



Real-World Utilization Patterns Among New Users of CDK4/6 Inhibitors for HR+/HER2- Breast Cancer: A Retrospective U.S. Commercial Claims Analysis

Abigail Aguilera, PharmD/MBA Candidate, Agata Siwak, PharmD, MSBA, Marnie Wickizer, PharmD, MBA, CDCES, Sarah Francis, PharmD, MBA, BCOP



BACKGROUND¹⁻⁴

- Cyclin-dependent kinase 4/6 inhibitors (CDK4/6i), including palbociclib, ribociclib, and abemaciclib, are established treatments for hormone receptor-positive/human epidermal growth factor receptor 2-negative (HR+/HER2-) breast cancer.
- In real-world practice, treatment persistence, modification, and adherence may vary and can affect the continuity and effectiveness of therapy.
- Additional evidence is needed to characterize utilization patterns among patients newly initiating CDK4/6i in commercially insured populations.

OBJECTIVES

PRIMARY OBJECTIVE

- Evaluate real-world treatment persistence, time to discontinuation, and dose modification patterns among new users of CDK4/6i.

SECONDARY OBJECTIVE

- Assess medication adherence to CDK4/6i therapy during follow-up.

METHODS

DATA SOURCE

- Navitus pharmacy and medical claims database.

STUDY DESIGN

- Retrospective observational cohort study using a new-user design.

STUDY POPULATION

- Inclusion criteria:**
 - Adults aged ≥ 18 years who initiated a CDK4/6i between January 1 and December 31, 2024.
 - Continuous pharmacy eligibility during baseline and no CDK4/6i use during the 6-month baseline period.
 - Patients were followed from the index date through December 31, 2025, to evaluate persistence, treatment discontinuation, dose modification and adherence.
- Exclusion criteria:**
 - Reversed-only claims, prior CDK4/6i use during baseline, or no valid paid index claim.

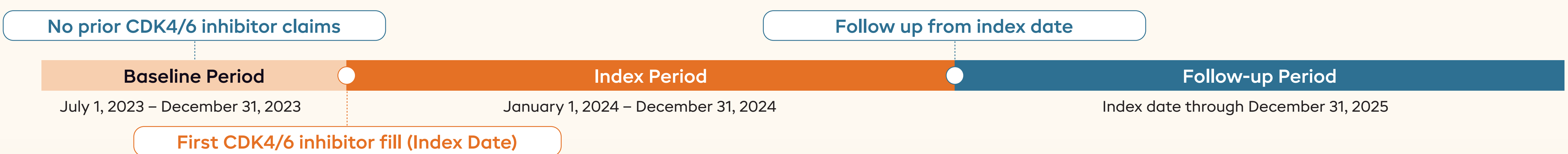
OUTCOMES

- Primary outcomes:**
 - Treatment persistence, time to discontinuation, and dose modification patterns following CDK4/6i initiation.
- Secondary outcomes:**
 - Medication adherence during follow-up, measured by proportion of days covered (PDC), with adherence defined as PDC ≥ 0.80 .

STATISTICAL ANALYSIS

- Descriptive statistics:**
 - Used to summarize baseline demographic and clinical characteristics.
- Kaplan-Meier analysis:**
 - Estimated time to treatment discontinuation and persistence over the follow-up period.
- Log-rank test:**
 - Compared time to discontinuation across CDK4/6i treatment groups.
- Cox proportional hazards model:**
 - Evaluated factors associated with treatment discontinuation, including age, baseline medication count, dose reduction, dose increase, and treatment restart.

