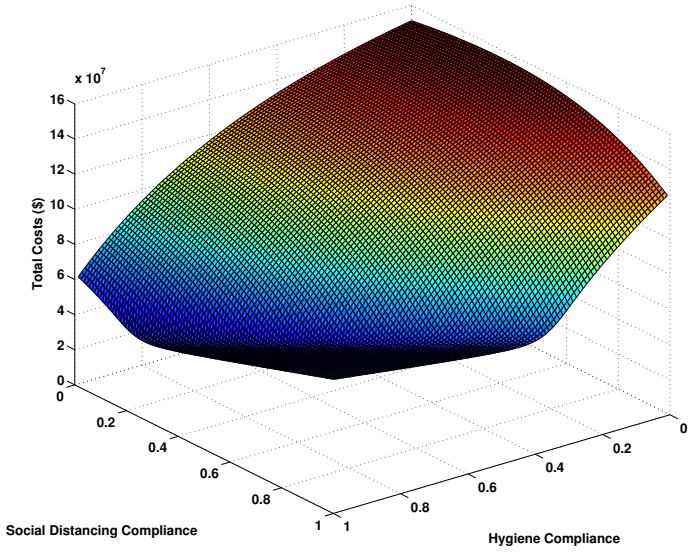


(a) Model I, p = 0.10

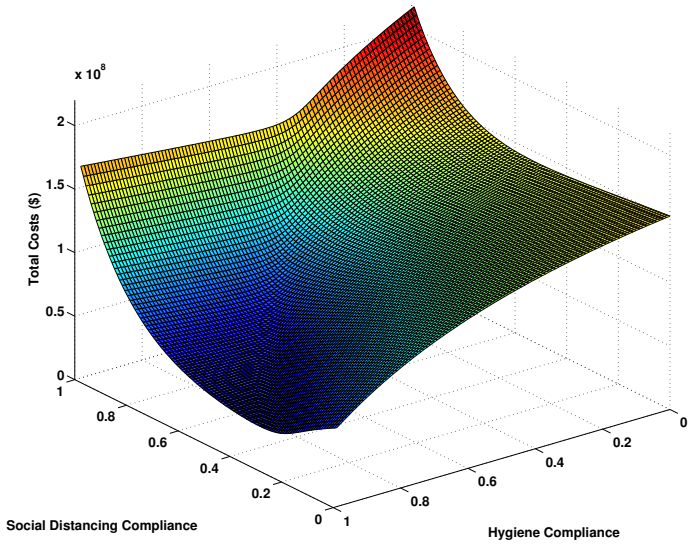


(b) Model II, p = 0.028

Figure S5: Infections as a function of compliance given the high-activity group contact rate $\lambda_H = 35$ day^{-1} in disease transmission models I and II.

