Adherence for Members Taking Oral Oncolytic Agents Undergoing Dose Modification Strategies

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Background

- Previous studies have reported that patient, treatment, and health system-related factors may influence adherence rates in patients prescribed oral oncolytic agents

Objective

- To assess adherence rates among members of a large national pharmacy benefit manager taking oral oncolytic agents who experienced a modification to their dosing regimen

Methods

- Adult members receiving palbociclib, abemaciclib, ribociclib, axitinib, lenvatinib, or cabozantinib between 01/01/2021 and 12/31/2022 were eligible for the study
- Members who did not maintain continuous eligibility for 180 days prior to and 2 years after the first fill in the study period were excluded
- Members were stratified by presence of dose modification, defined by a change in daily dose from one prescription to the next
- Adherence was assessed via the proportion of days covered (PDC) which is the total days with medication coverage divided by the number of days between the index fill and exhaust of the final fill in the study period
- Optimal adherence was defined as PDC ≥ 0.85
- Standard statistical tests for continuous and categorical variables were utilized
- Logistic regression was performed with the endpoint of optimal adherence
- P-values <0.05 are statistically significant

Results

- In total, 13,641 members were included; 7,093 (52%) experienced a modification to their dosing regimen during the study
- Several significant differences in sociodemographic variables were present in this study with members experiencing a dose modification being older (mean [standard deviation (SD)]: 65.7 [11.9] vs. 64.9 [13.0] yr; p<0.001), more likely to be male (23.3% vs. 15.0%; p<0.001), more likely to reside in high socioeconomic status (SES) regions (23.7% vs. 21.5%; p=0.005) and more likely to receive tyrosine kinase inhibitors (TKIs) (37.6% vs. 23.6%; p<0.001)
- Adherence was high overall with 74.6% of members achieving a PDC ≥ 0.85; however, members with dose modifications were less likely to be adherent (69.7% vs. 80.0%; p<0.001)
- Holding other confounders constant, having a dose modification was associated with a decreased probability of adherence (Odds Ratio [95% Confidence Interval]: 0.6 [0.55-0.65]; p<0.001)

Conclusions

Dose modification was associated with decreased adherence to oral oncolytic medications.

Interventions designed to minimize dose modifications or to provide additional member support during a dose modification may increase optimal adherence to oral oncolytics.

Table 1: Member demographics

Variable	Overall N=13641	No Dose Modification n=6548 (48%)	Dose Modification n=7093 (52%)	p-value
Age, mean (SD)	65.3 (12.4)	64.9 (13.0)	65.7 (11.9)	<0.001
Age, median [Q1,Q3]	67.0 [57.0,74.0]	67.0 [57.0,74.0]	67.0 [58.0,74.0]	0.003
Age category, n (%)				<0.001
≤50	1805 (13.2)	982 (15.0)	823 (11.6)	
51-65	4329 (31.7)	2047 (31.3)	2282 (32.2)	
66-75	4718 (34.6)	2164 (33.0)	2554 (36.0)	
>75	2789 (20.4)	1355 (20.7)	1434 (20.2)	
Male sex, n (%)	2633 (19.3)	979 (15.0)	1654 (23.3)	<0.001
Insurance type, n (%)				0.066
Employer	4855 (35.6)	2283 (34.9)	2572 (36.3)	
Exchange	201 (1.5)	109 (1.7)	92 (1.3)	
Health plan	336 (2.5)	155 (2.4)	181 (2.6)	
Medicaid	1029 (7.5)	523 (8.0)	506 (7.1)	
Medicare	7220 (52.9)	3478 (53.1)	3742 (52.8)	
SES, n (%)				0.005
Low	6820 (50.0)	3353 (51.2)	3467 (48.9)	
Medium	3733 (27.4)	1786 (27.3)	1947 (27.4)	
High	3088 (22.6)	1409 (21.5)	1679 (23.7)	
Medication, n (%)				<0.001
CDK 4/6 inhibitors	9433 (69.2)	5005 (76.4)	4428 (62.4)	
Tyrosine Kinase inhibitors	4208 (30.8)	1543 (23.6)	2665 (37.6)	
Reversed claims, mean (SD)	14.1 (19.5)	12.2 (18.9)	15.9 (19.9)	<0.001
Reversed claims, median [Q1,Q3]	7.0 [3.0,18.0]	6.0 [2.0,14.0]	9.0 [4.0,20.0]	<0.001
Reversed claims category, n (%)				<0.001
≤3	3937 (28.9)	2333 (35.6)	1604 (22.6)	
4-7	2895 (21.2)	1446 (22.1)	1449 (20.4)	
8-18	3614 (26.5)	1508 (23.0)	2106 (29.7)	
>18	3195 (23.4)	1261 (19.3)	1934 (27.3)	
Any reversed claims, n (%)	12904 (94.6)	6026 (92.0)	6878 (97.0)	<0.001

