



Diurnal variation in SARS-CoV-2 PCR test results: Test accuracy may vary by time of day

Candace D. McNaughton, Nicholas M. Adams, Carl Hirschie Johnson, Michael J. Ward, Thomas A. Lasko

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Abstract

False negative tests for SARS-CoV-2 are common and have important public health and medical implications. We tested the hypothesis that the proportion of positive SARS-CoV-2 real-time polymerase chain reaction (RT-PCR) tests varied by time of day, suggesting variation in viral shedding by time of day. Among 30,000 clinical tests performed among symptomatic and asymptomatic patients in the Vanderbilt Affiliated Healthcare Network from March-June 2020, we found evidence for diurnal variation in the proportion of positive SARS-CoV-2 tests, with a peak around 2pm in the afternoon and 2-fold variation over the day. Variation was most pronounced in outpatient and inpatient testing locations. These findings have important implications for public health testing and vaccination strategies.

Competing Interest Statement

The authors have declared no competing interest.

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