

Improving Adequacy of Colonoscopy Preparation through Care Companion

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INTRODUCTION

- Colon prep workflow: low residue diet 3-5 days before → clear liquid diet 1 day before with split preparation
- Consequences of inadequate prep: cost, complication risk, missed lesions, procedure times¹
- Patient education (information packet, calls, apps) often time-intensive²

AIM

To implement an educational initiative integrated in the electronic medical record (EMR) that reduces rates of inadequate colonoscopy bowel preparation

METHOD

Colonoscopy Care Companion

- EMR Epic Driven Tool for patients who have access to the Patient Portal
- Tasks visible at pre-determined times before the procedure with linked educational information

Cohort

- Inclusion criteria: adult patient with a screening colonoscopy between August 1, 2021 and December 31, 2022

Analysis

- Primary outcome: inadequate colon prep rates
- Stratified by pre-implementation phase (Mar – Jul 2022) vs post-implementation phase (Sept – Dec 2022)
- Unadjusted rates of inadequate colon prep
- Adjusted odds ratios in logistic regression

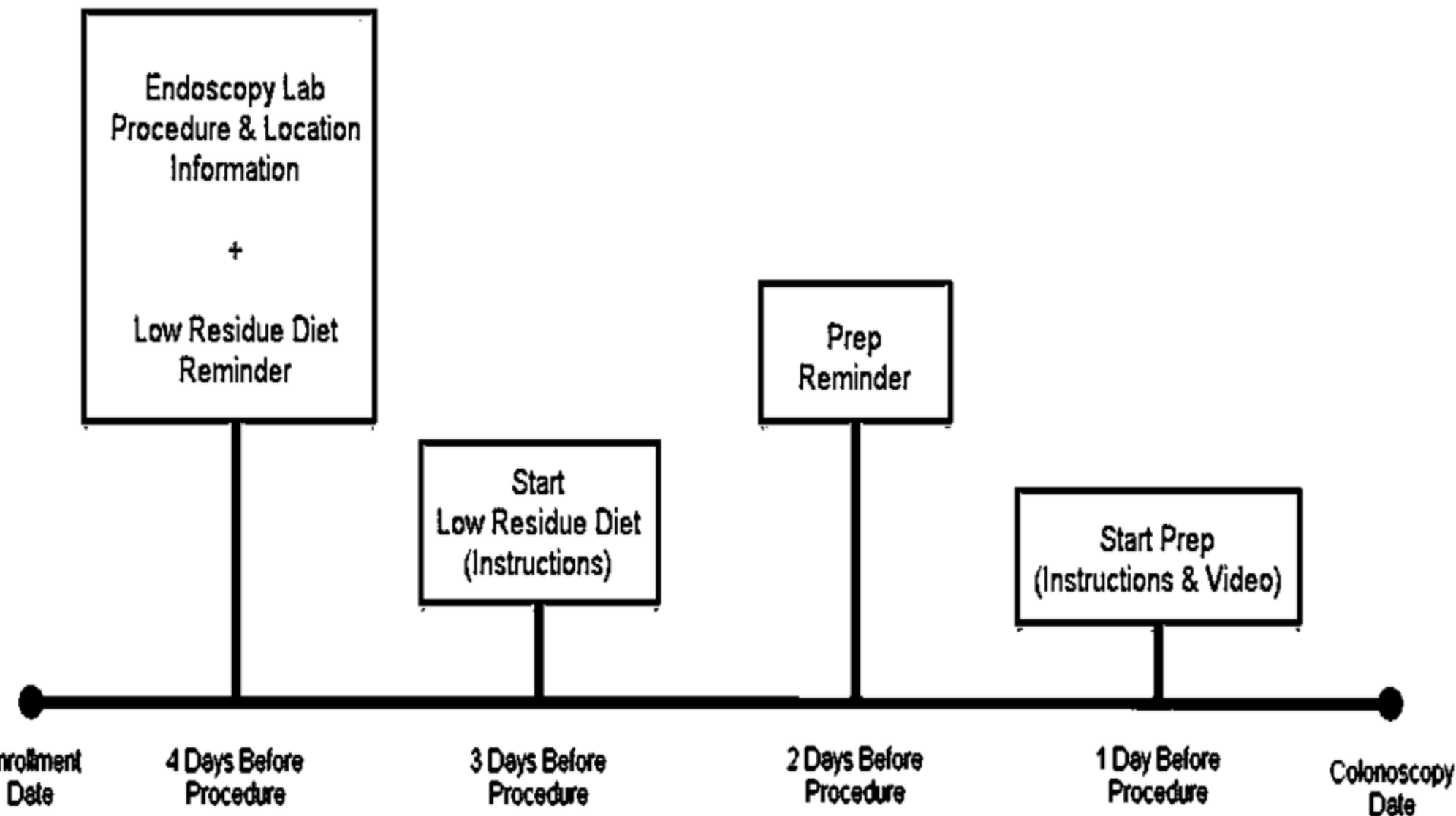


Figure 1: Care Companion task timeline

Table 1: Cohort Characteristics by Colon Prep Quality

Characteristic	Adequate Prep, N = 7,424 ¹	Inadequate Prep, N = 639 ¹	p-value ²
Age at procedure (years)	55 (14)	57 (15)	<0.01
Sex			0.35
Female	4,138 (56%)	344 (54%)	
Male	3,286 (44%)	295 (46%)	
Care Companion Use	1,874 (25%)	126 (20%)	<0.01
Implementation phase			0.46
Post-implementation	4,295 (58%)	360 (56%)	
Pre-implementation	3,129 (42%)	279 (44%)	