STUDY DESIGN

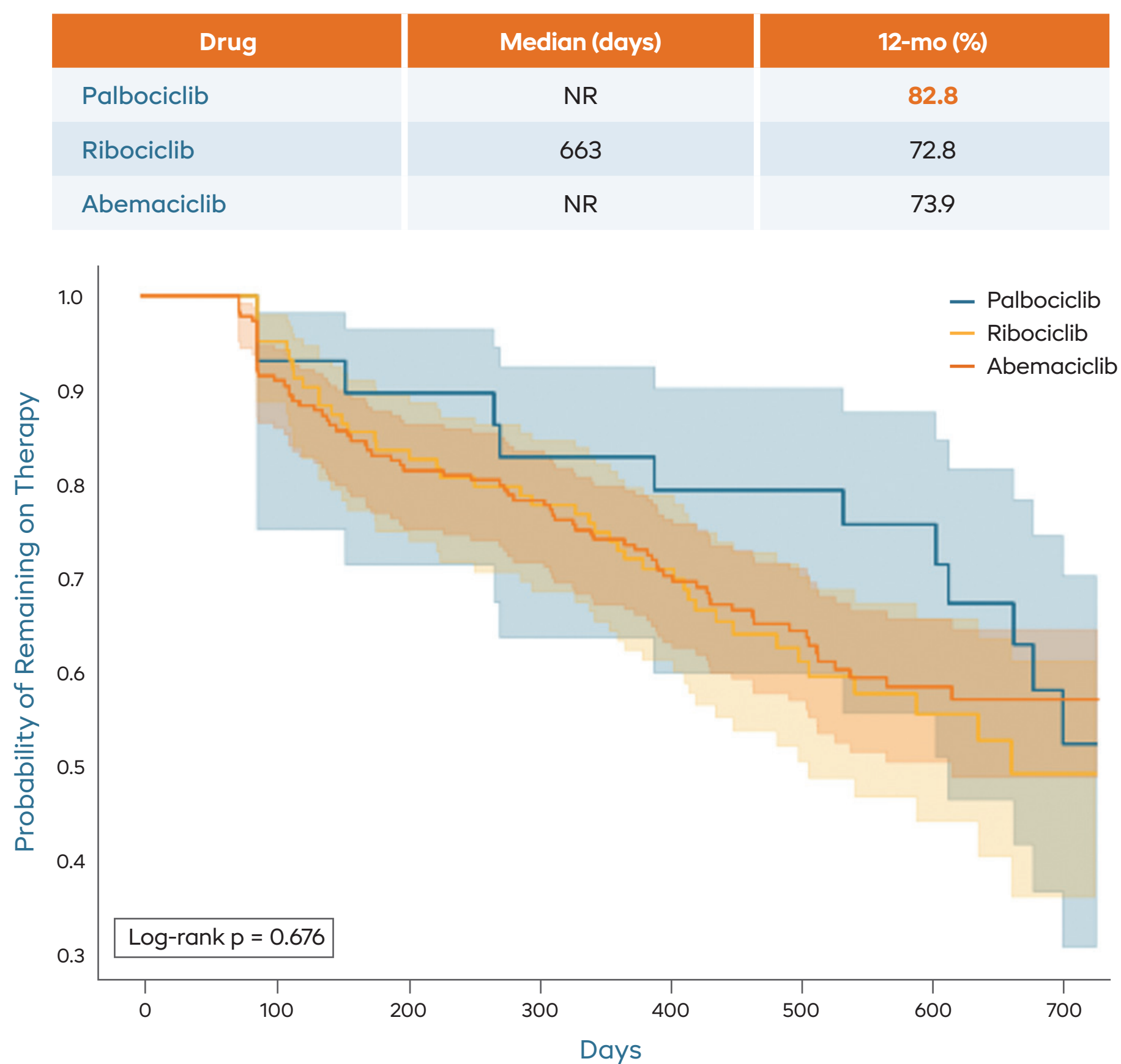


RESULTS

TABLE 1: BASELINE CHARACTERISTICS

	N=320(%)
Gender	
Female	311 (97.2%)
Male	9 (2.8%)
Age	
18-30	3 (0.9%)
31-50	94 (29.4%)
51-65	181 (56.6%)
>65	42 (13.1%)
CDK4/6 Inhibitors	
Palbociclib	29 (9.1%)
Ribociclib	103 (32.2%)
Abemaciclib	188 (58.8%)

FIGURE 2: PERSISTENCE: TIME TO DISCONTINUATION BY DRUG



Persistence was similar across all three CDK4/6 inhibitors, with no significant difference between curves (log-rank $P = 0.676$).

