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Detecting COVID-19 using only a smartphone

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92% sensitivity for detecting COVID-19 with a new cough audio-based algorithm



ResApp Health announced positive results for a new novel cough audio-based COVID-19 screening test that only requires a smartphone. In an exploratory clinical trial of 741 patients (446 COVID-19 positive) recruited in the United States and India, ResApp's screening test, which uses machine learning to analyse the sound of a patient's cough, was found to correctly detect COVID-19 in 92% of people with the infection.

ResApp will position this as a non-invasive, instant, smartphone only screening test to rule out COVID-19 and be used prior to a rapid antigen (RAT) or PCR test.

In the trial, the test achieved a sensitivity of 92% (better than real-world data on rapid antigen tests and a specificity of 80%. The combination of high sensitivity and 80% specificity results in 8 out of 10 people without COVID-19 being correctly screened as negative and not requiring a follow-on rapid antigen or PCR test.

The performance of the algorithm was obtained using K-fold cross-validation to provide an estimate of performance on unseen data. ResApp intends to submit the results for publication in a peer-reviewed journal in the coming weeks.

As a smartphone-based test, it's non-invasive, easy-to-use, and instant, the entire test and results takes less than 30 seconds. The test also has unlimited scalability, no supply chain or distribution issues and none of the environmental impacts of rapid antigen tests.

ResApp will target use in settings where frequent COVID-19 testing is required, such as employee, healthcare worker and student screening, travel, sports, entertainment, and aged care.