¹ Mean (SD); n (%). ² Wilcoxon rank sum test; Pearson's Chi-squared test

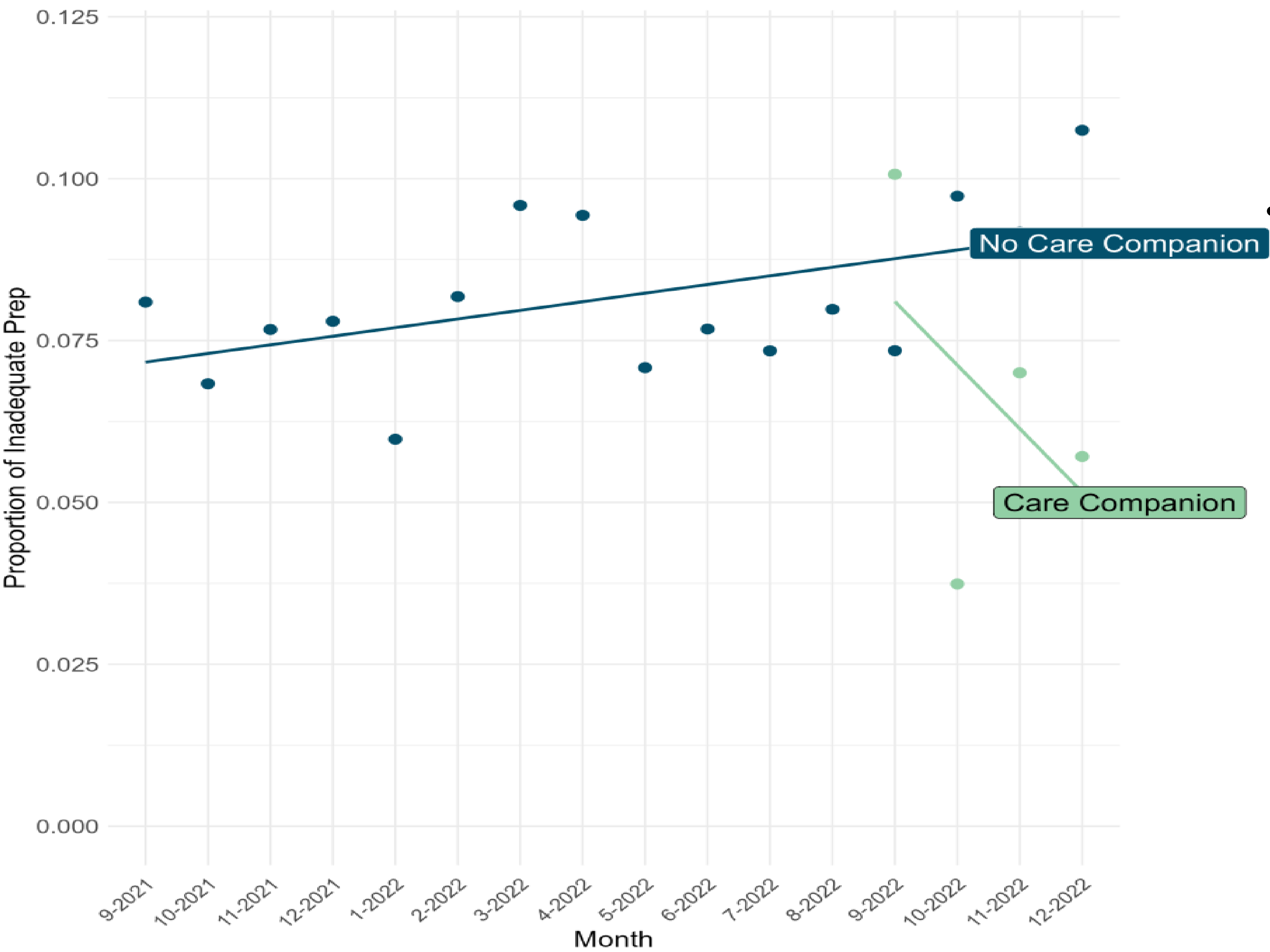


Figure 2: Inadequate colonoscopy preparation rates over time. Points represent monthly rates of inadequate colonoscopy prep. Linear trend lines fit to Care Companion users and non-users separately.