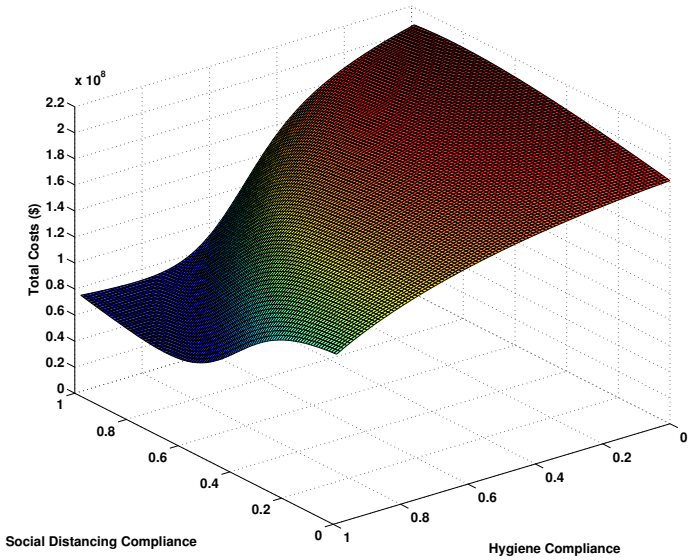


(a) Linear Cost

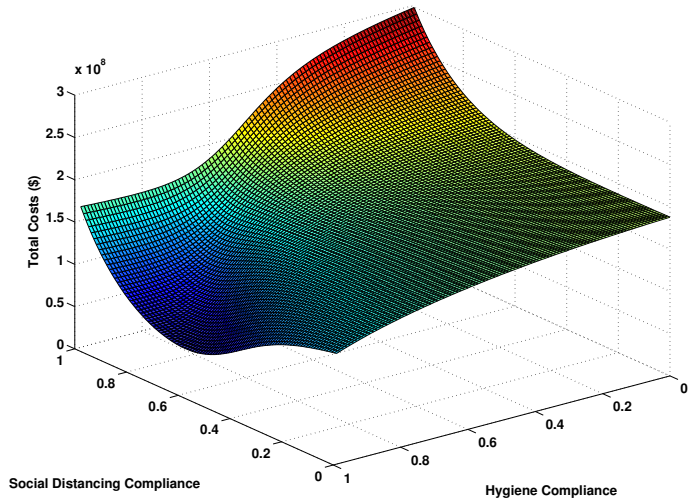


(b) Exponential Cost

Figure S6: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model I with baseline conditions and $p = 0.12$.

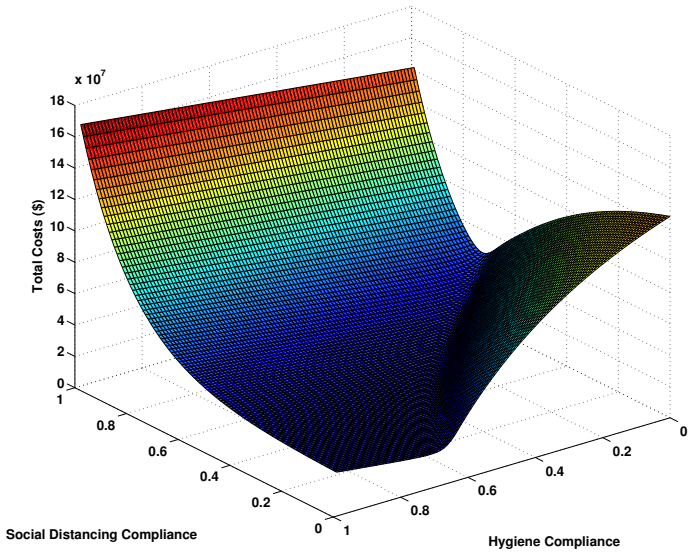


(a) Linear Cost

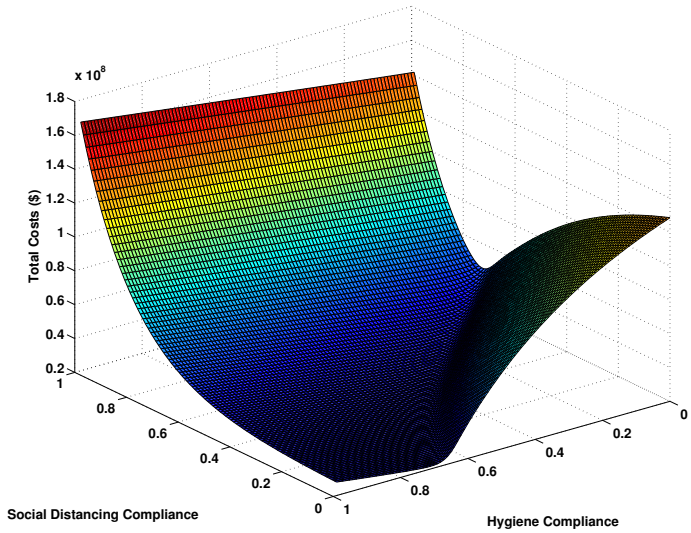


(b) Exponential Cost

Figure S7: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model II with baseline conditions and $p = 0.034$.

