

Appendix

Symptom assessment

Moderate agreement (kappa values 0.41 to 0.60) was observed between the NTS and ED ROS for fever, cough, SOB, and diarrhea; fair agreement (kappa values 0.21 to 0.40) for sore throat, headache, abdominal pain, and vomiting; and poor/slight agreement (kappa values 0.00 to 0.20) for myalgias and chills (Table A1) [22].

Table A1

Comparison of symptom assessment using NTS and ED ROS

Symptom	NTS n (%)	ROS n (%)	Patients included in kappa analysis	Kappa (95% CI)	SE
SOB	181/630 (28.7)	223/605 (36.9)	532	0.57 (0.49-0.64)	0.04
Fever	89/630 (14.1)	141/696 (20.3)	599	0.51 (0.42-0.60)	0.04
Cough	122/630 (19.4)	172/572 (30.1)	508	0.49 (0.40-0.57)	0.04
Diarrhea	41/630 (6.5)	64/506 (12.6)	451	0.44 (0.31-0.57)	0.07
Vomiting	35/630 (5.6)	101/586 (17.2)	514	0.38 (0.27-0.49)	0.06
Headache	21/630 (3.3)	50/505 (9.9)	450	0.28 (0.13-0.43)	0.08
Abdominal pain	51/630 (8.1)	165/594 (27.8)	523	0.37 (0.28-0.45)	0.04
Sore throat	17/630 (2.7)	21/427 (4.9)	382	0.25 (0.03-0.47)	0.11
Weakness	88/630 (14.0)	102/404 (25.2)	361	0.24 (0.12-0.35)	0.06
Myalgias	21/630 (3.3)	66/383 (17.2)	343	0.14 (0.02-0.26)	0.06

Chills	12/630 (1.9)	78/502 (15.5)	449	0.09 (0.01-0.18)	0.04
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A sensitivity analysis removed the 77 (10.3%) patients unable to provide a full ROS due to altered mental status (AMS), and the kappa values did not vary by more than 0.01 for each symptoms (Table A2).

Table A2

Comparison of symptom assessment using NTS and ED ROS with ROS removed for patients with AMS

Symptom	NTS n (%)	ROS n (%)	Patients included in kappa analysis	Kappa (95% CI)	SE
SOB	181/630 (28.7)	212/587 (36.1)	520	0.57 (0.49-0.64)	0.04
Cough	122/630 (19.4)	165/561 (29.4)	501	0.50 (0.42-0.59)	0.04
Fever	89/630 (14.1)	126/634 (19.9)	564	0.49 (0.41-0.59)	0.05
Diarrhea	41/630 (6.5)	64/503 (12.7)	449	0.44 (0.31-0.57)	0.07
Vomiting	35/630 (5.6)	97/577 (16.8)	577	0.38 (0.27-0.51)	0.06
Abdominal pain	51/630 (8.1)	162/586 (27.6)	520	0.37 (0.28-0.46)	0.04
Headache	21/630 (3.3)	48/501 (9.6)	501	0.29 (0.14-0.44)	0.08
Sore throat	17/630 (2.7)	21/426 (4.9)	382	0.25 (0.03-0.47)	0.11
Weakness	88/630 (14.0)	95/395 (24.1)	356	0.23 (0.11-0.34)	0.06
Myalgias	21/630 (3.3)	64/378 (16.9)	341	0.14 (0.02-0.26)	0.06
Chills	12/630 (1.9)	78/497 (15.7)	497	0.09 (0.01-0.18)	0.04

Comparison of NTS, ED ROS, and attending physician PA

The analysis that appears in the main manuscript was also done where the 52 patients with unconfirmed negative results (meaning those that were determined to have a moderate/high probability of having COVID-19 on the attending physician PA but only had one COVID-19 test rather than two) were categorized as COVID-19 positive rather than COVID-19 negative. The sample size for both analyses remained 531 because it only included those patients who had an NTS, ROS, and attending physician PA performed. Of the 52 patients with an unconfirmed negative result, 41 (79%) had all three screening methods performed and were included in the analysis.

The results of this sensitivity analysis can be found below. The sensitivity and specificity of the attending physician PA was higher in this sensitivity analysis when compared to the analysis included in the primary manuscript. As expected, the PPV for all three methods increased slightly when compared to the analysis included in the manuscript since the calculated prevalence of COVID-19 increased.

Table A3

Distribution of patient results using each of the three screening methods with patients with unconfirmed negative results characterized as COVID-19 positive, n = 531

NTS COVID positive	NTS COVID negative	ROS COVID positive	ROS COVID negative	Attending physician PA COVID positive	Attending physician PA COVID negative

COVID test positive	70	79	79	70	108	41
COVID test negative	104	278	138	244	61	321

Table A4

Comparison of performance of three different ED screening methods with patients with unconfirmed negative results characterized as COVID-19 positive, n = 531

	Sensitivity (95% CI)	Specificity (95% CI)	PPV (95% CI)	NPV (95% CI)
NTS	0.47 (0.39-0.55)	0.73 (0.68-0.77)	0.40 (0.33-0.48)	0.78 (0.73-0.82)
ED ROS	0.53 (0.43-0.61)	0.64 (0.59-0.69)	0.36 (0.30-0.43)	0.78 (0.73-0.82)
Attending physician PA	0.72 (0.65-0.79)	0.84 (0.80-0.87)	0.64 (0.56-0.71)	0.89 (0.85-0.92)

REFERENCES

22. Landis JR, Koch GG. The measurement of observer agreement for categorical data.

Biometrics. 1977;33(1):159-174.