

On July 6, 2022, the U.S. Food and Drug Administration modified the emergency use authorization (EUA) of nirmatrelvir with ritonavir to allow state-licensed pharmacists to prescribe the COVID-19 antiviral under certain conditions. The EUA modification follows a September 2021 amendment to the COVID-19 declaration under the Public Readiness and Emergency Preparedness (PREP) Act allowing state-licensed pharmacists to prescribe certain COVID-19 treatments that are given orally, injected into a muscle, or injected under the skin.

ASHP surveyed a random sample of members to understand the roles of pharmacists in nirmatrelvir with ritonavir treatment and to assess pharmacist prescribing under authority granted through the updated EUA. The survey was sent to 10,000 members and was fielded for 12 days from July 26 through August 7, 2022. Responses that were less than 10% complete were excluded from the survey results.

KEY FINDINGS

1. Sixty-five percent of respondents report clinicians (e.g., physician, nurse practitioner, physician assistant, pharmacist) are prescribing nirmatrelvir with ritonavir at their organization; of those, 22% reported pharmacists were prescribing the antiviral combination.
2. Staff availability and inadequate reimbursement for pharmacist evaluation of patients were the most frequently reported challenges to pharmacists prescribing nirmatrelvir with ritonavir.
3. At organizations where pharmacists prescribe nirmatrelvir with ritonavir, 64% resolve drug-drug interactions independently through collaborative practice agreements or privileging and credentialing programs.
4. Nearly all respondents report pharmacists are able to directly access a patient’s electronic health record or laboratory results to evaluate renal and hepatic function when prescribing nirmatrelvir with ritonavir.
5. Less than 10% of respondents who reported pharmacists are prescribing nirmatrelvir with ritonavir at their organization are billing for the clinical evaluation of patients for treatment.

RESULTS

Six hundred sixty-three ASHP members responded to the survey; 24 responses were excluded for being less than 10% completed. Of the 639 remaining responses, 418 (65.4%) practice at organizations where clinicians are prescribing nirmatrelvir with ritonavir. Among those 418 respondents, 91 (21.9%) report pharmacists prescribing at their organization, and 74 (17.8%) report they are exploring the option of pharmacists prescribing the antiviral combination. Three participants did not respond to this question.

ORGANIZATIONS WITH ANY CLINICIANS PRESCRIBING OR DISPENSING NIRMATRELVIR WITH RITONAVIR	<i>n</i>	%
Yes	418	65.4%
No	148	23.2%
Not sure	73	11.4%
Total <i>n</i>	639	

ORGANIZATIONS WITH PHARMACISTS PRESCRIBING NIRMATRELVIR WITH RITONAVIR*	<i>n</i>	%
Yes	91	21.9%
No	250	60.2%
No, but we are exploring this option	74	17.8%
Total <i>n</i>	415	

* Among respondents reporting any clinician prescribing at their organization

Survey participants at organizations where clinicians are prescribing nirmatrelvir with ritonavir were asked about the role of pharmacists in the use of the oral antiviral medication. Pharmacists are most frequently responsible for dispensing (76.3%), providing education and counseling (75.1%) and screening patient eligibility (73.7%) for the COVID-19 treatment.

Survey respondents were asked about major challenges faced with implementing pharmacist prescribing of nirmatrelvir with ritonavir. Among organizations where pharmacists are already prescribing the antiviral treatment, availability of pharmacy staff (55.7%) and inadequate reimbursement for pharmacist patient evaluation (53.2%) were the most frequently cited challenges. At organizations where pharmacist prescribing is currently being considered for implementation, the most frequently cited challenge is adequate reimbursement for pharmacist patient evaluation (61.8%).

These data indicate concern for appropriate resource allocation to leverage pharmacists to increase patient accessibility to nirmatrelvir with ritonavir. Approximately 9% of organizations where pharmacists are prescribing nirmatrelvir with ritonavir are billing for patient evaluation. This may explain the difference in reporting inadequate reimbursement as a major challenge to implementation between organizations where pharmacists already prescribe compared to organizations considering implementing pharmacists prescribing.

PHARMACISTS' ROLE IN NIRMATRELVIR WITH RITONAVIR USE	n	%
Dispensing doses	313	76.3%
Education and counseling	308	75.1%
Screening patient eligibility	302	73.7%
Prescribing/ordering	102	24.9%
My organization does not stock nirmatrelvir with ritonavir	38	9.3%
Other*	36	8.8%
Total n	412	