FIGURE 1: TIME TO DISCONTINUATION OF THE FIRST FILL

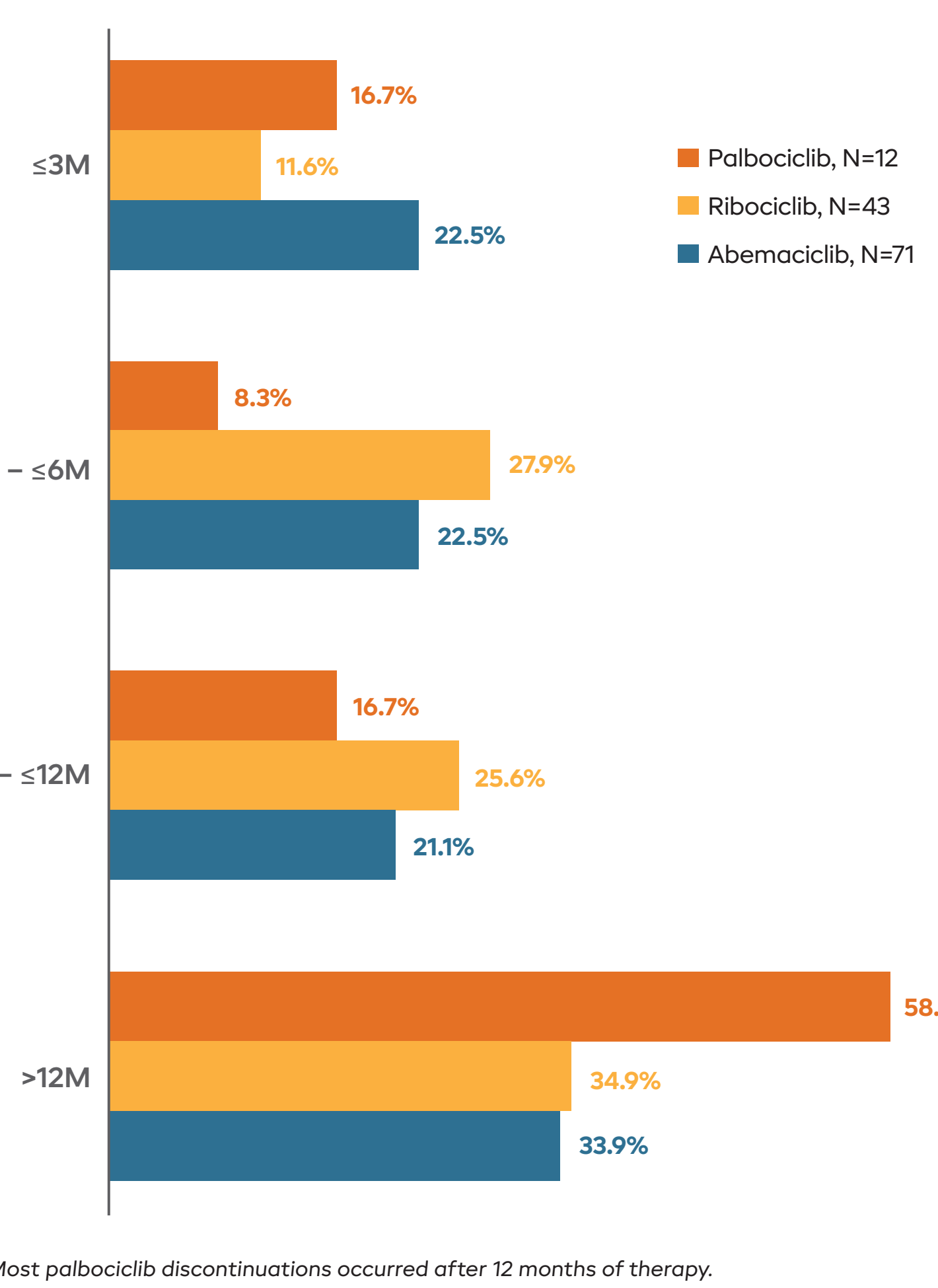
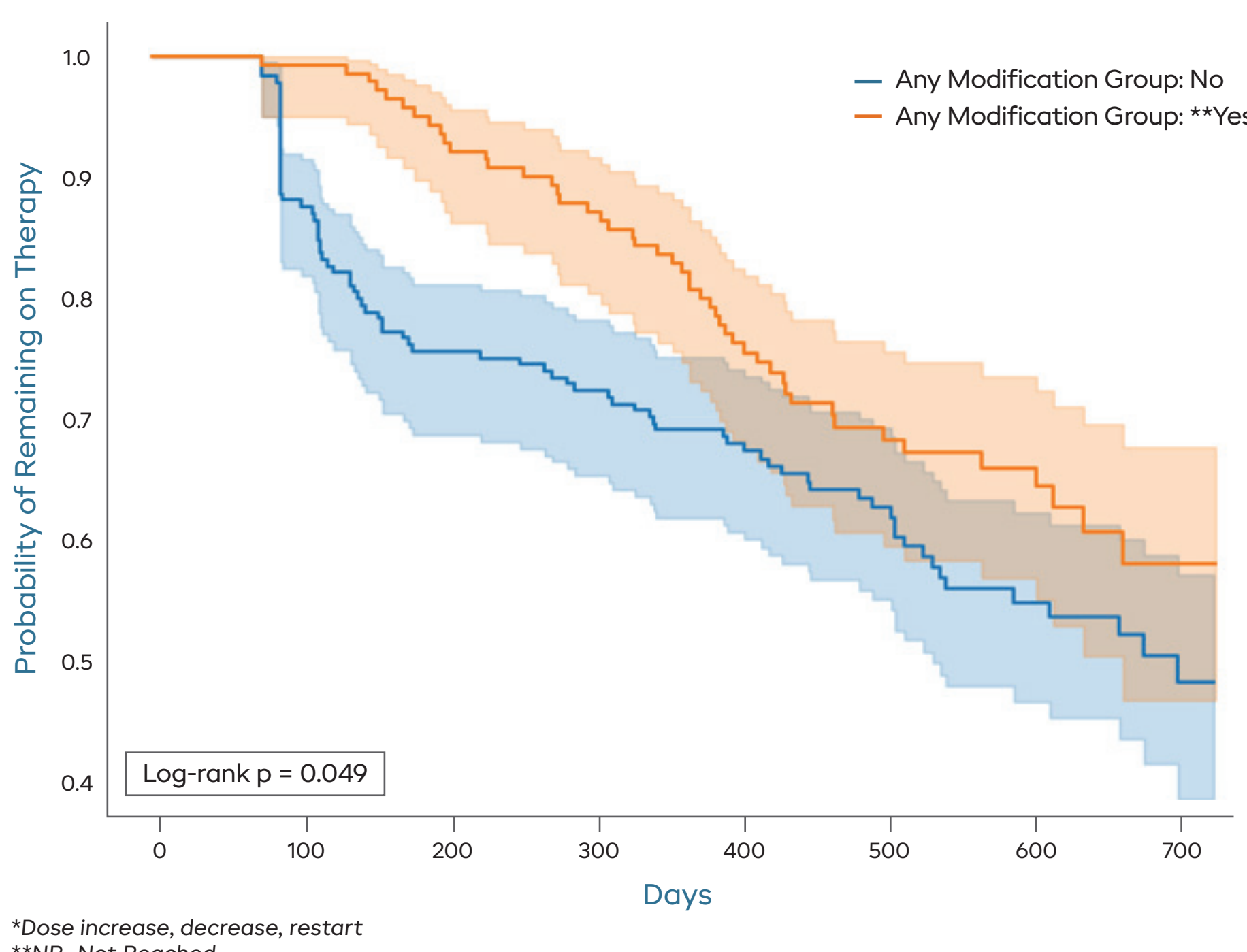


