

Abstract #: 1483**A meta-analysis of the serial interval and generation time of COVID-19 transmission**

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Background: Variation of the estimated serial interval and generation time introduces heterogeneity in COVID-19 transmission models. We conducted a systematic review and meta-analysis to estimate more precise serial intervals and generation times of COVID-19.

Methods: A literature search was conducted using the WHO Global COVID-19 Literature database from 1 January 2020 to 30 April 2021. A single reviewer performed the data extraction. A random-effects model was used to pool the estimates. Subgroup analysis was performed to check the estimates for heterogeneity by geographical region and the presence of lockdown measures.

Results: A total of 222 articles were retrieved of which 73 articles were included based on the selection criteria. Serial intervals were reported in 65 articles that provided 75 unique estimates from 16,805 transmission pairs. Generation intervals were reported in 9 articles that provided 9 unique estimates from 1,150 transmission pairs. The pooled serial interval was 5.00 days (95% CI: 4.68, 5.33). The pooled generation time was 4.37 days (95% CI: 3.58, 5.16). The serial interval estimates did not vary by either geographical region ($P > 0.05$) or the presence of lockdown measures ($P > 0.05$).

Conclusions: This analysis provides more precise pooled serial and generation intervals that may decrease misspecifications of future transmission models.

Key messages: Epidemiological parameters are crucial components in estimating the dynamics of COVID-19 transmission. Periodically updating serial and generation time intervals are important to reduce model misspecification for a new disease such as COVID-19.