Abandoning Oral Oncolytic Prescriptions at the Pharmacy: Patient and Health Plan Factors Influencing Adherence

Lee Schwartzberg MD, Sonya Blesser Streeter MPP MPH, Nadia Husain ScM, Michael Johnsrud PhD

1. The West Clinic, Memphis, TN; 2. Avalere Health, Washington, DC

Abstract

Background: Oral oncolytic agents are an increasingly important component of cancer therapy. Adherence with therapy begins with filling the prescription in a timely manner. Little is known of the factors associated with abandonment of oral oncolytics at the initial or subsequent prescription.

Methods: This cross-sectional study analyzed a nationally representative pharmacy claims database and identified 10,508 Medicare and commercial patients initiating oral oncolytic therapy between 2007 and 2009. We calculated the rate of abandonment of the initial claim, where abandonment was defined as the reversal of an adjudicated pharmacy claim without a subsequent paid claim for any oncolytic (oral or IV) within the subsequent 90 days. The likelihood of abandonment was assessed using bivariate and multivariate logistic regression analyses including patient demographic factors, plan type, drug type, cost-sharing and number of other prescriptions.

Results: The abandonment rate of newly initiated oral oncolytic agents was 10.0%. Unadjusted bivariate analyses found that high cost-sharing, larger prescription burden, lower income, and Medicare coverage were associated with a higher abandonment rate (p<0.05). Our logistic regression model found that as both cost-sharing and concurrent prescription use rose, there was a significantly higher likelihood of abandonment. Claims with cost-sharing over $500 were 4 times more likely to be abandoned than claims with cost-sharing of $100 or less (OR=4.46, p<0.001). Medicare patients were more likely to have cost-sharing over $500 than patients with commercial plans (p<0.001). Patients with 5 or more prescriptions in the previous month had 50% higher likelihood to abandon than patients with no prescription burden (OR=1.50, p<0.001).

Conclusions: Abandonment of newly prescribed oral oncolytic therapy is not uncommon, and the likelihood increases for patients enrolled in plans with pharmacy benefit designs that require high cost sharing. Higher prescription burden was also associated with a larger abandonment rate. These factors should be taken into account when considering likely adherence to cancer therapy.
**Background**

Cancer patients require timely access to appropriate treatments in order to achieve optimal outcomes.

Oral oncolytic medications are becoming more prevalent for a range of malignancies. It is estimated that 25-30% of the current cancer drug pipeline is represented by oral agents.  However, little is known about patient adherence to these medications.

This study assesses the abandonment rate of newly-initiated oral oncolytics, and specifically whether abandonment is associated with patient and insurance plan characteristics.

**Methods**

- A nationally representative pharmacy claims database, we created a dataset with 10,580 patients initiating oral oncology therapy between May 1, 2007, and March 31, 2008. Inclusion criteria were:
  - Claim was paid or reversed, but not rejected, for the following drugs: capcitabine, matuzumab, sorafenib, temozolomide, and lapatinib.
  - Claim was newly-initiated, defined as a patient having no other oncologic claims (oral or IV) in the preceding 120 days.
  - Patient had active prescription claims in the dataset at least 120 days before and 90 days after the first fill to ensure eligibility and data capture.
  - Patient insurance coverage was Medicare or commercial plan only.

  Each patient had complete data for all model variables; this reduced our initial dataset of 20,607 patients to the final sample of 10,580.

We calculated the rate of abandonment, which was defined as the reversal of an adjudicated pharmacy claim without a subsequent paid claim for any oral or IV oncolytic within the following 90 days.

We assessed the impact of demographic and plan factors influencing the abandonment rate of newly-initiated oral oncolytic claims.

**Limitations**

- While we attempted to control for capturing complete pharmacy claims data from a broad sample of the marketplace, we are constrained by the dataset's ability to account for non-cancer drugs in the previous 30 days.

- Descriptive analysis comparing follow-up status of reversed claims with study drug.

- Logistic regression analysis comparing paid and abandoned claims and their relationship to patient demographic factors, study drug, cost-sharing, and prescription activity.

**Conclusions**

- One-third of patients either abandoned their first prescription for an oral oncologic agent or experienced varying degrees of delay in filling a prescription for an oncolytic.

- The abandonment rate for oral oncology is higher than rates for other chronic therapeutic classes reported in the literature.

- Patients with Medicare-coverage and lower incomes had higher rates of abandonment of oral oncology.

- Out-of-pocket costs played a significant role with regard to the likelihood that a patient would either abandon or keep the first fill of an oral oncologic agent. One in four patients filling prescriptions with cost-sharing amounts over $500 abandoned the prescription and did not follow up with another oncology medication within 90 days.

- Drug therapy complexity (prescription activity burden) is also a significant driver of abandonment of oral oncologic agents.

- These factors should be taken into account given considering likelihood adherence to cancer therapy as well as constructing plan benefit designs. Policymakers may also want to consider the specific implications of higher cost-sharing burden fed by the Medicare population.

**Acknowledgment**

Research funding provided by the Community Oncology Alliance in partnership with Celgene Corporation, Genentech, Millennium Pharmaceuticals, Novartis Pharmaceuticals, and Pfizer Inc.

**References**

