

**Table S2.** Estimates of seasonal variation in probability of ICU admission per influenza infection with 95% confidence intervals

| Equation                                         | Adjusted<br>$R^2$ | AIC     | Cri-<br>terion | Root<br>Squared<br>Error | Mean                                                                                                   | Fitted Values |
|--------------------------------------------------|-------------------|---------|----------------|--------------------------|--------------------------------------------------------------------------------------------------------|---------------|
| $e^{(d_0(1+d_1 \cos \frac{2\pi t}{365}))}$       | 0.84              | -218.93 |                | $4.97 \times 10^{-5}$    | $d_0 = -9.4(-9.87, -8.93); d_1 = 0.28(0.20, 0.36)$                                                     |               |
| $d_2 + e^{(d_0(1+d_1 \cos \frac{2\pi t}{365}))}$ | 0.94              | -230.02 |                | $3.00 \times 10^{-5}$    | $d_0 = -10.65(-11.36, -9.95); d_1 = 0.3978(0.32, 0.48); d_2 = 5.14 \times 10^{-5}$<br>(fixed at bound) |               |