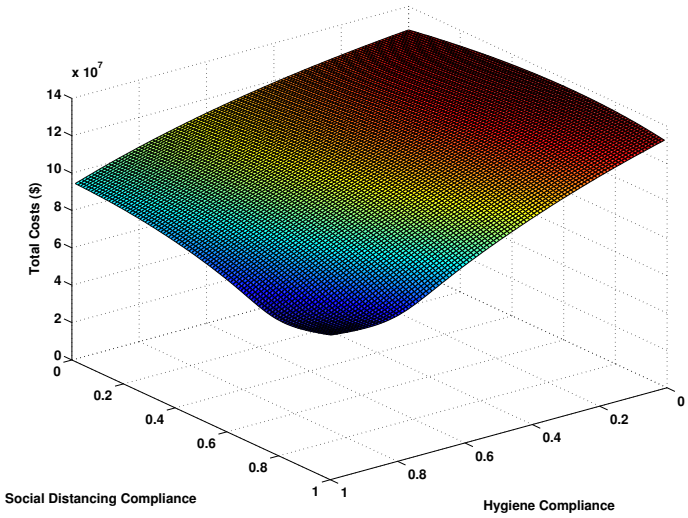


(a) Linear Cost

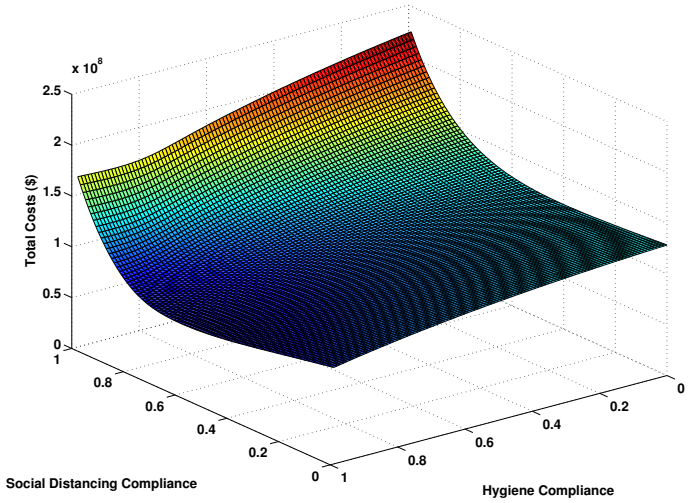


(b) Exponential Cost

Figure S8: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model I with increased intervention effectiveness, $f_d = f_h = 0.3$, and $p = 0.10$.

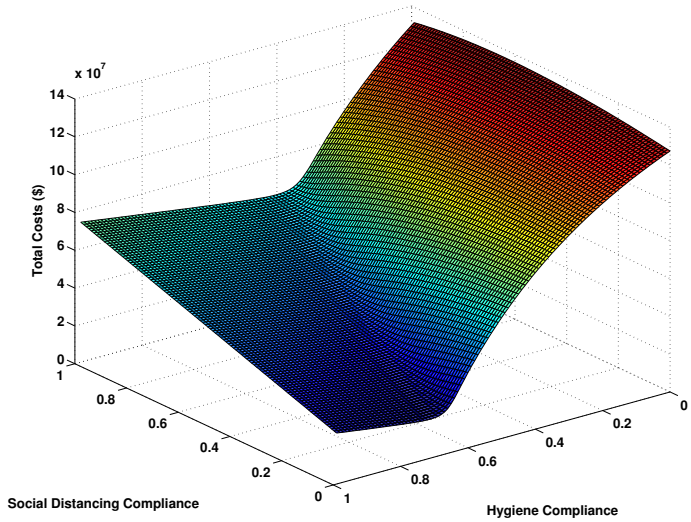


(a) Linear Cost

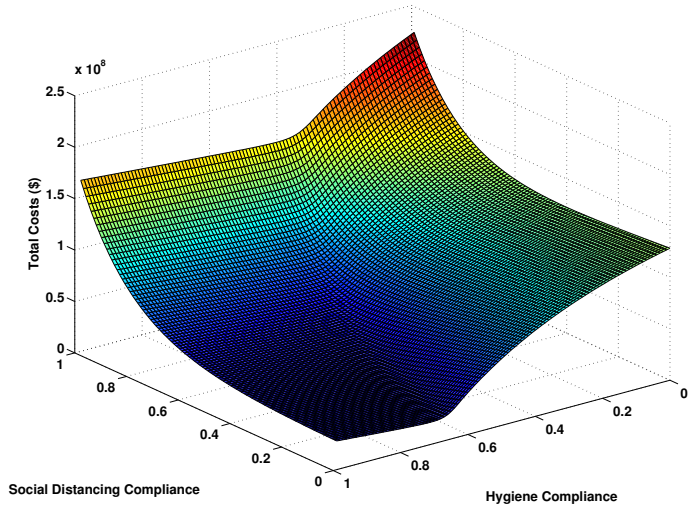


(b) Exponential Cost

Figure S9: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model I with decreased intervention effectiveness, $f_d = f_h = 0.7$, and $p = 0.10$.

