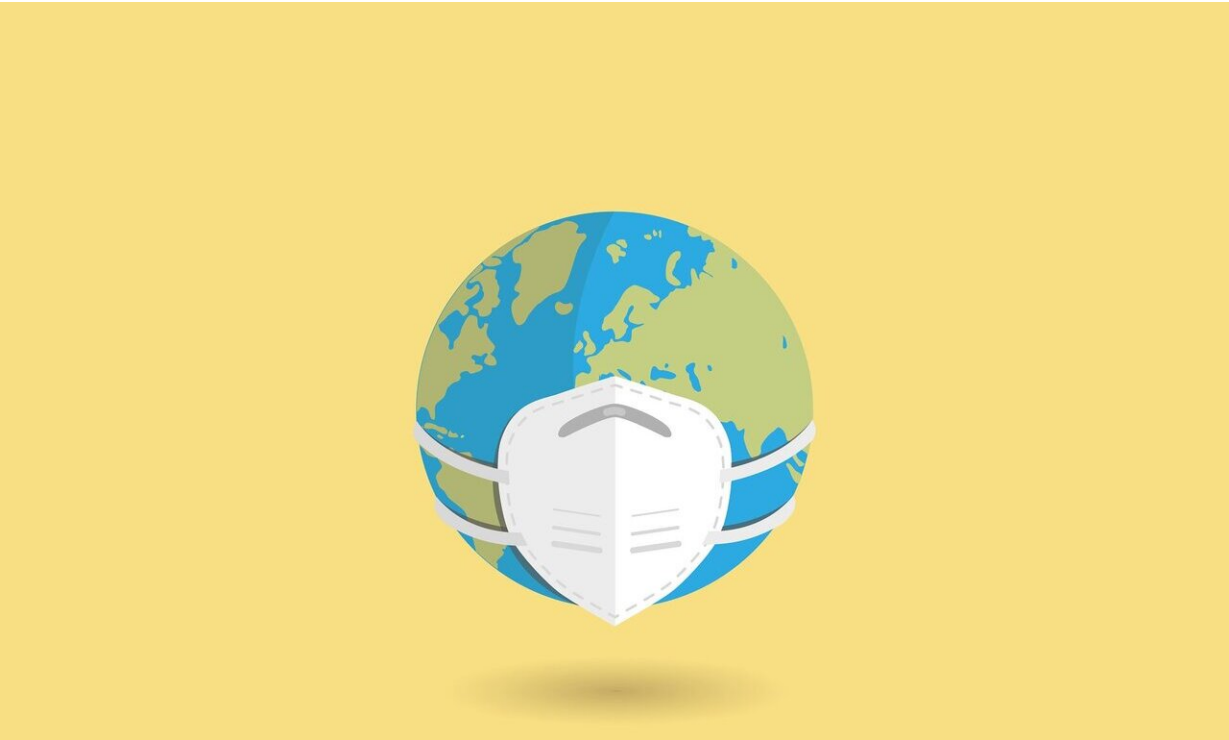
Medical Xpress

Tracking symptoms with app an inexact predictor of coronavirus infection

July 28 2020



Credit: Pixabay/CC0 Public Domain

A new piece in *Family Practice*, published by Oxford University Press, indicates that tracking symptoms affiliated with the novel coronavirus through an app may not be a good predictor of the spread of the disease.

Over the course of 2020, as the novel coronavirus has spread across the

globe causing extensive illness and economic havoc to communities everywhere, health care providers and the general public have been eager to find a way to identify the illness. In the absence of readily available tests, scientists have worked to identify clues to detect those who might have the illness as a way to combat the spread of the virus.

A recent study, "Real-time tracking of self-reported symptoms to predict potential COVID-19," published in *Nature Medicine*, suggested that a prediction score combining loss of smell and taste, fatigue, cough, and loss of appetite—collected through an app—was able to prospectively identify people at risk of COVID-19.

Researchers here compared the main features of the population involved in the *Nature Medicine* study, and the performance of their score, with data from a cross-sectional study conducted between March 24th and April 29th 2020, and applied the *Nature Medicine* model to these data.

Applying the probability threshold in the *Nature Medicine* study to these data indicated that 41% of positive tests were false positives, while 17% of negative tests were false negatives.

In the *Family Practice* piece, general practitioners referred most patients because they were complaining of COVID-like symptoms. It is likely that this population was symptomatic due to the triage performed by general practitioners prior to testing. Indeed, nearly half the patients in the sample reported fever (45.4%), reflecting the common reason for doctors to refer patients to testing at the time these data were collected.

Fever was registered in the app in the *Nature Medicine* study by only one-third of patients.

In conclusion, while real-time symptom collection through an app seems to be an attractive method to screen for potential infections, and the

Nature Medicine study confirms the crucial value of specific symptoms such as loss of smell and taste, the score proposed in the study does not appear to perform well in a primary care population.

"These results confirm the crucial role of laboratory testing in COVID-19 and the need to support research on COVID-19 in primary care populations," said the letter's lead author, Benoit Tudrej.

The letter, "Is a COVID-19 prediction model based on symptom tracking through an app applicable in primary care?" is available to the public on July 28th.

More information: Dagmar M Haller et al, Is a COVID-19 prediction model based on symptom tracking through an app applicable in primary care?, *Family Practice* (2020). DOI: 10.1093/fampra/cmaa069

Provided by Oxford University Press