FIGURE 3: TIME TO DISCONTINUATION FOLLOWING ANY DOSE MODIFICATION*



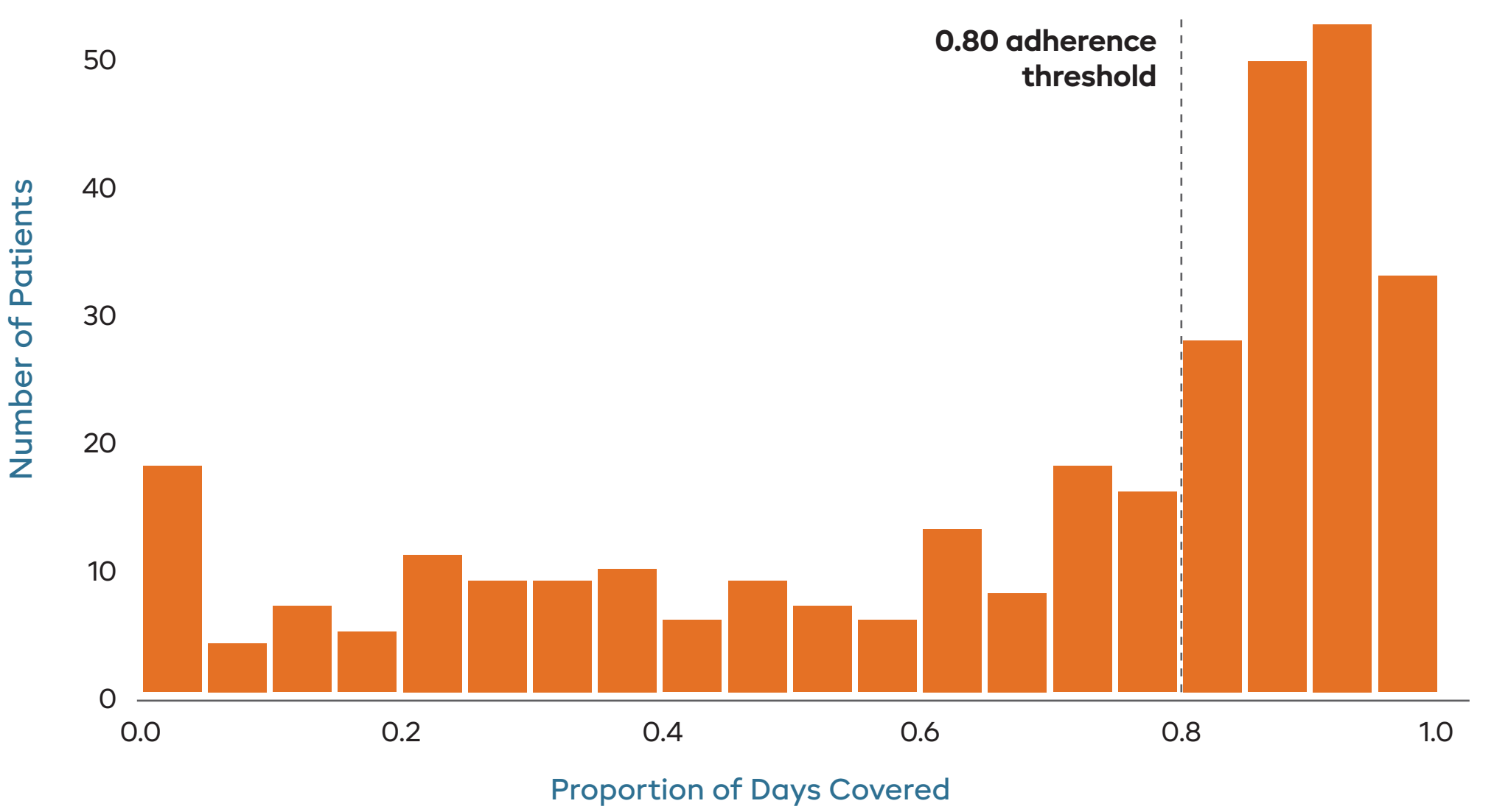
Dose modification was associated with longer persistence ($P = 0.049$). The median time to discontinuation in the no-modification group was 680 days.

FIGURE 4: PREDICTORS OF DISCONTINUATION

Covariate	Unadj HR	Unadj 95% CI	Unadj p-value	Adj HR	Adj 95% CI	Adj p-value
Member Age	1.003	(0.986-1.020)	0.749	1.003	(0.986-1.020)	0.759
Baseline Medication Count	1.025	(0.998-1.053)	0.069	1.034	(1.006-1.063)	0.017*
Dose Reduction	0.796	(0.548-1.154)	0.228	0.832	(0.565-1.226)	0.352
Dose Increase	0.413	(0.152-1.117)	0.081	0.376	(0.137-1.032)	0.058
Restart	0.729	(0.437-1.215)	0.225	0.698	(0.413-1.179)	0.178