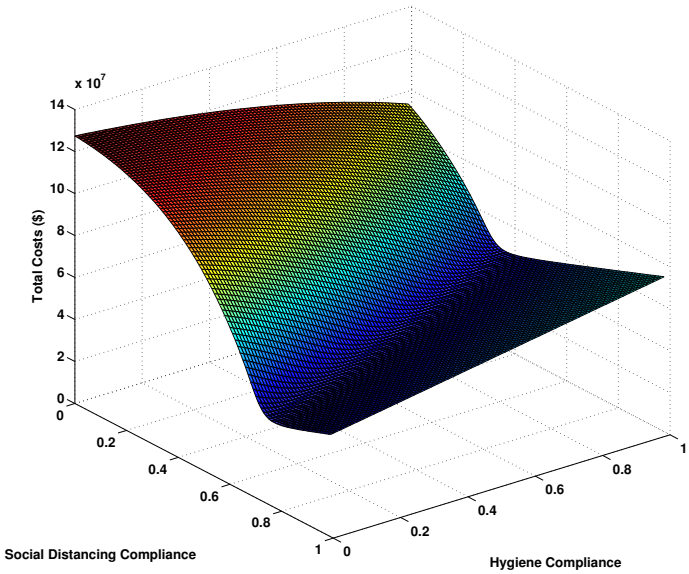


(a) Linear Cost

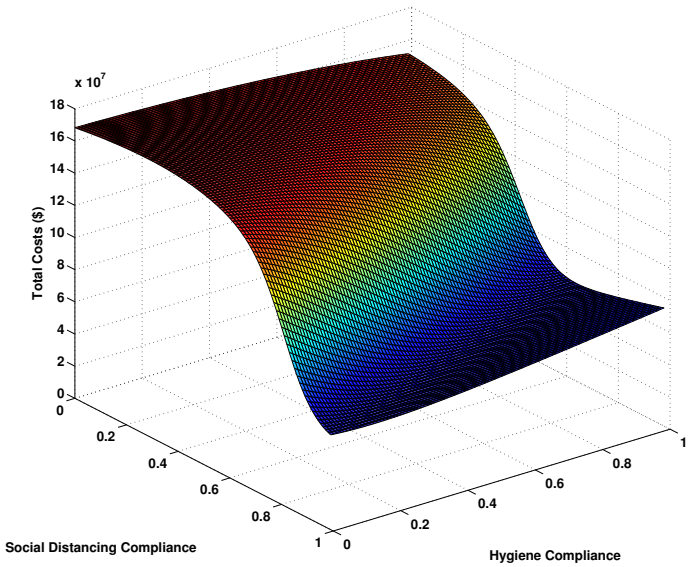


(b) Exponential Cost

Figure S10: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model I with with decreased effectiveness of social distancing, $f_d = 0.7$, and increased effectiveness of the hygiene intervention, $f_h = 0.3$, and $p = 0.10$.

