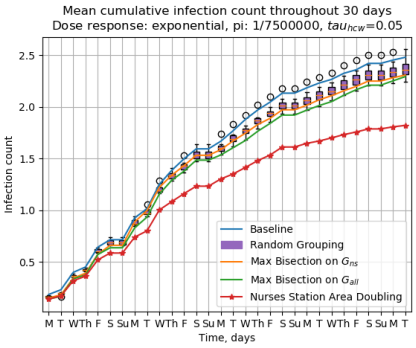
Supplemental Materials

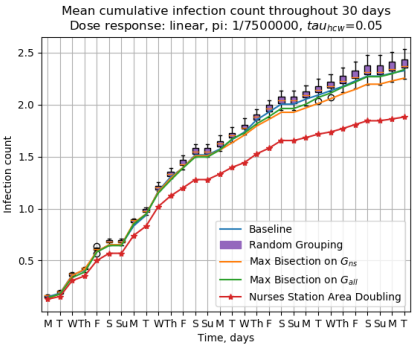
This document contains figures for the extra set of simulations for the paper "Evaluating Architectural Changes to Alter Pathogen Dynamics in a Dialysis Unit."

In the fall of 2013, we instrumented the dialysis unit at the UIHC with sensors and collected ten days of HCW mobility data. Across the ten days, six days (Day 2, 6, 7, 8, 9, 10) have mobility data for 14 to 15 hours, and the remaining days have a shorter period. Day 10 was used in simulations in Fig.5 of the paper, and remaining figures reported here are the result of running simulations on the remaining long days. Moreover, an extra set of parameters were run on baseline parameters on day 10 with various τ_{hcw}. We experimented with various ϵ and γ using the baseline parameters on the baseline policy and report the results as well.

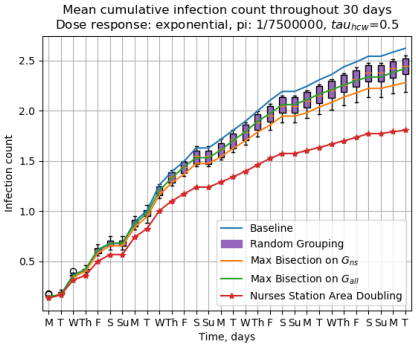
1 Cumulative Infection Counts on Different Days



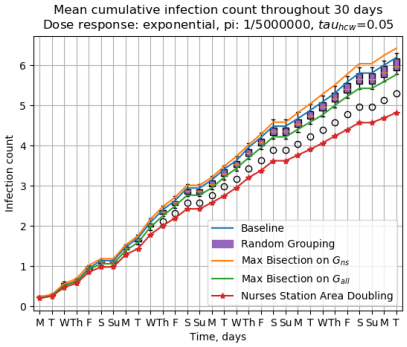
(a) Baseline Parameters (BP)



(b) BP with $f(x) = linear$

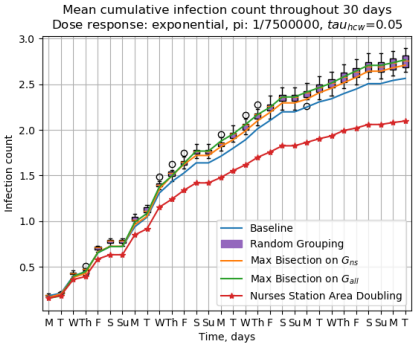


(c) BP with $\tau_{hcw} = 0.5$

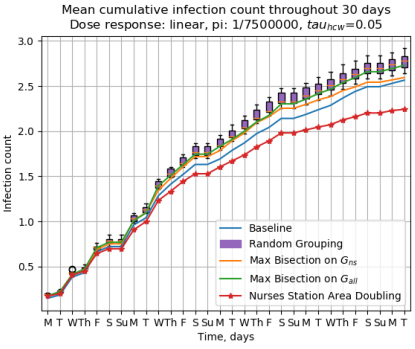


(d) BP with $\pi = \frac{1}{5M}$

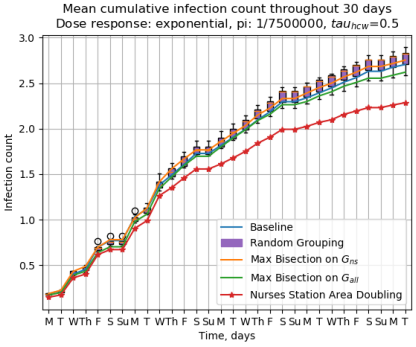
Figure 1: **Cumulative infection counts on four different parameter settings using Day2**



