Investigating the Clinical Relevance of Patient-Reported Symptoms for Influenza Triage

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Introduction

- In the age of Covid-19, telemedicine is becoming increasingly popular
- During a public health crisis, telemedicine could be used as a tool to triage patients and prevent stress on the health care system

Motivation: If the patient can get the same diagnosis without an in person visit, you reduce the burden on the healthcare system.

- However, clinicians and patients often disagree on symptoms.

Question: Can a patient symptom questionnaire be used to effectively predict influenza diagnosis by a physician?

- The data is from a previous study at UGA's University Health Center during the 2016-2017 flu season (described in ___)
- A symptom questionnaire containing 19 symptom pairs was given to both patients and clinicians
- Patients filled out symptom questionnaire before the appointment
- Clincians filled out symptom questionnaire during the appointment

Clinical Decision Rules

We applied 5 clinical decision rules:

- CF: Cough-Fever Rule
- CFM: Cough-Fever-Myalgia Rule
- CFA: Cough-Fever-Acute Onset Rule
- Weighted Flu Score: 2 points for cough+fever and muscle pain, 1 point for acute onset and chills/sweats
- Tree: See figure 1

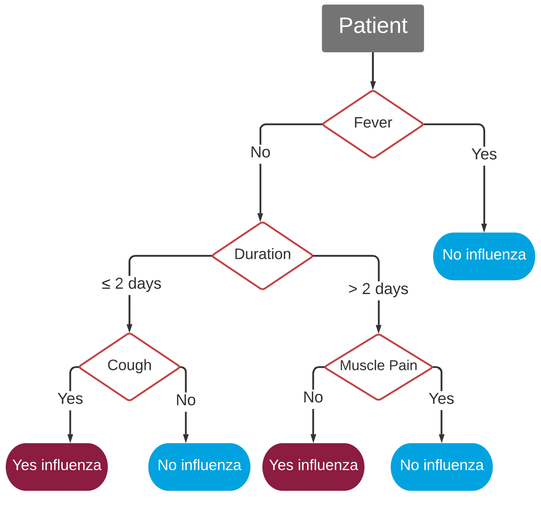

Figure 1: Description of figure

Results

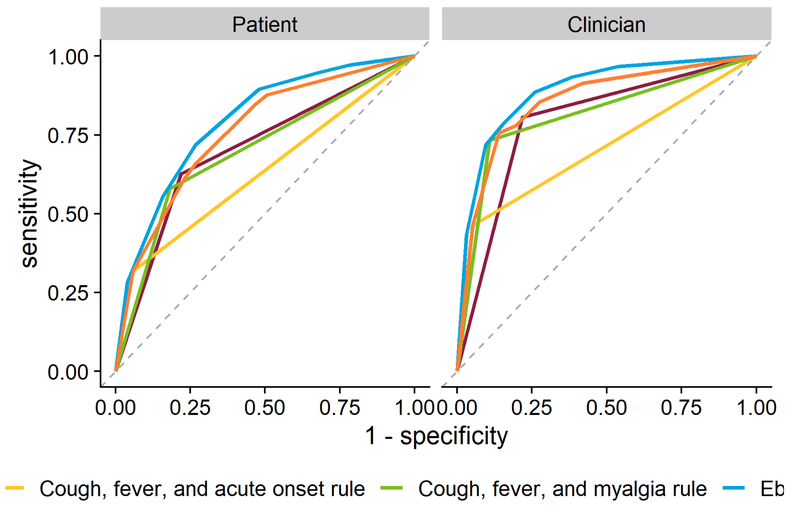

Figure 2: Description of figure

Decision Rule	Clinician AUC	Patient AUC	Difference	95% CI
CF	0.794	0.703	0.091	(0.07 - 0.11)
CFA	0.705	0.630	0.075	(0.056 - 0.094)
CFM	0.812	0.699	0.113	(0.091 - 0.135)
Score	0.890	0.794	0.096	(0.079 - 0.114)
Tree	0.856	0.760	0.096	(0.076 - 0.116)

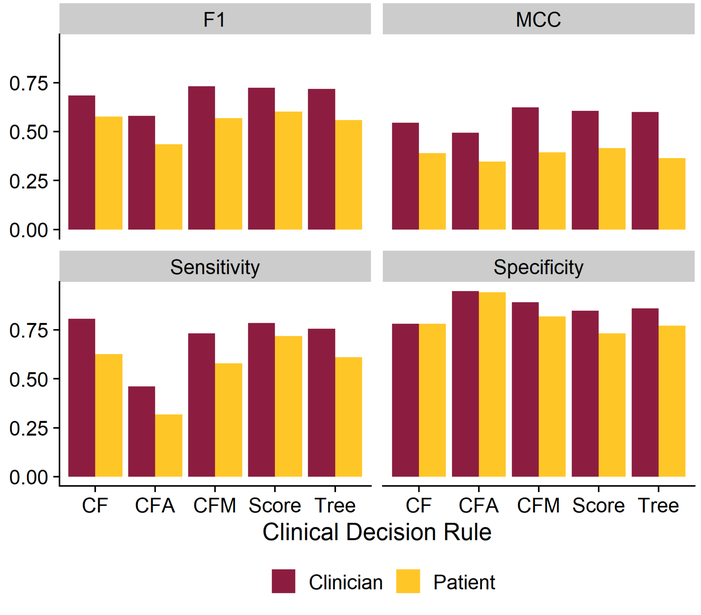

Figure 3: Description of figure

Description of results

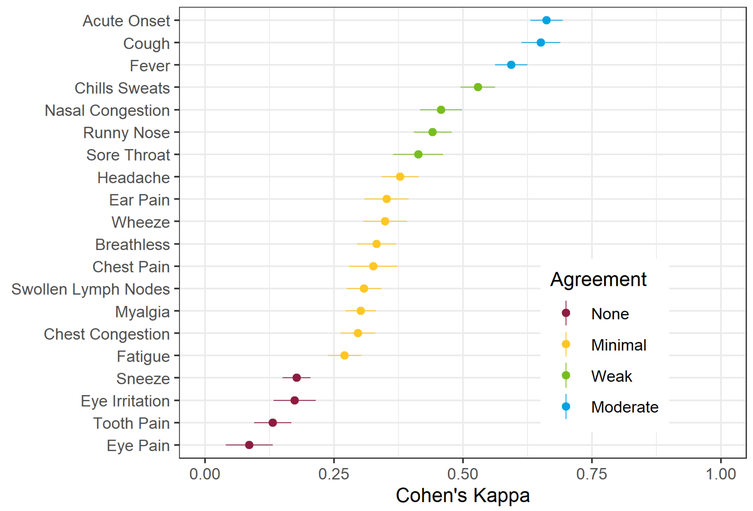

Figure 4: Description of figure

Conclusion

- The performance of the clinical decision rules for the patient and clinician rules is statistically significant
- While the loss in accuracy from patient reported symptoms is statistically significant, the clinical significance needs to be evaluated in further studies
- The weighted flu score performed better than the simple heuristic rules for both patient and clinicians in our population

Acknowledgements

References