

Assessment of a clinical pharmacist-run nirmatrelvir/ritonavir prescribing service

Jason Srey, PharmD Candidate 2024¹, Andrew J. Sowles, PharmD², Adriane N. Irwin, PharmD, MS^{1,2}

¹Oregon State University College of Pharmacy, Corvallis, OR; ²Salem Health, Salem, OR

Background

- Nirmatrelvir/ritonavir is a combination antiviral used for oral treatment of mild to moderate coronavirus disease 2019 (COVID-19)¹
- Patients at Salem Health with suspected COVID-19 could be treated by their primary care provider or referred to the clinical pharmacy team for management
- The 5-day eligibility window, drug-drug interactions, hepatic/renal failure contraindications, and dose adjustment considerations make it challenging to prescribe nirmatrelvir/ritonavir²

Objectives

- The purpose of this study is to assess the appropriateness of pharmacist-prescribed nirmatrelvir/ritonavir for the treatment of coronavirus disease (COVID-19) through a collaborative practice agreement

Methods



The collaborative practice agreement allowed pharmacists to prescribe nirmatrelvir/ritonavir, order relevant labs, and adjust medications to address drug interactions.



Drug-drug interactions were identified using the Liverpool COVID-19 Drug Interaction Checker³

Methods (cont.)

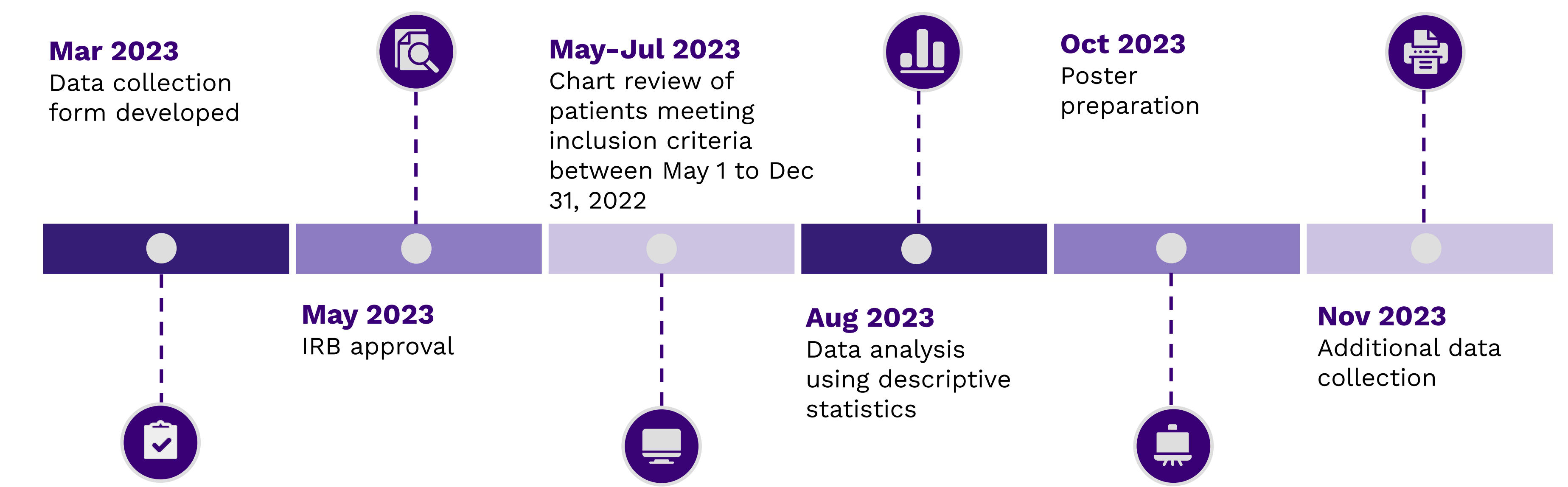


Figure 1. Study timeline.

Table 1. Eligibility criteria.

| Inclusion | Exclusion |
|---|--|
| Patients who were prescribed nirmatrelvir/ritonavir by a pharmacist | Patients less than 18 years of age, incarcerated, or the prescription was originated from the emergency department or urgent care. |

Results

Table 2. Patient Characteristics, n (%) or mean ± standard deviation.

| Characteristic | Patients (n=106) |
|---|------------------|
| Age, years | 62.9 ± 16.0 |
| Female, yes | 70 (66.0) |
| Non-Hispanic/non-Latino, yes | 98 (92.5) |
| BMI, kg/m ² | 31.9 ± 8.3 |
| eGFR | |
| ≥ 60 mL/min | 84 (79.2) |
| 30-59 mL/min | 13 (12.3) |
| Not determinable | 9 (8.5) |
| Child-Pugh Score | |
| Class A | 93 (87.7) |
| Class B | 1 (0.9) |
| Not determinable | 12 (11.3) |
| Total Medications | 9.9 ± 6.1 |
| Time since COVID-19 symptom onset, days | 2.4 ± 1.2 |