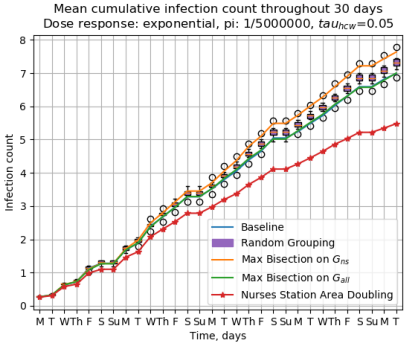
(a) BP



(b) BP with $f(x) = linear$

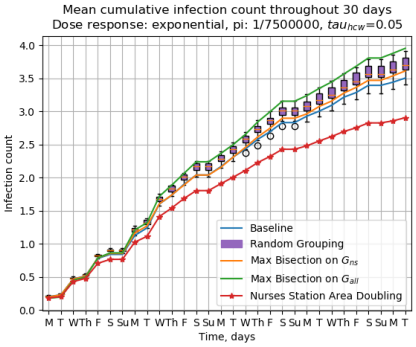


(c) BP with $\tau_{hcw} = 0.5$

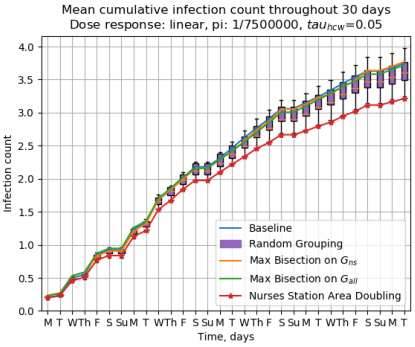


(d) BP with $\pi = \frac{1}{5M}$

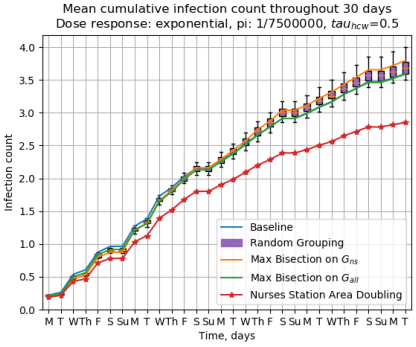
Figure 2: **Cumulative infection counts on four different parameter settings using Day6**