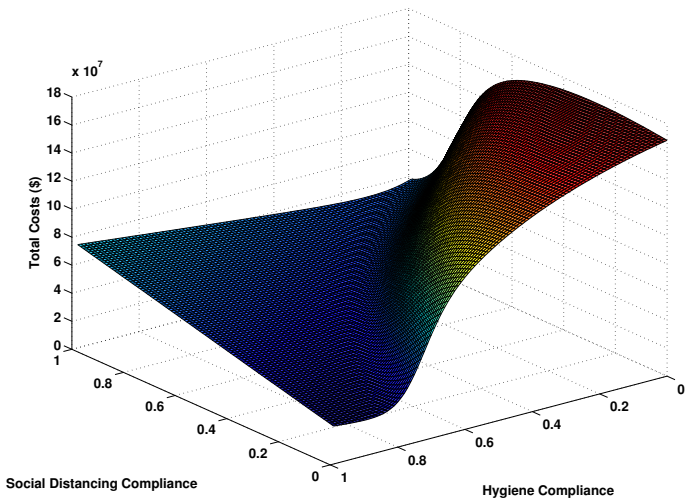


(a) Model I

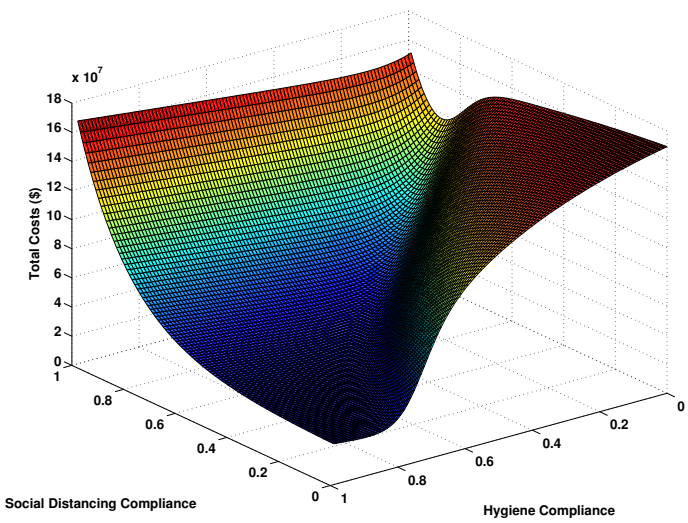


(b) Model II

Figure S11: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions in disease transmission models I ($p = 0.10$) and II ($p = 0.028$) with decreased effectiveness of social distancing, $f_d = 0.3$, and increased effectiveness of the hygiene intervention, $f_h = 0.7$.

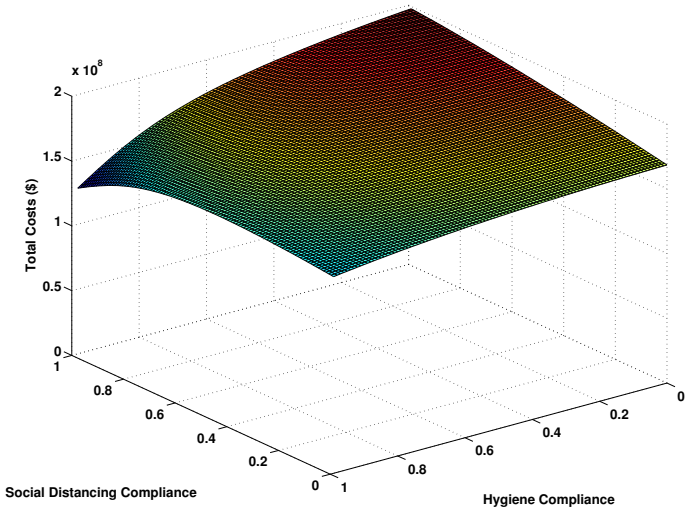


(a) Linear Cost

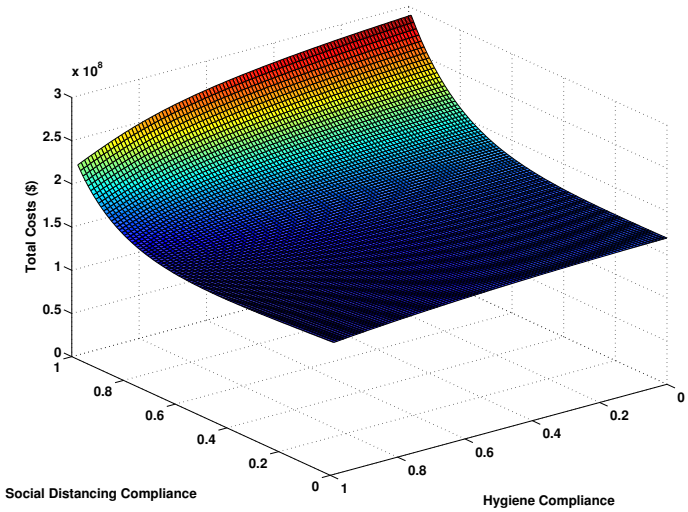


(b) Exponential Cost

Figure S12: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model II with increased intervention effectiveness, $f_d = f_h = 0.3$, and $p = 0.028$.

