Estimated vaccine efficacy v. symptomatic COVID-19 infection at Day 57 working MSM summary:  $(\hat{\beta}_{TMLE} = 0.0344, p-value = 0.5184)$ infection 00 t symptomatic 0 6 against 0 6 0 Stochastic interventional

Posited change in standardized pseudo-neutralizing antibody (ID80)

Stochastic interventional vaccine efficacy v. COVID–19 infection across standardized shifts in pseudo–neutralizing antibody (ID80) levels, summarized by projection of causal dose–response curve on a linear working model.