Factors Associated with Prescription Abandonment and Non-Persistence within Six Months of Initiating Oral First-In-Class Rare Disease Medications

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Background

First-in-class medications have mechanisms of action different from those of existing therapies.[1] The Center for Drug Evaluation and Research (CDER) identified 12 novel drugs as both first-in-class and orphan drugs in 2022.[1] First-in-class medications offer new hope to people living with rare and devastating conditions.

The National Organization for Rare Disorders found 61% of patients had been denied or faced delays accessing treatments that required pre-approval by an insurance provider, and 18% had been denied referral to a specialist.[2] Rare specialty pharmacies can help identify and overcome access barriers in the use of oral first-in-class medications.

Studies evaluating oral oncolytic specialty medications identified that clinical reasons, patient decision, insurance barriers, unaffordable copay, medication change, and intentional delays based on provider/patient request impact primary medication nonadherence.[3] Research has focused on novel oral oncolytic utilization, but there are no studies looking at barriers for non-oncolytic oral rare disease first-in-class medications.

Objective

To determine factors associated with prescription abandonment and non-persistence of oral first-in-class medications within a rare disease population.

Methods

This retrospective analysis will utilize a rare pharmacy database to identify patients from January 1, 2023 to December 31, 2023. The study population includes patients prescribed an oral first-in-class medication with an on-label diagnosis (n=3,233). The total cohort population includes patients who discharged after receiving 0-5 prescription fills (n=1,237). The prescription abandonment cohort includes patients with a prescription on file at the pharmacy but no medication fill. In this study, the non-persistent cohort includes patients who filled but discontinued therapy within a six-month period. The six-month period is defined as patients receiving less than six prescription fills for a one-month supply per fill. Patients are excluded from the study cohorts if they discharged due to death, received six or more prescription fills, or discharged more than once (n=1,996). The primary endpoints are the percent of prescriptions abandoned and the percent of patients who are non-persistent within six months. The discharge reason will be assessed for both the prescription abandonment and non-persistence cohorts. Secondary endpoints will compare patient cost, prescription processing time, and patient financial assistance amongst each cohort. Patient characteristics of gender, age, and prescription insurance will be assessed.

Table 1. Patient Demographics by Cohort

Demographics	Abandonment (n=688)	Non-Persistent (n=549)
Female	69%	72%
Male	31%	28%
Average Age (years)	51	42

Results

Table 2. Prescription Abandonment and Non-Persistence Amongst Total Cohort Population

Total Cohort Population (n=1,237)	
Prescription Abandonment (55.62%)	
Total Sum of Non-Persistent Fills (44.38%)	
Non-Persistent After Fill #1	16.90%
Non-Persistent After Fill #2	10.59%
Non-Persistent After Fill #3	6.87%
Non-Persistent After Fill #4	5.17%
Non-Persistent After Fill #5	4.85%

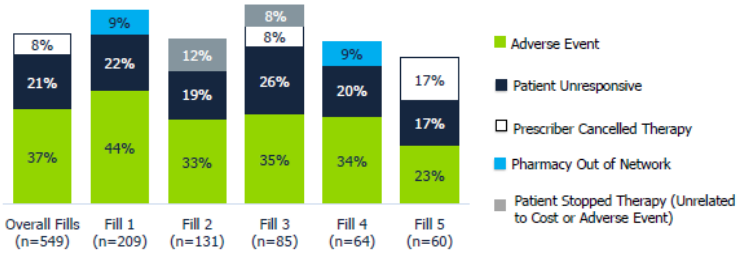
Table 3. Reasons for Prescription Abandonment of First-In-Class Oral Medications (n=688)

Prescription Abandonment Reason	Percent
Copay/Out-of-Pocket Cost	22%
Pharmacy Out of Network	16%
Patient Unresponsive	12%
Prescriber Cancelled Therapy	9%
Loss of Coverage/Inadequate Coverage	7%
Appeal Denied	7%
Patient Declined Therapy (Unrelated to Cost or Adverse Event)	6%
Other Insurance-Related	4%
Alternate Therapy	4%
Transfer to Other SP/HUB	3%
Patient or HUB Cancelled Therapy for Other	3%
Prescriber Unresponsive	3%
PA Denied	2%
Adverse Event	2%

Table 4. Patient Cost and Financial Assistance Initiatives for the First Prescription Fill Amongst Non-Persistent Cohort

Cost Range ($)	Patients within Cost Range (n=549)	Patients within Cost Range with Financial Assistance (n=219)
0	80%	44%
1 - 50	17%	29%
51 - 100	1%	0%
101 - 150	<1%	0%
>150	1%	0%

Figure 1. Most Frequently Reported Reasons for Non-Persistence after each Prescription Fill



Discussion

This 12-month retrospective analysis at a rare specialty pharmacy included patients with a new referral for a first-in-class oral rare disease medication (n=3,233). The total cohort population excluded 1,996 patients and included patients who discharged after receiving 0-5 total prescription fills (n=1,237). Of the total cohort population, the prescription abandonment cohort contained 688 patients and the non-persistent cohort contained 549 patients (Table 2).

Commercial insurance was the most common primary insurance type amongst patients in both the prescription abandonment cohort (45%) and non-persistent cohort (51%).

The most frequent reason for prescription abandonment was cost, which was reported by 22% of patients in the cohort (Table 3). Adverse events and patient unresponsiveness were consistently reported as frequent reasons for non-persistence regardless of the number of previous fills (Figure 1).

Of the patients who initiated therapy, 80% had a $0 copay, and 44% of these patients utilized financial assistance towards this final cost (Table 4). Prescription costs amongst the prescription abandonment cohort were unable to be determined because the medication was not dispensed.

Due to complexities with rare diseases, prescription processing times are longer for new referrals resulting in prescription abandonment (average 31 days, median 19 days) in comparison to new referrals converted to first prescription fills within the non-persistent cohort (average 11 days, median 5 days).

A proportion of patients from each cohort were referred to a HUB/manufacturer to determine eligibility for manufacturer-provided products or financial initiatives, so some patients within the total study population may have successfully initiated and persisted on therapy through alternative fulfillment services.

Conclusion

The identification of adverse events attributing to non-persistence is important for the development of targeted clinical interventions. It is imperative that rare specialty pharmacies focus on patient counseling and adverse event management strategies throughout the first six months of therapy initiation.

Medication cost was a primary issue for the first prescription fill, and almost all patients who initiated therapy had a first fill cost of ≤$50. Rare specialty pharmacies, payers, and manufacturers should collaborate on reducing financial barriers associated with rare disease medications.

References

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