Additional Information for Fuminori Kato, Kei-ichi Tainaka, Shogo Sone, Satoru Morita, Hiroyuki Iida, and Jin Yoshimura. Combined effects of prevention and quarantine on a breakout in SIR model.

Supplementary Figures S1 and S2:

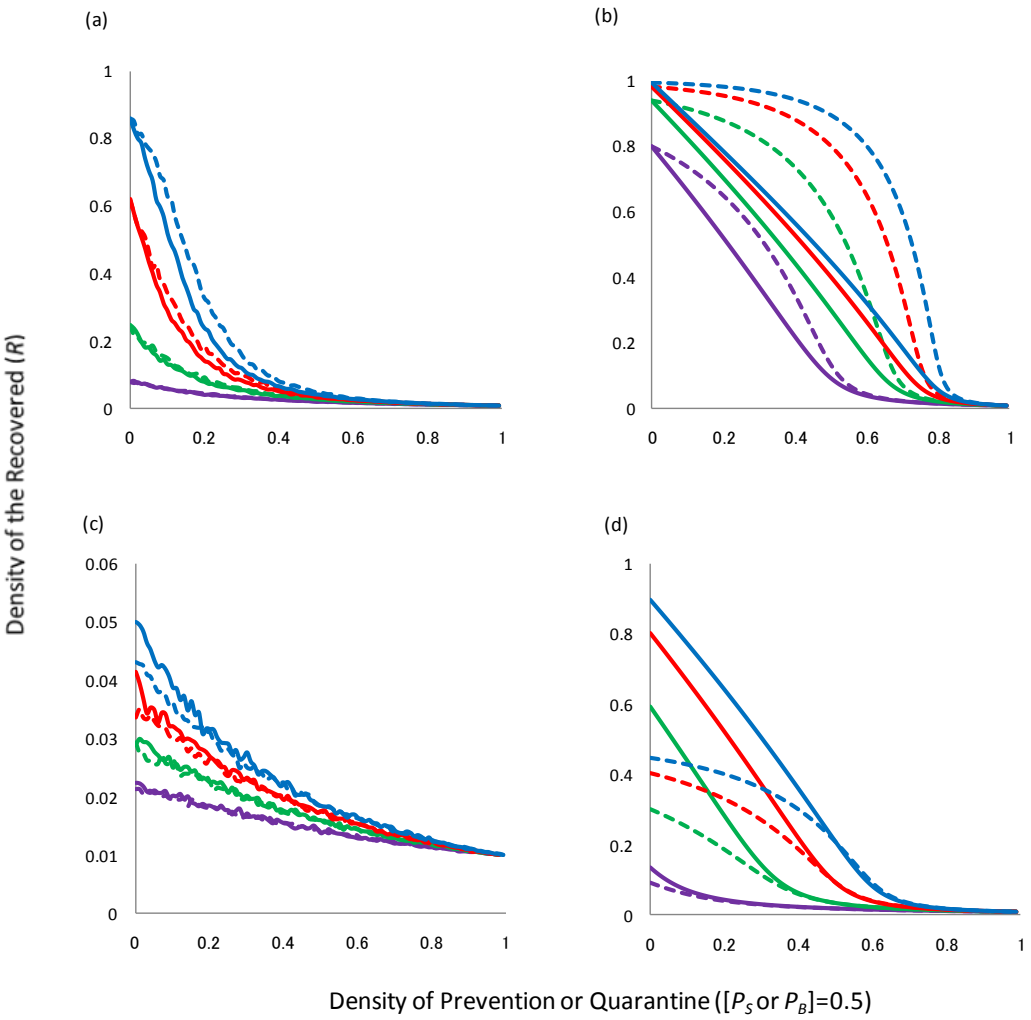

Figure S1. The final density of recovered sites (R) for the models of prevention (site percolation) P_S and/or quarantine (bond percolation) P_B with various infection rates: β/γ = 2.0 (purple), 3.0 (green), 4.0 (red) and 5.0 (blue). (a) local simulations and (b) global analyses of either prevention P_S with P_B = 0 (solid line) or quarantine P_B with P_S = 0 (dashed line). (c) local simulations and (d) global analyses of either prevention P_S with P_B = 0.5 (solid line) or quarantine P_B with P_S = 0.5 (dashed line). Under local interaction, the effects of prevention are always slightly stronger than those of quarantine. Under global interaction, the effects of prevention is moderate, but those of quarantine is weak.