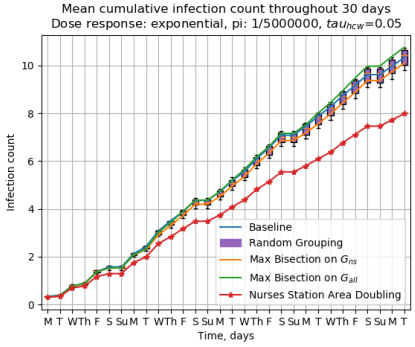
(a) BP



(b) BP with $f(x) = linear$

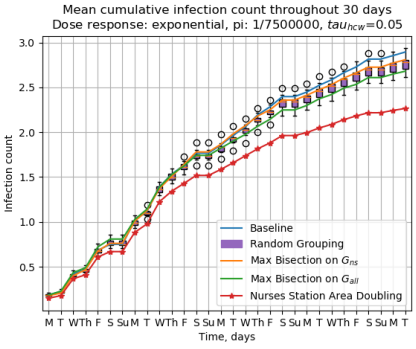


(c) BP with $\tau_{hcw} = 0.5$

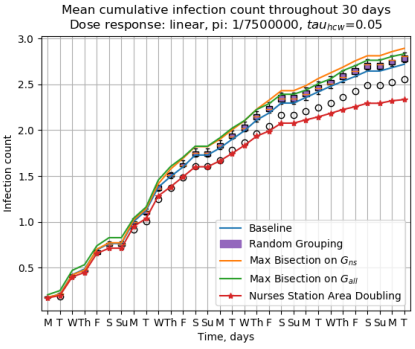


(d) BP with $\pi = \frac{1}{5M}$

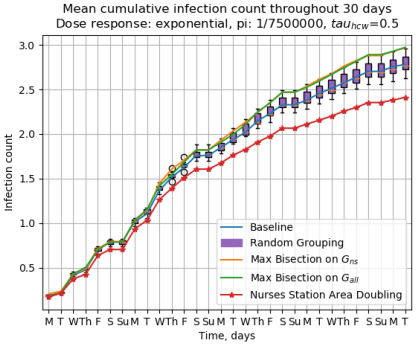
Figure 3: **Cumulative infection counts on four different parameter settings using Day7**



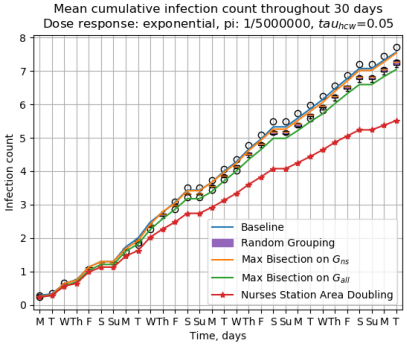
(a) BP



(b) BP with $f(x) = linear$

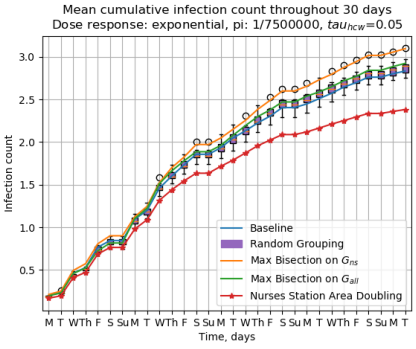


(c) BP with $\tau_{hcw} = 0.5$

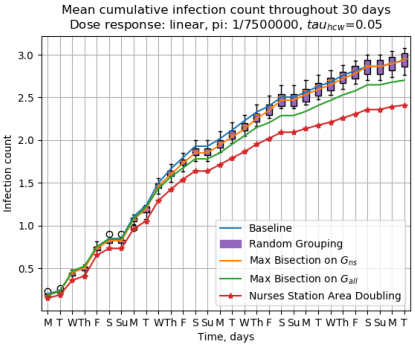


(d) BP with $\pi = \frac{1}{5M}$

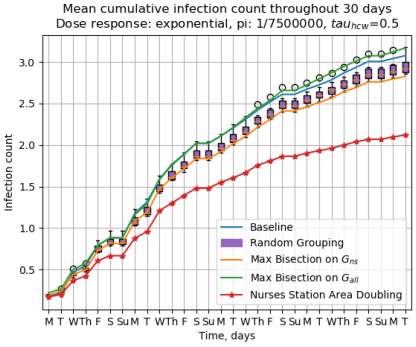
Figure 4: **Cumulative infection counts on four different parameter settings using Day8**