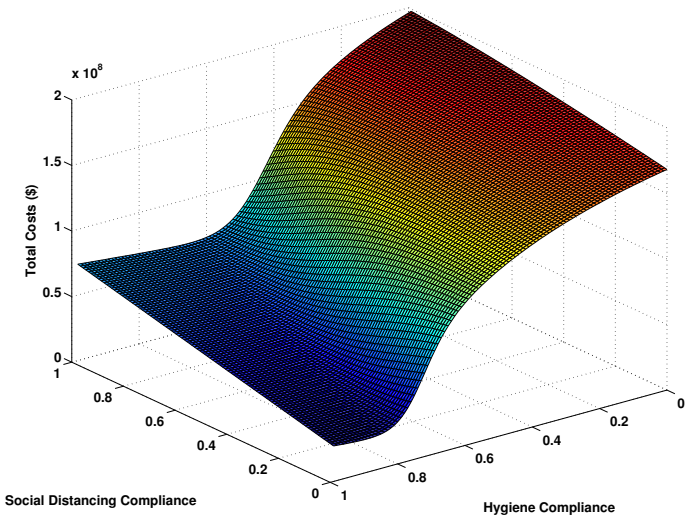


(a) Linear Cost

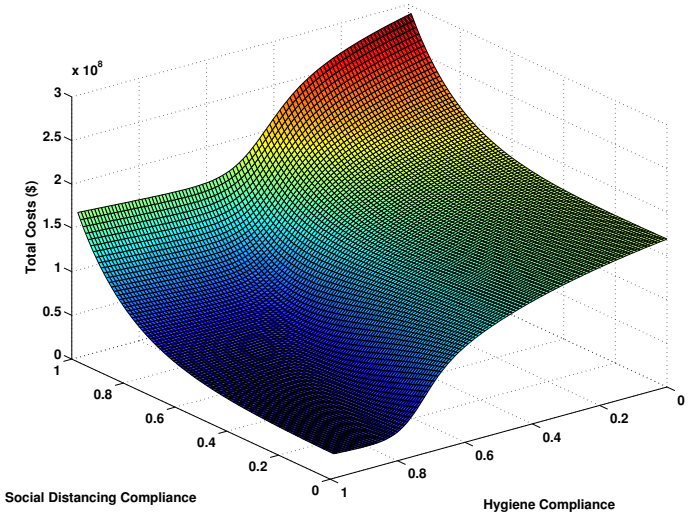


(b) Exponential Cost

Figure S13: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model II with decreased intervention effectiveness, $f_d = f_h = 0.7$, and $p = 0.028$.

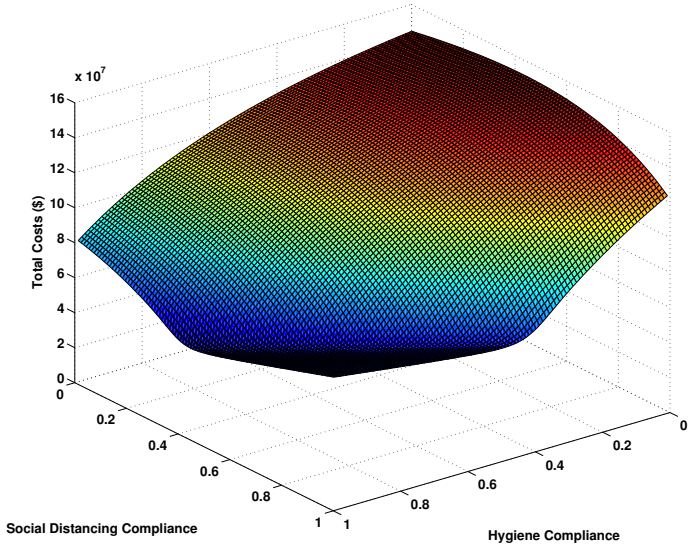


(a) Linear Cost

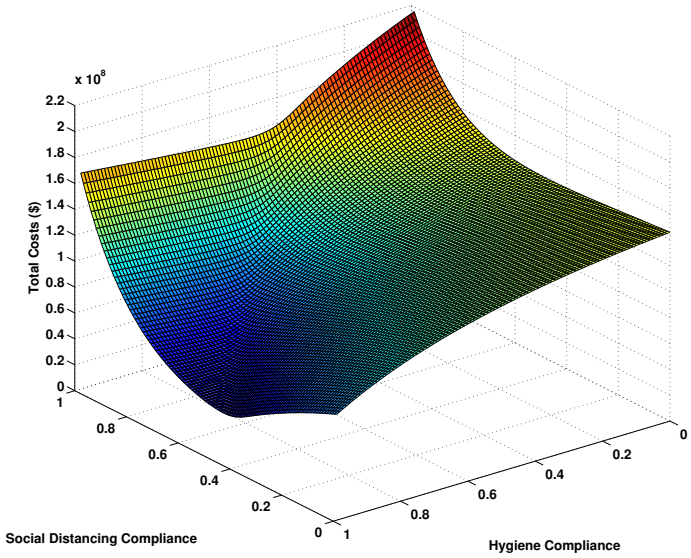


(b) Exponential Cost

Figure S14: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model II with decreased effectiveness of social distancing, $f_d = 0.7$, and increased effectiveness of the hygiene intervention, $f_h = 0.3$, and $p = 0.028$.

