Decomposing network effects into directional components to advance study of the diffusion of medical practices in a physician shared-patient network

ONLINE SUPPORTING INFORMATION

In this online supporting information, we include the figure with the general results across values of $\alpha = (\alpha_1, \alpha_2, \alpha_3)^T$ referred to in Section 3.2 of the main text. The plots show the bias, mean-squared-error (MSE), and coverage of the estimated peer-effect (α_0) using the influence matrix constructed from the undirected adjacency matrix compared to each of the inbound (α_1), outbound (α_2), and mutual (α_3) peer-effects. The simulated network size is 100 with a density of 0.2.

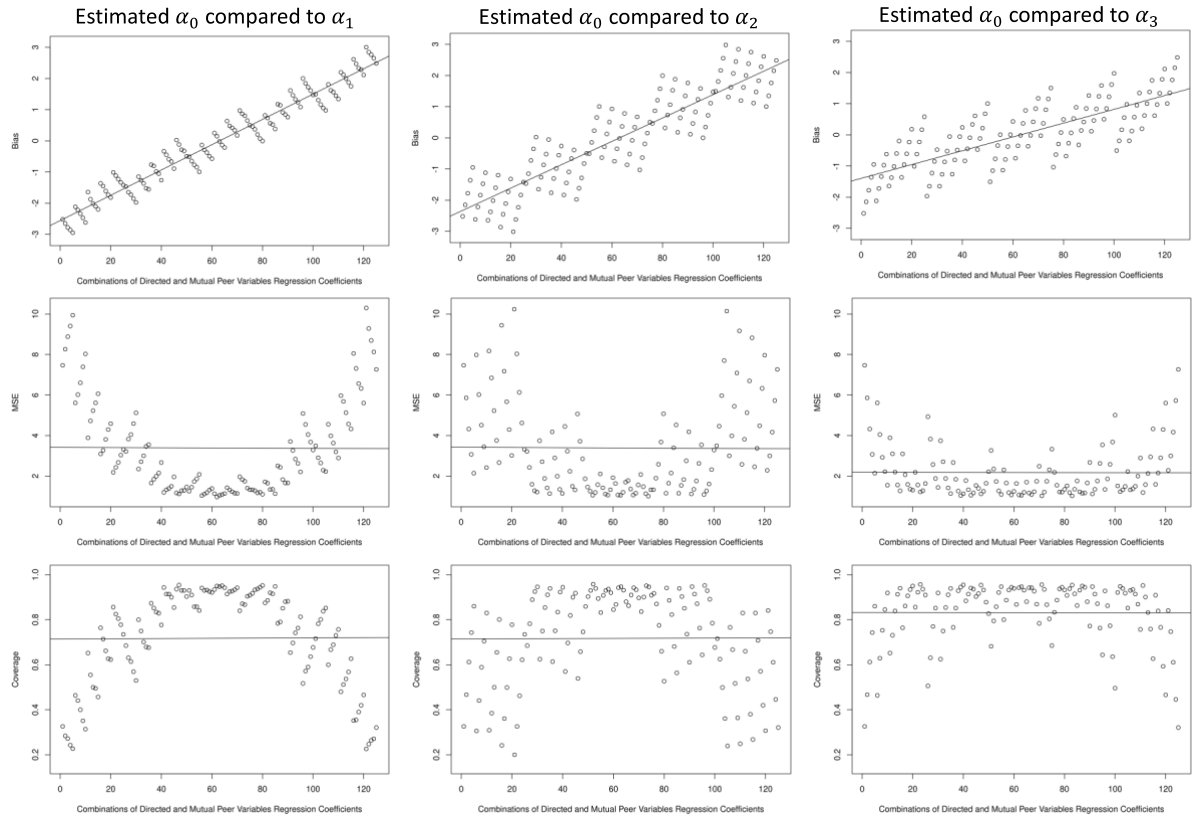

Figure S1. Bias, mean-squared-error (MSE), and coverage of estimated directed peer-effects $(\alpha_1, \alpha_2, \alpha_3)^T$ when the model in Equation (3) of the main text generates the data but the model with a single peer-effect (denoted α_0) for an undirected weight matrix is used for estimation. The x-axis is ordered by the combinations of $(\alpha_1, \alpha_2, \alpha_3)^T$ whereby α_1 varies fastest followed by α_2 and then by α_3 (leading to the patterns reflecting the repeated mini-trends in several of the subplots).