**Assessing drug-drug interactions was the most common "other" free-text response*

MAJOR CHALLENGES FACED IN IMPLEMENTING PHARMACIST PRESCRIBING NIRMATRELVIR WITH RITONAVIR				
	ORGANIZATIONS WHERE PHARMACISTS ARE PRESCRIBING (n, %)		ORGANIZATION EXPLORING THE OPTION OF PHARMACISTS PRESCRIBING (n, %)	
Availability of pharmacy staff	44	55.7%	25	36.8%
Inadequate reimbursement for pharmacist evaluation of patients for nirmatrelvir with ritonavir	42	53.2%	42	61.8%
Inadequate public awareness of pharmacists' ability to prescribe	24	30.4%	22	32.4%
Inadequate dispensing fees	17	21.5%	23	33.8%
Organizational leadership focus on other priorities	13	16.5%	23	33.8%
Computer systems not in place to accept pharmacists as independent prescribers	13	16.5%	23	33.8%
Availability of nirmatrelvir with ritonavir doses	9	11.4%	3	4.4%
Other	3	3.8%	6	8.8%
Total n	79		68	

The updated EUA for nirmatrelvir with ritonavir requires sufficient information for pharmacists to evaluate patient renal and hepatic function. Among survey participants at organizations where pharmacists are currently prescribing nirmatrelvir with ritonavir, the overwhelming majority (98.8%) are directly accessing patient electronic health records and laboratory results to determine eligibility and appropriate dosing of the antiviral treatment.

Pharmacists must also evaluate patient medication histories for drug-drug interactions with nirmatrelvir with ritonavir as a condition of prescribing. Most survey respondents (63.5%) reported drug-drug interactions are primarily managed independently through organizational protocols, privileging and credentialing authority, or collaborative practice agreements. Another 21.2% of respondents reported primarily managing interactions by contacting the prescriber of identified interacting medications to discuss recommended adjustments. In these cases, the pharmacists prescribe nirmatrelvir with ritonavir and communicate the medication adjustments to the patient. Only 14.1% of respondents reported contacting the prescriber of interacting medications to have that provider prescribe nirmatrelvir with ritonavir.

ORGANIZATIONS BILLING FOR PHARMACIST PATIENT EVALUATION AND NIRMATRELVIR WITH RITONAVIR PRESCRIBING (n, %)		
No	65	75.6%
Unsure	13	15.1%
Yes	8	9.3%
Total <i>n</i>	86	

PRIMARY METHOD OF EVALUATING ELIGIBILITY AND DOSE OF NIRMATRELVIR WITH RITONAVIR WHEN PHARMACISTS PRESCRIBE NIRMATRELVIR WITH RITONAVIR (n, %)		
Direct access to patient's electronic health record or lab results	81	98.8%
Patient-provided documentation of laboratory data or other medical history within the past 12 months	1	1.2%
Total <i>n</i>	82	

PRIMARY METHOD OF RESOLVING DRUG-DRUG INTERACTIONS WHEN PHARMACISTS PRESCRIBE NIRMATRELVIR WITH RITONAVIR (n, %)		
Determine medication regimen adjustments and modify regimens through collaborative practice agreements, privileging and credentialing programs, or other protocols and prescribe nirmatrelvir with ritonavir (without consulting prescriber).	54	63.5%
Contact the prescriber of the other medication(s) to obtain medication regimen adjustments; the pharmacist directs patients on changes and prescribes nirmatrelvir with ritonavir.	18	21.2%
Contact the prescriber of the other medication(s) to prescribe nirmatrelvir with ritonavir and to determine medication regimen adjustments. Pharmacist does not prescribe nirmatrelvir with ritonavir.	12	14.1%
Other	1	1.2%
Total <i>n</i>	85	



RESPONDENT DEMOGRAPHICS

Survey respondents primarily worked at inpatient hospitals and ambulatory clinics. Respondents most frequently worked in larger health systems (greater than 500 beds) or at community pharmacy locations with higher prescription volumes (greater than 400 prescriptions a day). Respondents where pharmacists are currently prescribing nirmatrelvir with ritonavir were more likely to work at larger health systems or community locations with higher prescription volume.

	WITH ANY CLINICIAN PRESCRIBING (n, %)		WITH PHARMACISTS PRESCRIBING (n, %)	
Ambulatory clinic	63	16.8%	26	30.6%
Chain/independent community pharmacy	19	5.1%	1	1.2%
Clinic-based pharmacy	18	4.8%	7	8.2%
Hospital-owned community pharmacy	27	7.2%	4	4.7%
Inpatient hospital	196	52.1%	32	37.6%
Other, please specify	53	14.1%	15	17.6%
Total <i>n</i>	376		85	
<200 beds				
<200 beds	84	25.8%	17	24.6%
200 - 500 beds	106	32.5%	15	21.7%
>500 beds	136	41.7%	37	53.6%
Total <i>n</i>	326		69	
Less than 200 prescriptions a day				
Less than 200 prescriptions a day	64	21.5%	6	9.0%
200-300 prescriptions a day	27	9.1%	6	9.0%
301-400 prescriptions a day	21	7.0%	3	4.5%
More than 400 prescriptions a day	109	36.6%	35	52.2%
Unsure/don't know	77	25.8%	17	25.4%
Total <i>n</i>	298		67	