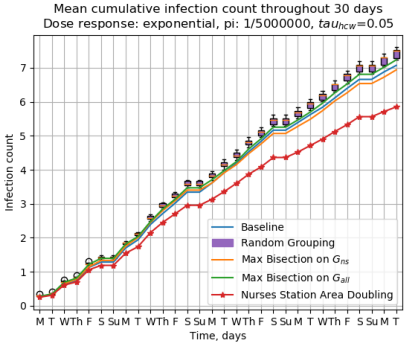
(a) BP



(b) BP with $f(x) = linear$

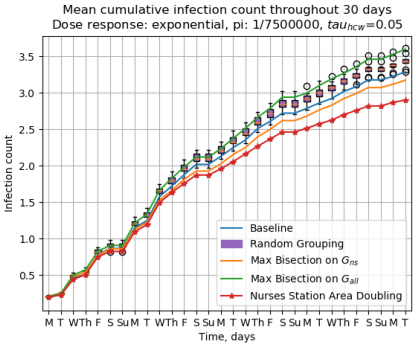


(c) BP with $\tau_{hcw} = 0.5$

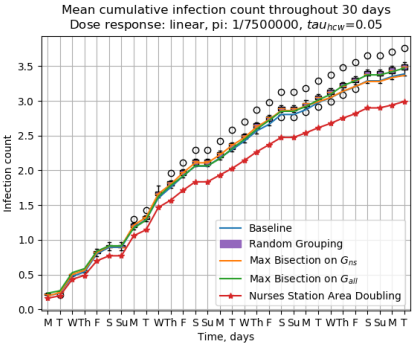


(d) BP with $\pi = \frac{1}{5M}$

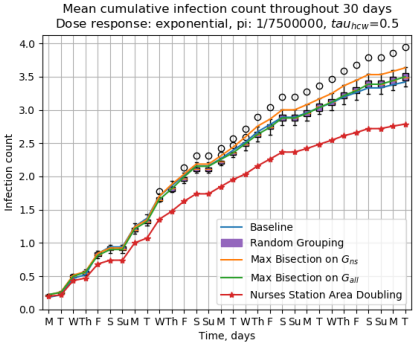
Figure 5: **Cumulative infection counts on four different parameter settings using Day9**



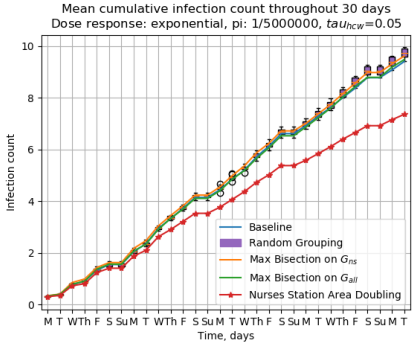
(a) BP



(b) BP with $f(x) = linear$



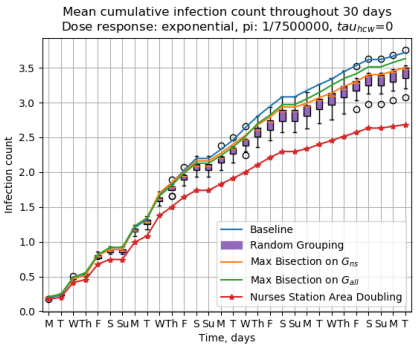
(c) BP with $\tau_{hcw} = 0.5$



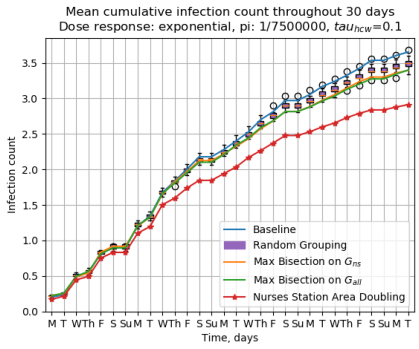
(d) BP with $\pi = \frac{1}{5M}$

Figure 6: **Cumulative infection counts on four different parameter settings using Day10**

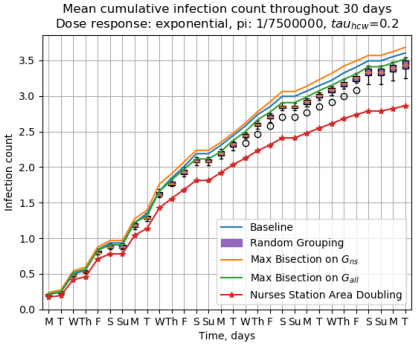
2 Cummulative Infection Counts on various τ_{hcw}



