

Diagnosing COVID-19: accuracy of clinical signs and symptoms

This Cochrane Review considers the accuracy of signs and symptoms for diagnosis of COVID-19 in a primary care or hospital outpatient setting. This review updates the original July 2020 version.

Methods and results

- Systematic review (**44 studies**) and meta-analysis of symptom accuracy in patients with suspected COVID-19
- In **26,884** patients, average COVID-19 prevalence was **21%**

Limitations

- Studies selected participants based on the presence of specific symptoms, so confidence in the evidence is limited.
- Data on symptom combinations (e.g. cough and fever) are too scarce to evaluate.

Conclusions

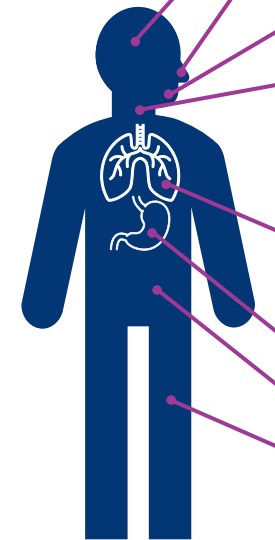
Neither absence nor presence of a single sign or symptom is accurate enough to rule in or rule out COVID-19.

The combination of **fever, cough, or loss of sense of smell or taste** may be useful to select patients for further confirmatory COVID-19 testing.



Sensitivity: percentage of **true positives** out of all patients with COVID-19. Multiple tests had sensitivity > 50%
Specificity: percentage of **true negatives** out of all patients without COVID-19. Multiple tests had specificity > 90%

14 symptoms
with enough
evidence for
meta-analysis



	Pooled sensitivity (95% CI)	Pooled specificity (95% CI)
Fever	53.8% (35.0-71.7)	67.4% (53.3-78.9)
Headache	21.9% (9.2-43.5)	80.1% (60.2-91.4)
Sense of smell loss	28.0% (17.7-41.3)	93.4% (88.3-96.4)
Smell or taste loss	41.0% (27.0-56.6)	90.5% (81.2-95.4)
Sense of taste loss	24.8% (12.4-43.5)	91.4% (81.3-96.3)
Sore throat	21.2% (13.5-31.6)	69.5% (58.1-78.9)
Cough	67.4% (59.8-74.1)	35.0% (28.7-41.9)
Breathing difficulties	24.9% (16.6-35.5)	77.1% (66.8-84.8)
Sputum production	18.9% (8.1-38.1)	81.3 (57.9-93.2)
Chest tightness	4.7% (2.5-8.9)	94.6 (88.6-97.6)
Nausea/vomiting	5.4% (2.4-11.5)	95.3% (92.0-97.3)
Diarrhoea	11.6% (7.6-17.4)	90.6% (86.6-93.5)
Muscle pain	26.6% (15.3-42.4)	83.1% (70.6-90.9)
Fatigue	36.4 % (22.1-53.6)	74.7% (63.6-83.3)