Sticking to the Script: Health System Innovations for Anticoagulant Adherence

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Background

Primary non-adherence, defined as not filling an initial prescription, and **secondary non-adherence**, defined as filling only the first prescription and none subsequently, are challenges for healthcare systems and may lead to increased healthcare utilization and worse patient outcomes.[1,2]

Poor direct oral anticoagulant (DOAC) adherence can lead to higher hospital admissions and greater risk of stroke, heart attack, and pulmonary embolism in patients with non-valvular atrial fibrillation (NVAF).[3,4]

Prescription cost, medication access, and health system's variable access to fill data for systematic identification of patients needing adherence intervention as part of routine clinical care are **key barriers** contributing to suboptimal DOAC adherence. [5,6]

Methods

- Three health care organizations (HCOs) implemented multi-level interventions to improve primary and secondary DOAC adherence for targeted patients with NVAF.
- Adherence data were collected using a pragmatic measures specification aimed to standardize submissions across HCOs.
- Primary adherence was defined as filling a prescription within 45 days to account for copay assistance cards and sample medications. Secondary adherence was defined as filling at least 2 prescriptions within the reporting period to target patients with a "one and done" approach.
- Data were requested by quarters for staggering reporting periods between July 2023-June 2025 with varied medication fill data sources across the 3 HCOs.

Table 1: HCO Target Population & Data Variables

	Target Population	Adherence Data Source	Data Considerations
HCO 1	Cardiology patients only	Surescripts (manual data pull)	Automated data report is being created to replace the manual Surescripts data pull
HCO 2	All primary care patients	Surescripts utilizing medication history for populations module	Report takes up to 72 hours for fill data to auto-populate within report for primary and secondary adherence
HCO 3	All patients	Value based contracts	Registry is being created to monitor adherence more broadly

Figure 1: HCO 1 - Interventions

Prescribing	• APP and nurse team will reach out to all patients • Social worker assists patient with payment assistance programs • Educational videos featuring cardiologists from HCO
Cardiology visit	• Clinical team follows up at future visits to assess adherence
Refills	• EPIC Surescripts report to be developed to capture data for intervention

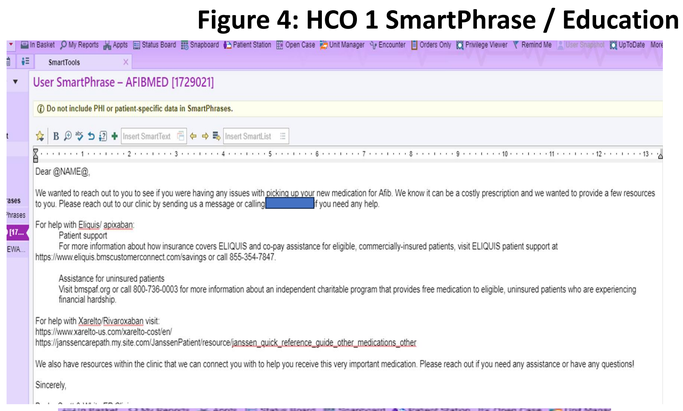
Figure 2: HCO 2 - Interventions

Prescribing	• Pharmacy team provides education, identifies barriers (cost, side effects), and links patients to social work and cost-saving resources
Registry & Surescripts data	• Report pulls patients based on inclusion/exclusion criteria • PharmD team documents if patient adherent, non-adherent, or switched to warfarin
Smartform & pharmacy outreach	• Pharmacy team reaches out to patients who do not fill or refill RX • Smartform tracks adherence progress and possible solutions for patient

Figure 3: HCO 3 - Interventions

Prescribing	• DOAC for patients on commercial insurance and warfarin on Medicaid/Medicare initially • Easy button for prescribers to send RX to retail pharmacy (prior auth and adherence support)
Registry	• Monitoring adherence broadly and routinely
Support via anticoag clinic or retail pharmacy	• Pharmacy team reaches out to patients who do not fill or refill RX