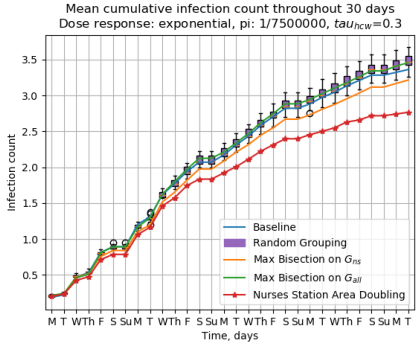
(a) BP with $\tau_{hcw} = 0$



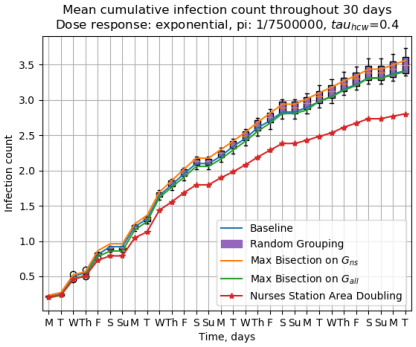
(b) BP with $\tau_{hcw} = 0.1$



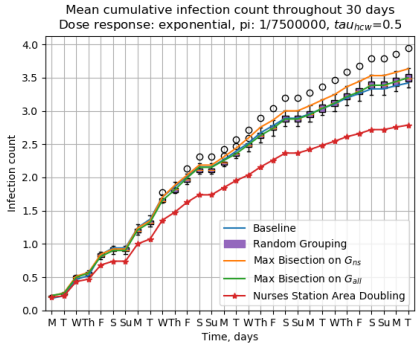
(c) BP with $\tau_{hcw} = 0.2$



(d) BP with $\tau_{hcw} = 0.3$

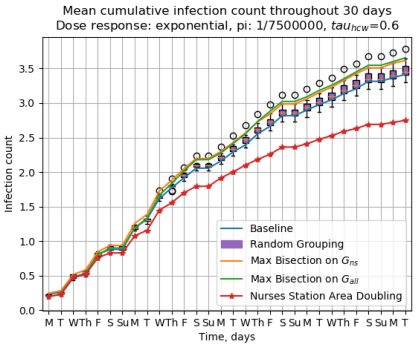


(e) BP with $\tau_{hcw} = 0.4$

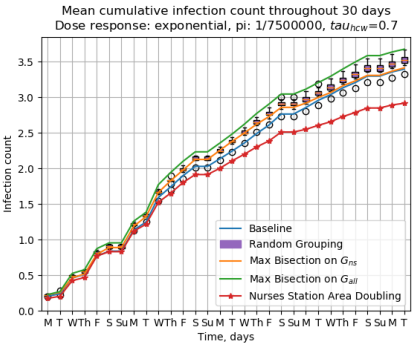


(f) BP with $\tau_{hcw} = 0.5$

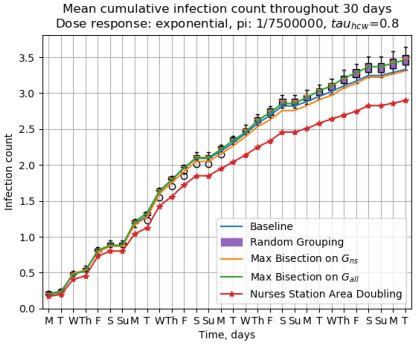
Figure 7: **Cumulative infection counts using day10 on various** tau_{hcw}