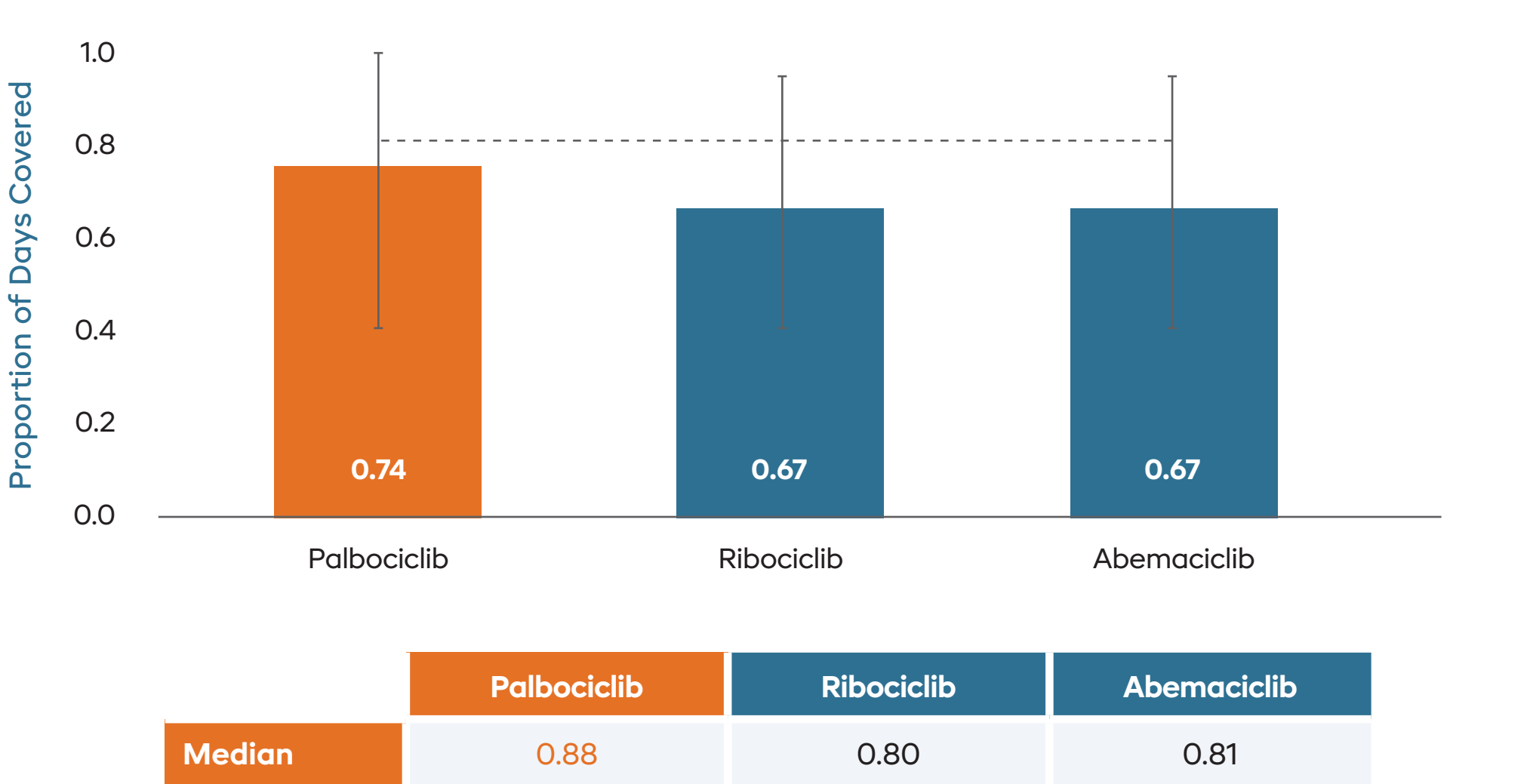
* Statistically significant ($P < 0.05$)

FIGURE 5: ADHERENCE IN THE STUDY POPULATION



Mean [SD] PDC: 0.67 ± 0.29 , Median PDC: 0.80

FIGURE 6: ADHERENCE BY CDK4/6 INHIBITOR



CONCLUSIONS

- Treatment persistence was comparable across palbociclib, ribociclib, and abemaciclib, with no statistically significant differences in time to discontinuation. Median persistence was not reached for palbociclib or abemaciclib.
- Dose modification was associated with longer treatment persistence, suggesting that individualized dose optimization may help patients remain on therapy.
- More than half of patients achieved PDC ≥ 0.80 , reflecting generally favorable adherence among commercially insured CDK4/6i users.
- Higher baseline medication burden was associated with greater risk of treatment discontinuation, highlighting the potential importance of medication review and supportive care.
- Overall, these findings support proactive medication management strategies to help optimize persistence and adherence among patients receiving CDK4/6i.

LIMITATIONS

- Claims data lack laboratory and chart-based clinical information.
- Retrospective observational design, which limits causal inference.
- Small sample size in some subgroups may have limited statistical power to detect significant associations.
- Pharmacy claims measure dispensing, not actual medication use.
- Variation in approved indications across CDK4/6i (early versus metastatic breast cancer) may have confounded observed adherence and persistence outcomes.

DISCLOSURE

This research was conducted by Navitus Health Solutions, Madison, WI without external funding.

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