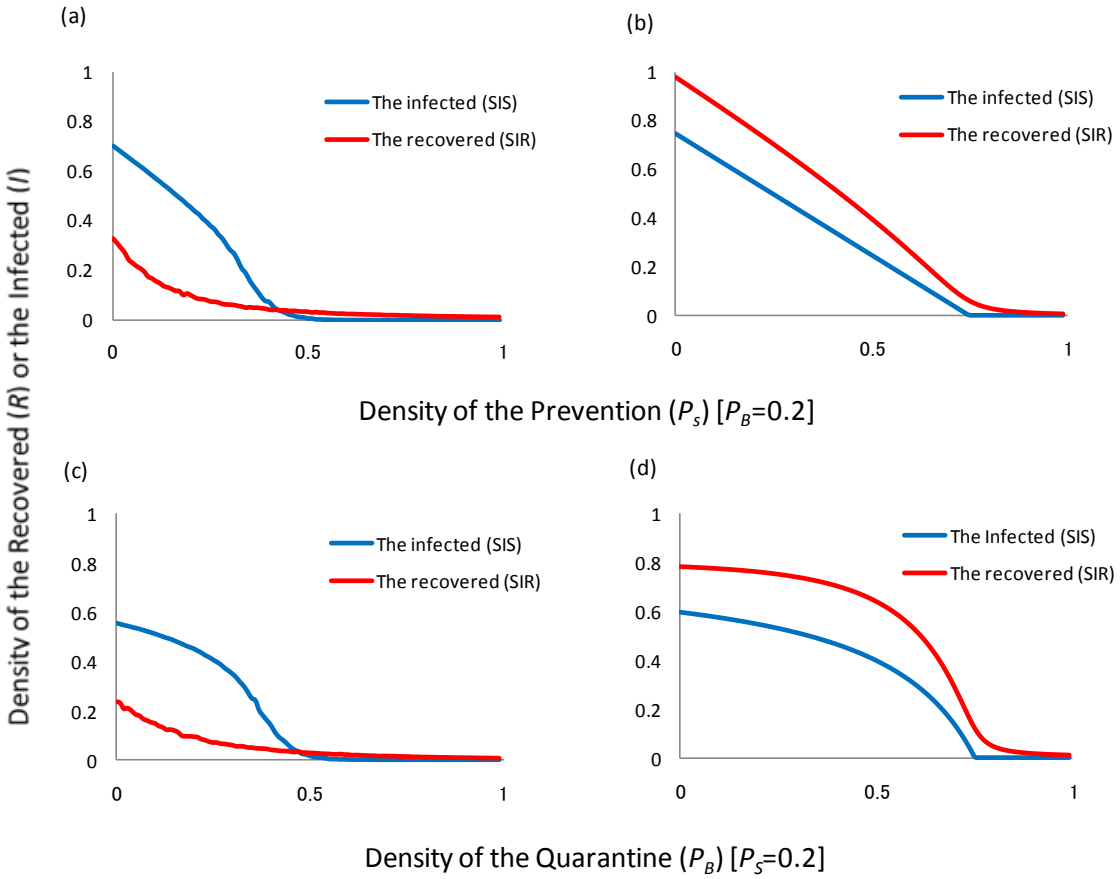

Figure S2. The comparisons of the protection efficiency between the SIR model (the final density of the recovered R is shown) and the SIS model (the steady state density of the infected I is shown [Average of 800-1000 steps]). (a) local simulations and (b) global analyses with P_B = 0.2. (c) local simulations and (d) global analyses with P_S = 0.2. The effects of both prevention and quarantine are much stronger in SIR than in SIS. However, the effects of these two measures are slightly weaker in SIR than in SIS.