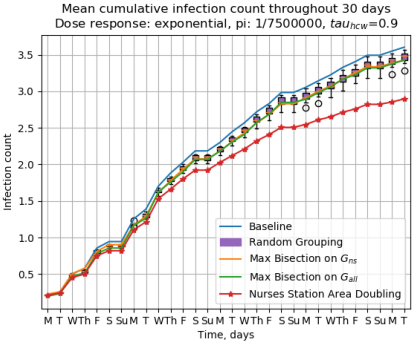
(a) BP with $\tau_{hcw} = 0.6$



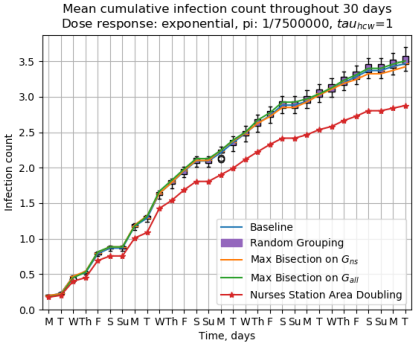
(b) BP with $\tau_{hcw} = 0.7$



(c) BP with $\tau_{hcw} = 0.8$



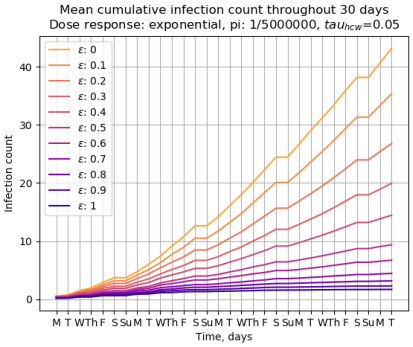
(d) BP with $\tau_{hcw} = 0.9$



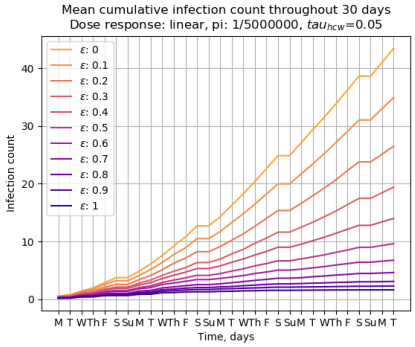
(e) BP with $\tau_{hcw} = 1$

Figure 8: **Cumulative infection counts using day10 on various** tau_{hcw}

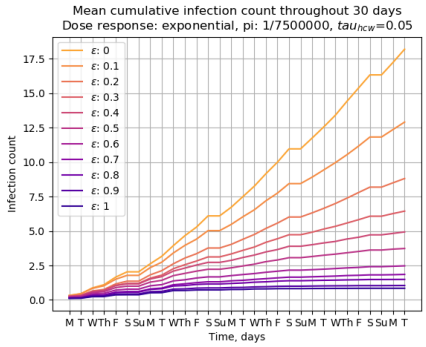
3 Cummulative Infection Counts on various ϵ



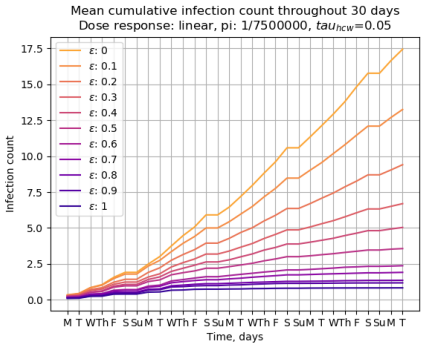
(a) BP with $\pi = \frac{1}{5M}$



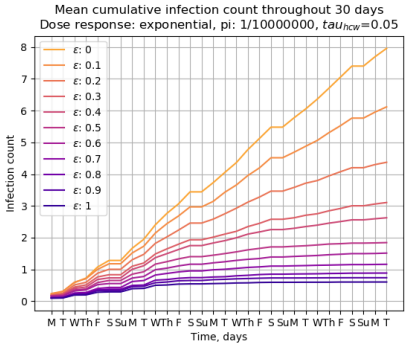
(b) BP with $\pi = \frac{1}{5M}$ and $f(x) = linear$



