The serial intervals of seasonal and pandemic influenza viruses in households in Bangkok, Thailand

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Abstrak

The serial interval (SI) of human influenza virus infections is often described by a single distribution. Understanding sources of variation in the SI could provide valuable information for understanding influenza transmission dynamics. Using data from a randomized household study of nonpharmaceutical interventions to prevent influenza transmission in Bangkok, Thailand, over 34 months between 2008 and 2011, we estimated the influence of influenza virus type/subtype and other characteristics of 251 pediatric index cases and their 315 infected household contacts on estimates of household SI. The mean SI for all households was 3.3 days. Relative to influenza A(H1N1)pdm09 (3.1 days), the SI for influenza B (3.7 days) was 22% longer (95% confidence interval: 4, 43), or about half a day. The SIs for influenza viruses A(H1N1) and A(H3N2) were similar to that for A(H1N1)pdm09. SIs were shortest for older index cases (age 11-14 years) and for younger infected household contacts (age ≤15 years). Greater time spent in proximity to the index child was associated with shorter SIs. Differences in the SI might reflect differences in incubation period, viral shedding, contact, or susceptibility. These findings could improve parameterization of mathematical models to better predict the impact of epidemic or pandemic influenza mitigation strategies.