BACKGROUND

- Medication nonadherence is an ongoing challenge in the United States, affecting nearly 50% of patients on chronic therapies and resulting in upwards of $100 billion in healthcare costs annually.[1]
- Direct oral anticoagulants (DOACs) are frequently prescribed for stroke prevention in non-valvular atrial fibrillation, and for treatment and prevention of venous thromboembolism.[2]
- DOACs have demonstrated favorable safety and efficacy; however, the less frequent monitoring required with these therapies compared to traditional anticoagulants may predispose patients to nonadherence over time, increasing the risk of poor health outcomes.[3]
- It has been estimated that approximately 30% of patients prescribed DOACs are nonadherent during their treatment.[3] Specific strategies to support adherence with this class of medications are indicated.

OBJECTIVE

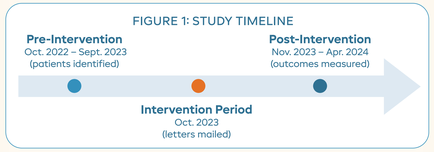
Assess the impact of an adherence mailing on DOAC adherence among Medicare and Medicaid beneficiaries who are nonadherent (proportion of days covered [PDC] < 0.80) to DOACs.

METHODS

DESIGN

- Nonadherent patients from October 2022 – September 2023 were identified using an internal pharmacoadherence application.
  - The application calculated PDC and gap in therapy (GIT) days.
  - Patients qualified for the mailing if they had at least 2 DOAC fills and a PDC < 0.80.
- Letters were sent to patients and their prescribers in October 2023, consisting of educational content for patients, and patient medication profiles with pharmacy claims records for prescribers.
- A retrospective claims analysis was conducted, including patients who had at least 1 DOAC fill in the 6-month post-intervention period and greater than a 90-day supply of a DOAC over the course of the study.
- DOAC adherence measures were compared between the 12 months preceding and 6 months following the adherence mailing.
- Adherence differences among sociodemographic subgroups were assessed, including gender, age, and health plan type/Low Income Subsidy (LIS) status.
  - These variables are among those recommended for stratification by the Pharmacy Quality Alliance when testing quality measures.[4]

FIGURE 1: STUDY TIMELINE



PRIMARY ENDPOINTS

- Change in PDC between the pre- and post-intervention periods.
- Percent of adherent patients (PDC ≥ 0.80) in the post-intervention period.

SECONDARY ENDPOINTS

- Change in GIT between the pre- and post-intervention periods.
- Association of age, gender, and health plan type/LIS status with adherence.

RESULTS

TABLE 1: POPULATION DEMOGRAPHICS (N=390)

	n (%)
Gender	
Female	190 (49)
Male	200 (51)
Age (years)*	
< 55	90 (23)
55 – 64	120 (31)
65 – 74	84 (22)
≥ 75	96 (25)
Health Plan Type	
Medicare-Medicaid Plan with LIS status	212 (54)
Medicare Advantage Prescription Drug (MAPD)	171 (44)
Medicaid only	7 (2)
Medication	
Apixaban	304 (78)
Rivaroxaban	68 (17)
Dabigatran	9 (2)
Switch**	9 (2)

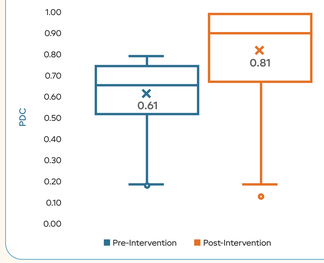
*Mean (SD) = 63.6 (13.2), **Patients with paid claims for > 1 of the listed DOACs

FIGURE 2: PERCENTAGE OF PATIENTS WITH A PDC ≥ 0.80 (N=390)



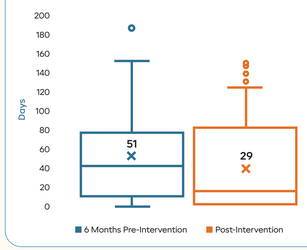
63%
of patients were adherent to **DOAC therapy** 6 months following the intervention

FIGURE 3: ADHERENCE CHANGE MEASURED BY PDC (N=390)



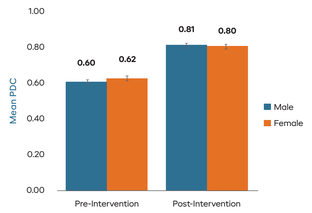
There was a statistically significant improvement in the mean PDC between the pre- and post-intervention periods ($P < 0.001$).

FIGURE 4: ADHERENCE CHANGE MEASURED BY GIT (N=390)



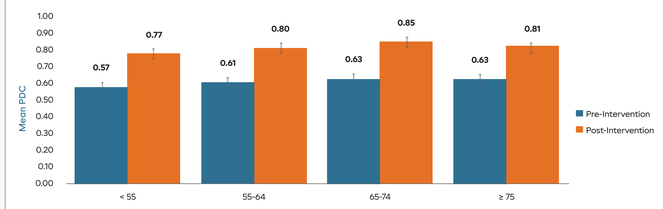
The mean GIT significantly decreased between 6 months pre- and 6 months post-intervention ($P < 0.001$).

FIGURE 5: MEAN PDC CHANGE BY GENDER



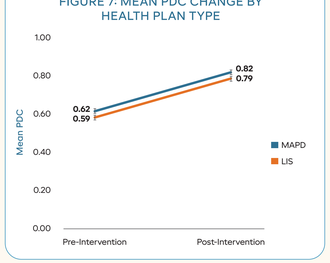
The mean PDC improved significantly for both males and females ($P < 0.001$), and the magnitude of improvement was similar for both genders ($P = 0.371$). There was no significant difference in mean PDC between genders at either time period ($P = 0.642$).