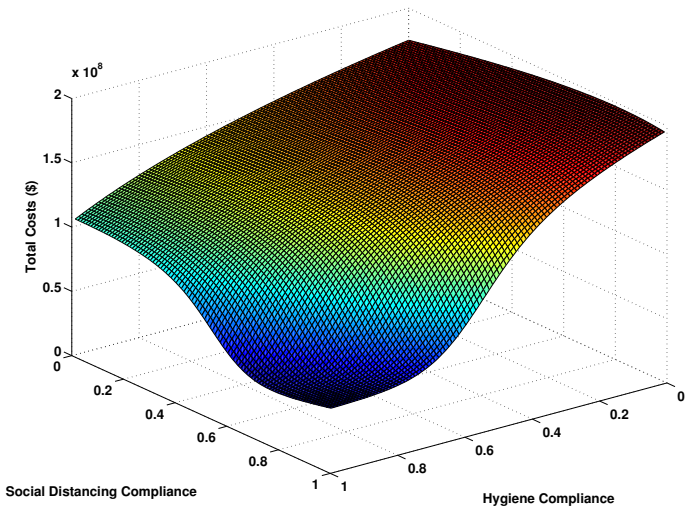


(a) Linear Cost

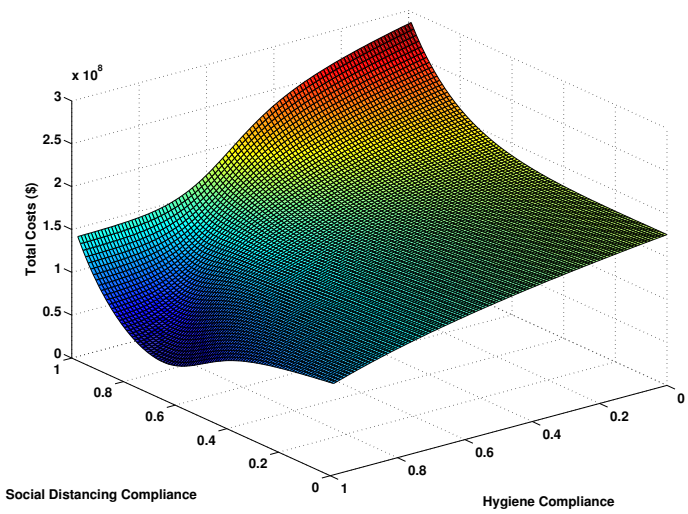


(b) Exponential Cost

Figure S15: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model I with increased contact rate in the high-activity group, $\lambda_H = 35$ day^{-1}, and $p = 0.10$.