Appropriate Prescription Outcomes

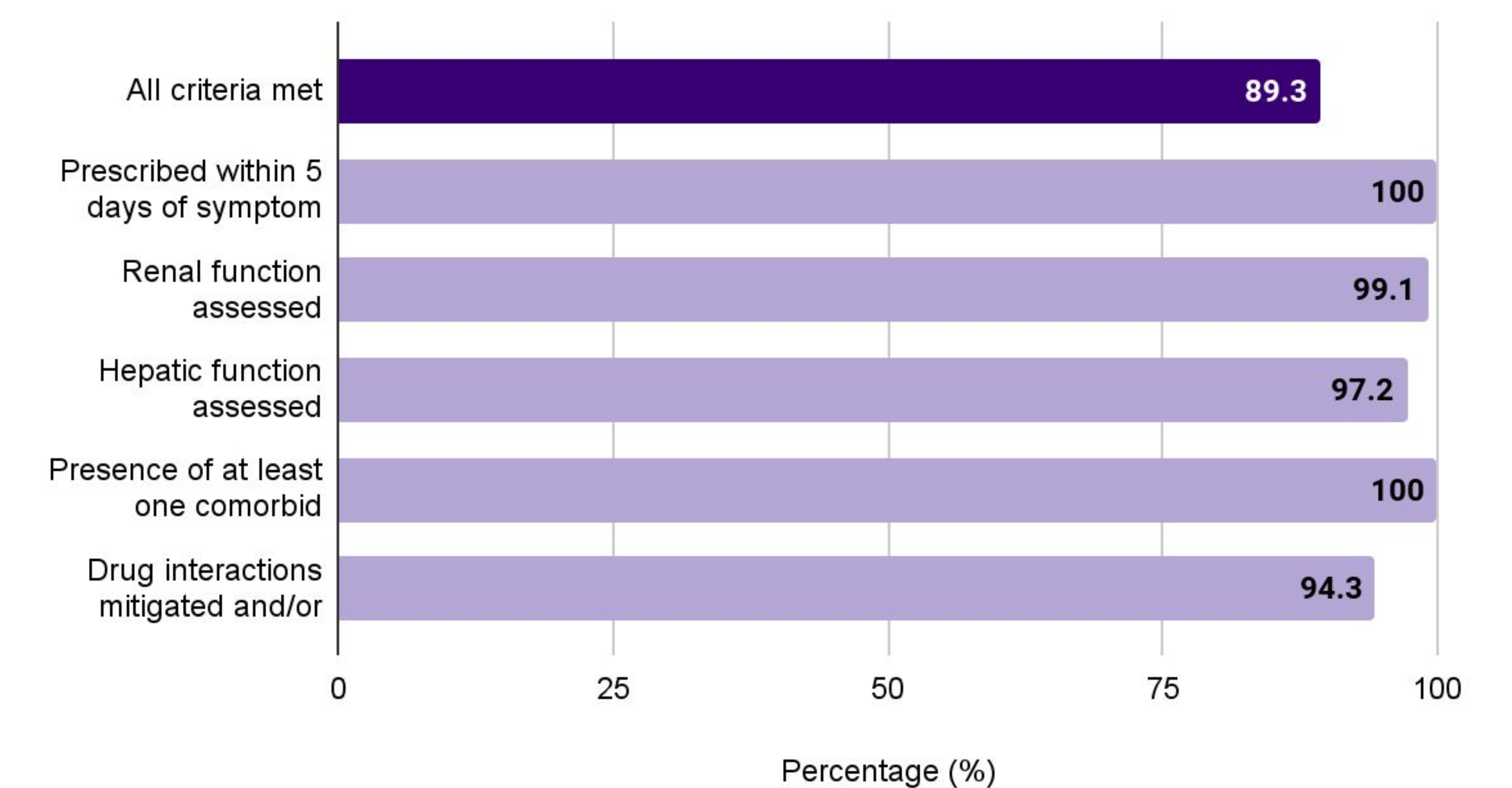


Figure 2. Appropriateness (%) of nirmatrelvir/ritonavir prescriptions written by a pharmacist at Salem Health.

Conclusion

- Pharmacists can support safe and effective use of nirmatrelvir/ritonavir for patients with complex comorbidities and medication regimens
- Future work is planned to compare pharmacist prescribing to nirmatrelvir/ritonavir prescriptions arising from primary care providers and investigate the clinical significance of mismanaged drug interactions

References

- Fact Sheet For Healthcare Providers: Emergency Use Authorization For Paxlovid [package insert]. New York City, NY: Pfizer; 2023.
- Ritonavir-boosted nirmatrelvir (Paxlovid). National Institutes of Health COVID-19 Treatment Guidelines. 2023.
- Charlson ME, Pompei P, Alex KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. J Chronic Dis. 1987;40(5):373-83.

Disclosures: The authors have no conflicts of interest to disclose.

Contact: Jason Srey (sreyj@oregonstate.edu)