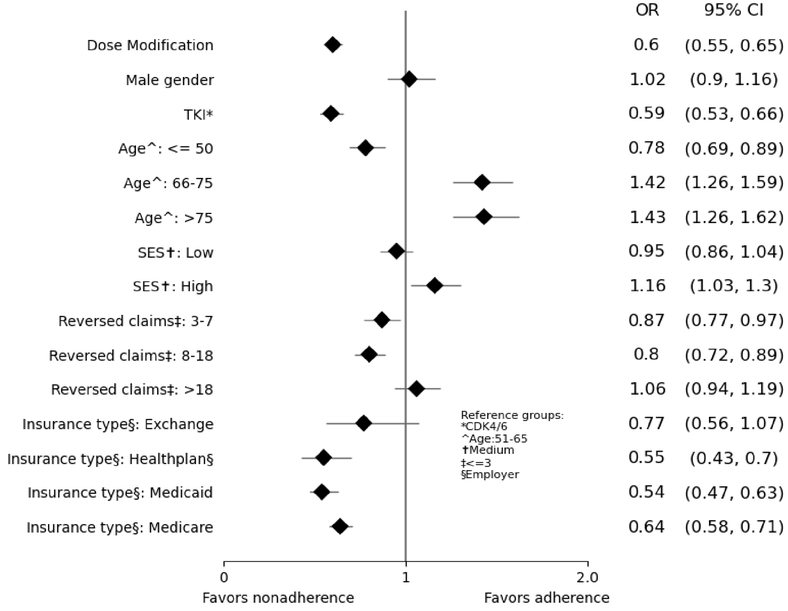
SD: Standard Deviation; Q1: 25th percentile; Q3: 75th percentile, SES: Socioeconomic status; CDK: Cyclin-dependent kinase

Table 2: Adherence metrics

Metric	Overall N=13641	No Dose Modification n=6548 (48%)	Dose Modification n=7093 (52%)	p-value
PDC, mean (SD)	0.897 (0.165)	0.917 (0.147)	0.879 (0.178)	<0.001
PDC, median [Q1,Q3]	0.959 [0.848,1.000]	0.970 [0.884,1.000]	0.942 [0.812,1.000]	<0.001
Adherent, n (%)	10182 (74.6)	5236 (80.0)	4946 (69.7)	<0.001

SD: Standard Deviation; Q1: 25th percentile; Q3: 75th percentile, PDC: Proportion of Days Covered; Adherent: PDC ≥0.85

Figure 1: Forest plot for logistic regression model of adherence



TKI: Tyrosine Kinase inhibitors; SES: Socioeconomic status; CDK: Cyclin-dependent kinase; OR: Odds ratio; CI: Confidence interval

Factors associated with **optimal** adherence included:
- Age 66-75 and >75 compared to those 51-65
- Residing in High SES area compared to Medium SES

Factors associated with **sub-optimal** adherence included:
- Age ≤ 50 years compared to those 51-65
- Having 4-7 or 8-18 reversed claims in the year compared to <3
- Medicaid, Medicare, Health plan insurance type compared to Employer
- Receiving TKI medications compared CDK4/6

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