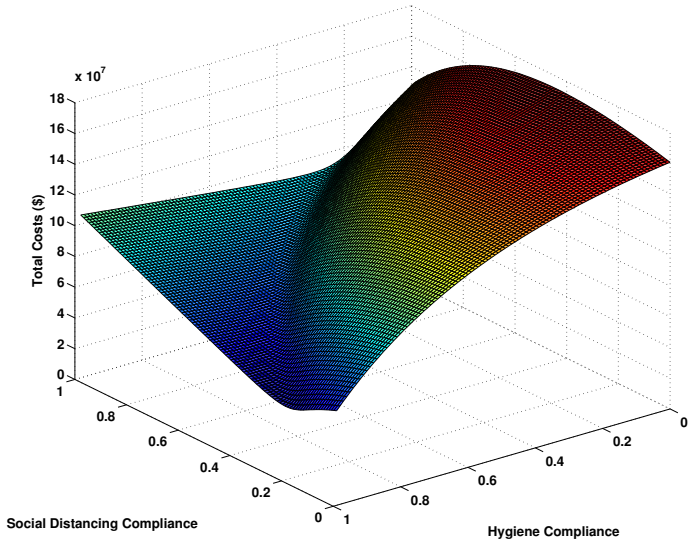


(a) Linear Cost

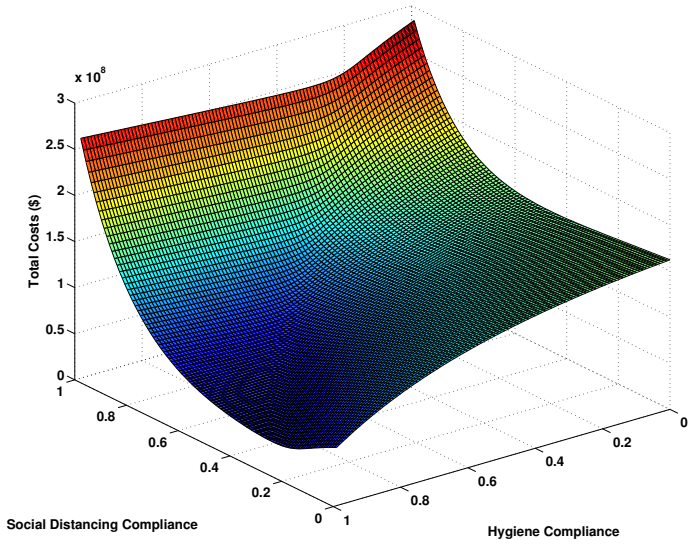


(b) Exponential Cost

Figure S16: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model II with increased contact rate in the high-activity group, $\lambda_H = 35$ day^{-1}, and $p = 0.028$.

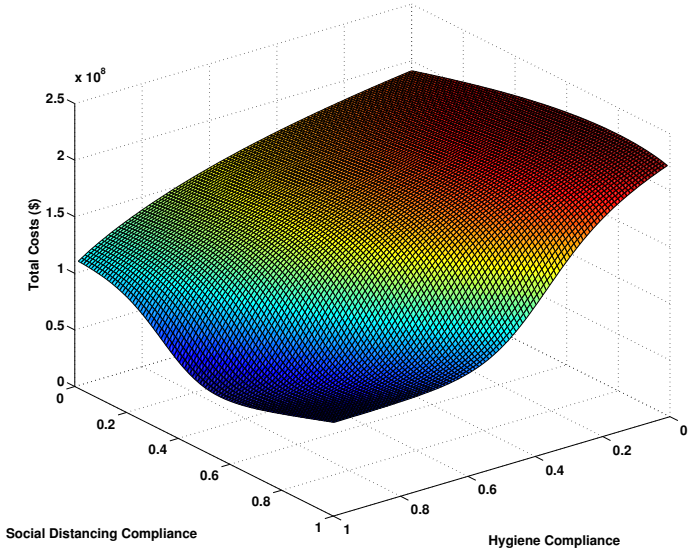


(a) Linear Cost

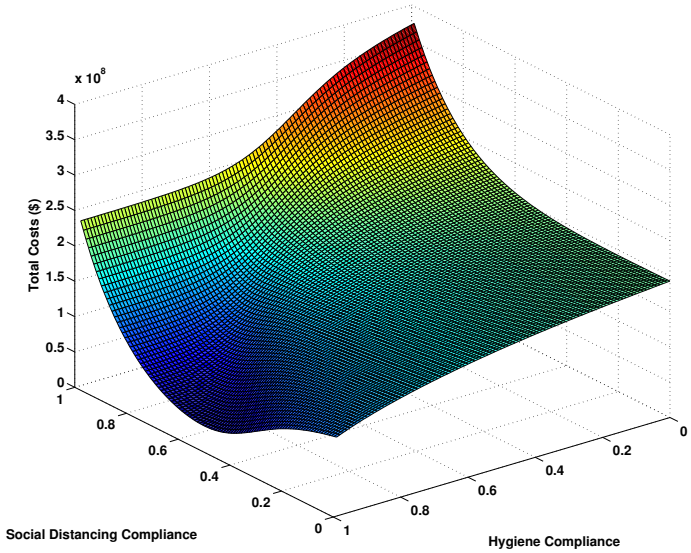


(b) Exponential Cost

Figure S17: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model I with increased initial population in the high-activity group, $n_H = n_L = 50,000$ persons and $p = 0.10$.



(a) Linear Cost



(b) Exponential Cost

Figure S18: Total costs as a function of compliance given linear costs as a function of intervention compliance for both interventions, compared to exponential costs for social distancing intervention compliance in disease transmission model II with increased initial population in the high-activity group, $n_H = n_L = 50,000$ persons and $p = 0.028$.