FIGURE 6: MEAN PDC CHANGE BY AGE GROUP



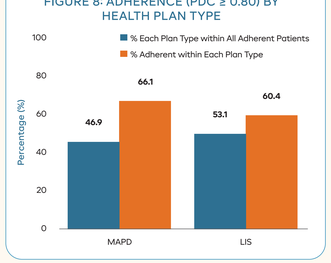
- The mean PDC improved significantly for all age groups ($P < 0.001$), and the magnitude of improvement was similar for all groups ($P = 0.826$). This repeated measures ANOVA analysis revealed a significant difference in PDC between at least two age groups at one or more time points ($P = 0.024$).
- Tukey's test revealed that the mean pre-intervention PDC of patients < 55 years of age was significantly lower than the 65–74-year age group ($P = 0.027$) and the ≥ 75-year age group ($P = 0.019$).
- Post-intervention, the mean PDC in the < 55-year age group remained significantly lower than the 65–74-year age group ($P = 0.025$).

FIGURE 7: MEAN PDC CHANGE BY HEALTH PLAN TYPE



The mean PDC improved significantly for both MAPD and LIS subgroups ($P < 0.001$), and the magnitude of improvement was similar for both ($P = 0.916$). There was no significant difference in mean PDC between MAPD and LIS at either time period ($P = 0.057$).

FIGURE 8: ADHERENCE (PDC ≥ 0.80) BY HEALTH PLAN TYPE



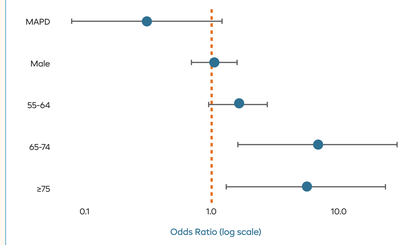
Among adherent patients across both plan types (n=241), a greater proportion were in the LIS group (53.1%) compared to the MAPD group (46.9%). However, there was no significant association between plan type and adherence ($X^2 = 1.32$, $P = 0.251$).

TABLE 2: SOCIAL DETERMINANTS OF HEALTH AND ADHERENCE

Predictor	AOR (95% CI)	P-value
Age Group (years)		
55 – 64	1.63 (0.93 – 2.87)	0.09
65 – 74	6.78 (1.62 – 28.31)	0.01
≥ 75	5.55 (1.27 – 24.30)	0.02
Gender		
Male	1.05 (0.68 – 1.61)	0.83
Plan Type		
MAPD	0.31 (0.08 – 1.20)	0.09

Reference groups include < 55 (age group), female (gender), and LIS (plan type); AOR – adjusted odds ratio, CI – confidence interval

FIGURE 9: ASSOCIATIONS OF SOCIODEMOGRAPHIC VARIABLES WITH ADHERENCE



Reference groups: < 55 (vs. 55-64, 65-74, ≥ 75), female (vs. male), LIS (vs. MAPD)

- Individuals aged 65 years and older were significantly more likely to be adherent.
  - Individuals aged 65 – 74 years had 6.78 times higher odds ($P = 0.01$), and individuals aged ≥ 75 years had 5.55 times higher odds ($P = 0.02$) of being adherent compared to those < 55 years of age.
- Gender did not significantly affect adherence ($P = 0.83$).
- MAPD was associated with lower odds of adherence (AOR = 0.31), but this result was not statistically significant ($P = 0.09$).

TABLE 3: IMPLICATIONS FOR ADDRESSING SOCIAL DETERMINANTS OF HEALTH

Predictor	Interpretation of Findings	Recommendation
Gender	The intervention was equally effective in males and females, with no statistically or clinically meaningful differences identified.	No adjustment to the intervention is needed based on gender.
Age	This type of intervention may be less effective in patients < 55 years of age. Differences in communication preference, medication/disease burden, and health care utilization among younger patients may affect adherence and response to the mailing.	Additional tailored outreach, potentially via electronic communication (i.e., text reminders), may benefit younger age groups.
Plan Type	Although not statistically significant, the 69% lower odds of adherence in the MAPD subgroup vs. the LIS subgroup may be clinically significant. Financial barriers and assistance programs may influence medication access and adherence.	Extending financial assistance programs to qualifying patients may improve adherence. Incorporating program details within intervention letters may help coordinate assistance.

LIMITATIONS

- A 6-month post-intervention period may have been insufficient to accurately assess adherence outcomes adjunct to the 12-month pre-intervention period.
- The study population was limited to Medicare and Medicaid beneficiaries, which may impact generalizability of the results to other lines of business.

CONCLUSIONS

- At 6 months, the mean PDC and GIT significantly improved following a DOAC adherence mailing, and most patients (63%) achieved a PDC ≥ 0.80.
- Patients ≥ 65 years of age may be more likely to adhere to DOAC therapy than younger patients.
- Mail-based adherence interventions may be less effective among patients < 55 years of age, and these patients may benefit from additional tailored outreach.
- By applying risk adjustments, health plans can improve patient care and outcomes by strategically focusing resources on population subsets most likely to incur higher healthcare costs or experience worse health outcomes.
- The findings of this study support the application of this type of intervention in other nonadherent patient populations.
- Future studies investigating longer-term outcomes of this intervention on DOAC adherence would be beneficial.

DISCLOSURE

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

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