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Title

Understanding feasibility of rapid antigen testing in congregate living settings

Priority 1 (Research Category)

COVID-19

Presenters

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Abstract

Context: In Canada, there is currently no universal (federal or provincial) public health policy for systematic COVID-19 screening for those living in congregate housing.Understanding feasibility of rapid testing in congregate living setting provides critical data to reduce the risk of outbreaks in these settings. Objective: Use rapid antigen screening to detect SARS-CoV-2 in an asymptomatic group of university students and staff. Design: Cross-sectional study where we used rapid antigen testing from February to April, 2021. A survey was administered during the last three weeks of the study. Setting: University of British Columbia, Vancouver, Canada. Participants: Asymptomatic students and staff living or working in UBC owned and operated student residences. It was also open to asymptomatic students living on campus in privately owned housing and varsity athletes. Outcome Measures: Use of BD Veritor rapid antigen test and asymptomatic participants' experiences with rapid testing for SARS-CoV-2. Results: A total of 3536 BD Veritor tests were completed in 1141 unique individuals. The BD Veritor sensitivity in a sample of 136 was 100% with a specificity of 93%. The positive predictive value was 76% and negative predictive value was 100%. One third of participants completed between two to four tests and 21% were screened five or more times. The mean number of tests completed per person was three. The mean length of time between those who had more than one test was seven days. There were eight false positives and 25 PCR confirmed COVID-19 positive individuals identified through this work. All individuals reported having no symptoms that they attributed to COVID-19. Almost all (n=22, 88%) COVID-19 positive cases were found in male participants. A total of 86 additional students from multiple different student residences (n=9) were asked to self-isolate while they waited for their COVID-19 diagnostic test results. An average of seven additional students positive for COVID-19 living in congregate housing were identified through contact tracing by finding one positive case. Almost all (98%) of survey participants found rapid testing acceptable/very acceptable. Two-thirds reported reasons for returning included easy access, quick, painless and results given the day of testing.

Conclusion: Rapid testing as a screening tool is accurate in detecting active COVID-19 infection, relatively inexpensive and operationally feasible in identifying asymptomatic individuals.