

Supplementary Table S1. Summary of performance measures for Topaz and MedLEE for findings with $LR^+ \geq 3$ or $LR^- \leq 0.33$

NLP systems	Measures	Lab confirmed flu	Chill	Fever	Suspected Flu	Sore throat	Hoarseness	Cervical Lymphadenopathy	Rhinorrhea	Influenza like illness (ILI)	Wheezing	Cough	Arthralgia	Viral Infection	Lab Order (nasal swab)	Viral Syndrome	Myalgia	Malaise
MedLEE	Accuracy	0.99	0.96	0.83	0.9	0.72	0.99	0.64	0.87	0.99	0.95	0.93	0.96	0.83	0.92	0.96	0.9	1
	Accuracy (absent and present)	0	0.94	0.83	0.67	0.46	0.75	0.08	0.51	0	0.88	0.91	0.72	0.57	0.72	0.8	0.64	1
	Recall present	0 (0/1)	0.92 (45/49)	0.86 (103/120)	0.67 (30/45)	0.82 (28/34)	1 (1/1)	0.14 (1/7)	0.6 (21/35)	0 (0/3)	0.74 (25/34)	0.89 (91/102)	0.69 (9/13)	0.61 (25/41)	0.72 (33/46)	0.84 (32/38)	0.61 (31/51)	1 (14/14)
	Recall absent	. (0/0)	0.97 (33/34)	0.78 (54/69)	1 (1/1)	0.31 (24/78)	0.67 (2/3)	0.08 (6/76)	0.33 (6/18)	. (0/0)	0.97 (59/61)	0.96 (27/28)	0.75 (6/8)	0 (0/3)	. (0/0)	0 (0/2)	1 (4/4)	1 (2/2)
	Precision present	. (0/0)	0.96 (45/47)	0.93 (103/111)	0.86 (30/35)	0.97 (28/29)	1 (1/1)	1 (1/1)	0.91 (21/23)	. (0/0)	0.96 (25/26)	0.97 (91/94)	1 (9/9)	0.6 (25/42)	0.89 (33/37)	1 (32/32)	0.97 (31/32)	1 (14/14)
	Precision absent	0 (0/1)	0.89 (33/37)	0.84 (54/64)	0.25 (1/4)	0.92 (24/26)	0.67 (2/3)	1 (6/6)	0.67 (6/9)	. (0/0)	0.97 (59/61)	0.96 (27/28)	0.75 (6/8)	. (0/0)	0 (0/1)	0 (0/1)	0.67 (4/6)	1 (2/2)
TOPAZ	Accuracy	0.99	0.94	0.91	0.78	0.74	0.99	0.94	0.95	1	0.99	0.99	0.96	0.84	0.81	0.96	0.89	0.89
	Accuracy (absent and present)	1	0.91	0.91	0	0.52	0.75	0.95	0.85	0.67	0.98	1	0.67	0.25	0.11	0.83	0.6	1
	Recall present	1 (1/1)	0.92 (45/49)	0.91 (109/120)	0 (0/45)	0.85 (29/34)	1 (1/1)	0.71 (5/7)	0.86 (30/35)	0.67 (2/3)	0.94 (32/34)	1 (102/102)	0.69 (9/13)	0.27 (11/41)	0.11 (5/46)	0.87 (33/38)	0.59 (30/51)	1 (14/14)
	Recall absent	. (0/0)	0.88 (30/34)	0.91 (63/69)	0 (0/1)	0.37 (29/78)	0.67 (2/3)	0.97 (74/76)	0.83 (15/18)	. (0/0)	1 (61/61)	1 (28/28)	0.63 (5/8)	0 (0/3)	. (0/0)	0 (0/2)	0.75 (3/4)	1 (2/2)
	Precision present	0.33 (1/3)	0.92 (45/49)	0.93 (109/117)	. (0/0)	0.94 (29/31)	0.5 (1/2)	1 (5/5)	1 (30/30)	1 (2/2)	1 (32/32)	0.97 (102/105)	1 (9/9)	1 (11/11)	1 (5/5)	0.97 (33/34)	0.97 (30/31)	0.45 (14/31)
	Precision absent	. (0/0)	0.88 (30/34)	0.86 (63/73)	. (0/0)	1 (29/29)	0.67 (2/3)	0.9 (74/82)	0.75 (15/20)	. (0/0)	0.98 (61/62)	1 (28/28)	0.63 (5/8)	. (0/0)	. (0/0)	. (0/0)	0.75 (3/4)	0.25 (2/8)