RESULTS

- Patients with inadequate colon prep were older and less likely to use Care Companion (Table 1)
- Trends over time suggest declining rates of inadequate colon prep among Care Companion users (Figure 2)
- Care Companion use was associated with lower rates of inadequate colon prep when considering a reference group of either the post-implementation phase patients (6.03% vs 8.97%, p < 0.01) or both the pre- and post-implementation phase patients (6.03% vs 8.46%, p < 0.01) (Figure 3)
- When controlling for demographics, endoscopist specialty, and electronic portal status, Care Companion use was associated with 26% decreased odds of inadequate colon prep (OR [95% CI] 0.74 [0.58 – 0.93]) in the post-implementation phase (Table 2)

Table 2: Logistic regression model in post-implementation phase

Characteristic	OR ¹	95% CI ¹
Care Companion Use	0.74	0.58, 0.93
Age at procedure (years)	1.01	1.00, 1.02
Male sex	0.95	0.76, 1.18
Endoscopist Specialty		
Gastroenterology	—	—
Surgery	0.61	0.25, 1.22
Electronic Portal Status: Activated	0.34	0.25, 0.48

¹ OR = Odds Ratio, CI = Confidence Interval

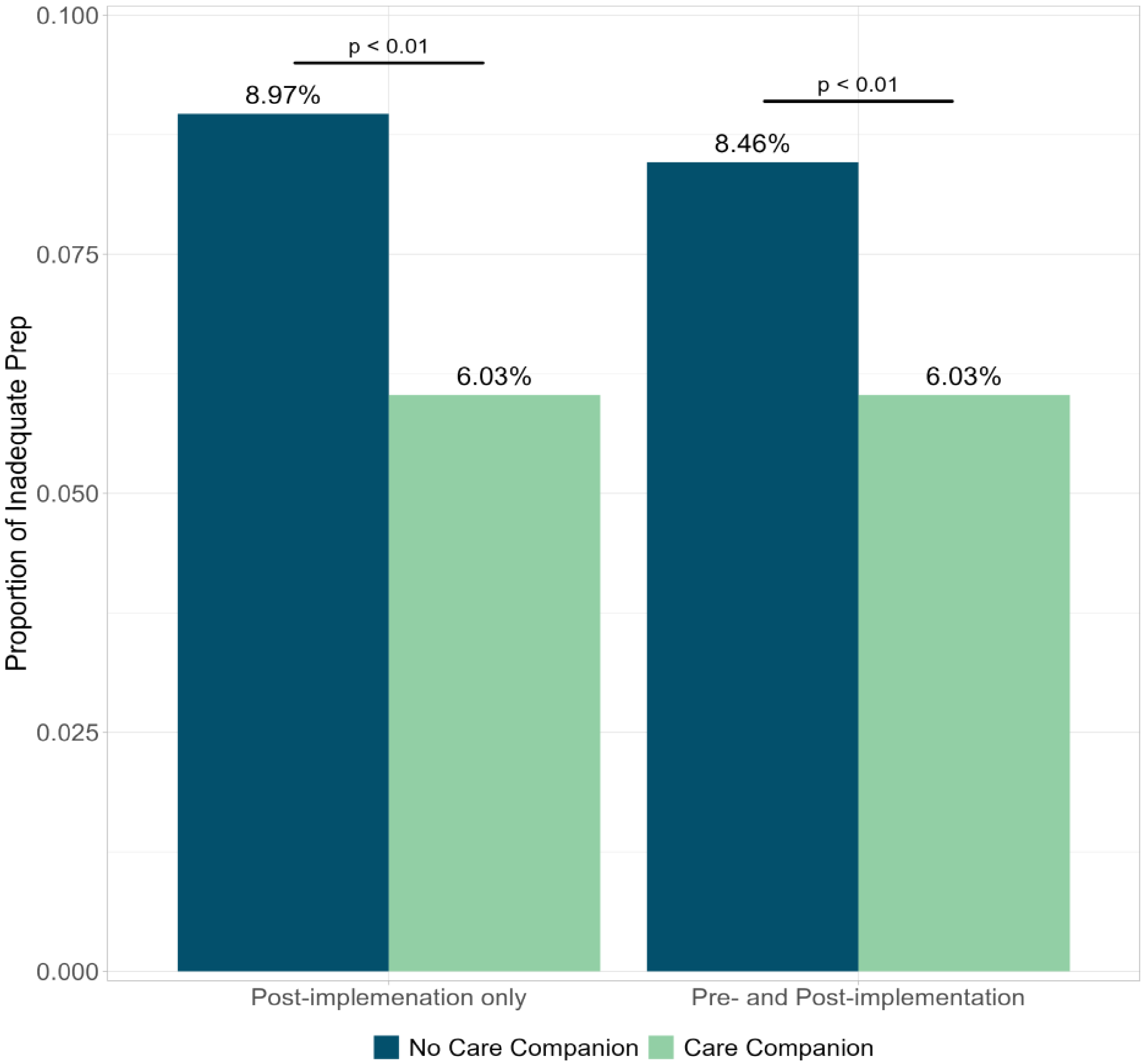


Figure 3: Unadjusted rates of colon prep in the post-implementation phase only (left bars) and including both pre- and post-implementation phases (right bars). P values from Pearson's chi-squared test.

CONCLUSIONS

An interactive educational platform in the electronic medical record was associated with lower rates of inadequate colonoscopy preparation without adding additional time burden on providers. Future work is needed to evaluate engagement with specific portions of the Care Companion tool and whether associations persist with longer term follow-up

REFERENCES

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