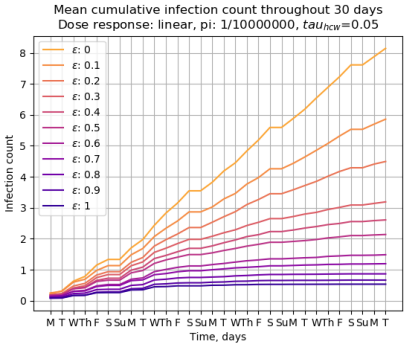
(c) BP with $\pi = \frac{1}{7.5M}$



(d) BP with $\pi = \frac{1}{7.5M}$ and $f(x) = linear$



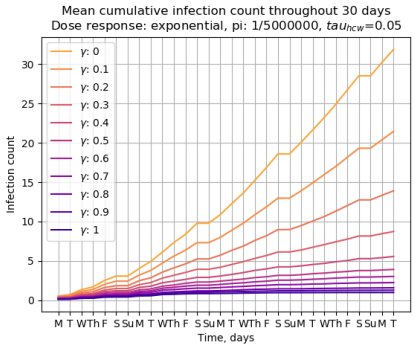
(e) BP with $\pi = \frac{1}{10M}$



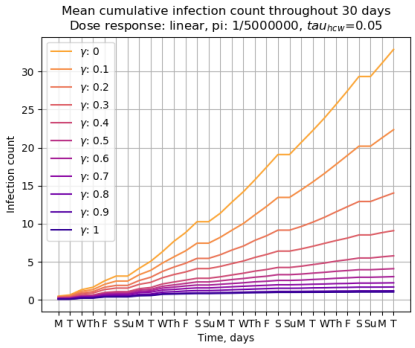
(f) BP with $\pi = \frac{1}{10M}$ and $f(x) = linear$

Figure 9: **Cumulative infection counts on baseline policy using day10 on various ϵ**

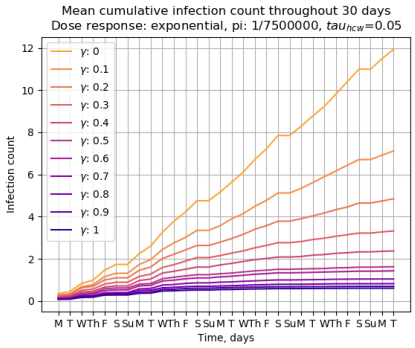
4 Cummulative Infection Counts on various γ



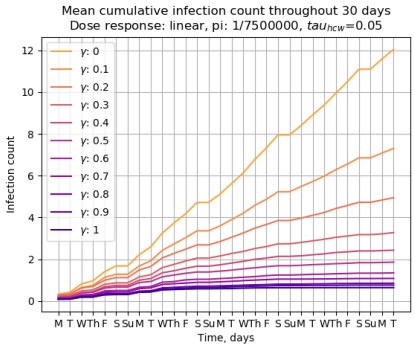
(a) BP with $\pi = \frac{1}{5M}$



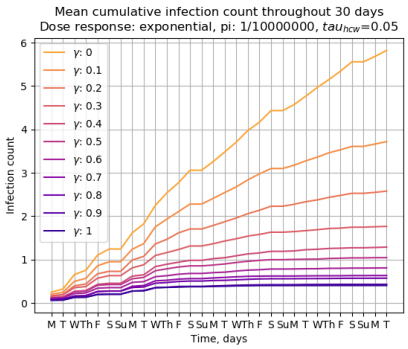
(b) BP with $\pi = \frac{1}{5M}$ and $f(x) = linear$



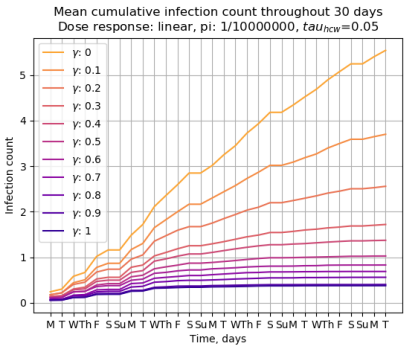
(c) BP with $\pi = \frac{1}{7.5M}$



(d) BP with $\pi = \frac{1}{7.5M}$ and $f(x) = linear$



(e) BP with $\pi = \frac{1}{10M}$



(f) BP with $\pi = \frac{1}{10M}$ and $f(x) = linear$

Figure 10: **Cumulative infection counts on baseline policy using day10 on various γ**