Figure 4: HCO 1 SmartPhrase / Education Material Examples



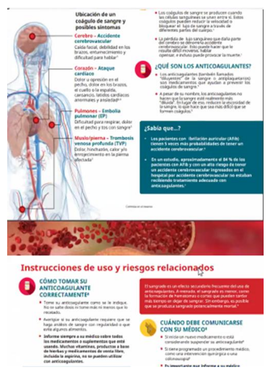
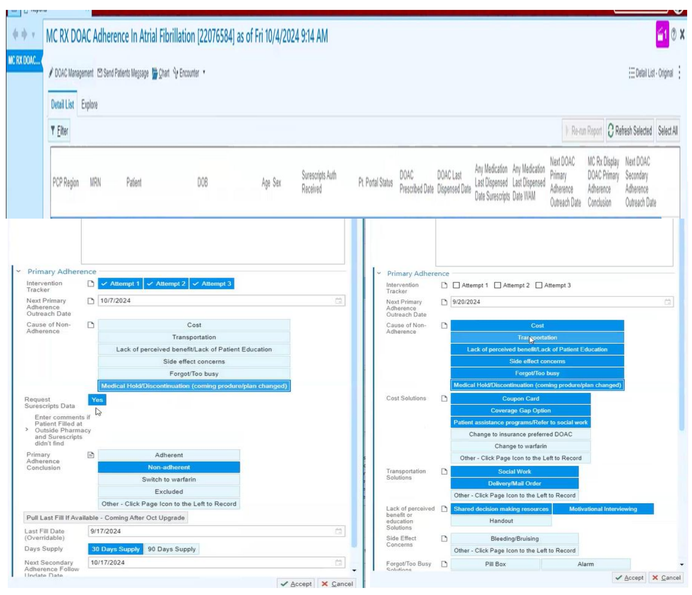
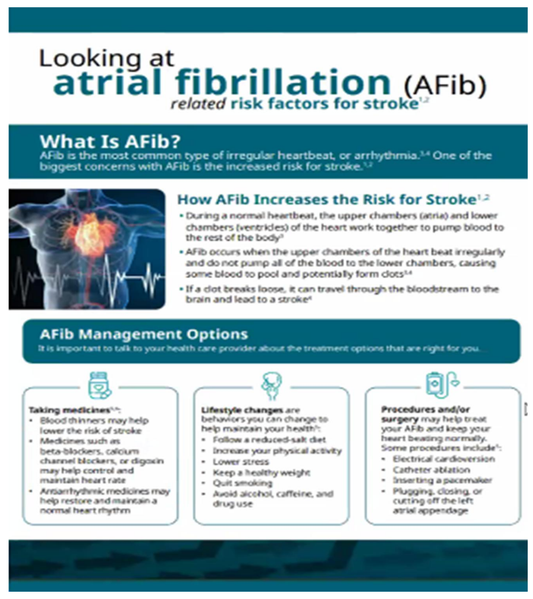


Figure 5: HCO 2 SmartSheet / Reporting Examples





Results

Table 2: Primary & Secondary Adherence, All HCOs, Pre and Post Implementation of Interventions

	Primary Adherence		Secondary Adherence	
Site	Time Period[1] (Denominator)	% (n)	Time Period[1] (Denominator)	% (n)
HCO1	Pre (484)	75.6% (366)	Pre (484)	73.8% (357)
	Post (217)	71.4% (155)	Post* (217)	61.8% (134)
HCO2	Pre (822)	88.4% (727)	Pre (691)	86.1% (595)
	Post (524)	90.5% (474)	Post (353)*	96.0% (339)
HCO3	Pre (2720)	67.2% (1829)	Pre (2720)	59.6% (2720)
	Post* (893)	81.4% (727)	Post (893)*	73.7% (658)

[1]Sites had staggered time periods based on project onboarding. HCO1 baseline period is October 2023-Dec 2024 with post implementation January-June 2025. HCO2 baseline period January-June 2024 with post implementation November 2024-April 2025. HCO3 baseline period is July 2023- June 2024 with post implementation July 2024- March 2025.
*Statistically significant changes with p<0.05

- **HCO1:** Primary and secondary adherence declined sharply in the final pre-intervention quarter largely due to significant staffing changes. By the final reporting quarter, rates had improved by over 20% but remained below baseline.
- **HCO2:** Primary adherence increase was modest (2.1% increase) and non-significant; however, secondary adherence increased significantly (9.9% increase) with specific subgroups having significant improvements for primary adherence.
- **HCO3:** Primary and secondary adherence increased significantly overall (~14% increase), however subgroups demonstrated increases, no change, or reductions in adherence over time.

Figure 6: Changes in Primary & Secondary Adherence, All HCOs, Pre and Post Implementation, by Subgroups

Primary Adherence
- HCO2: all age groups, male, female, white, non-Hispanic, and uninsured patients
- HCO3: patients <65 and aged 65-74

Secondary Adherence
- HCO2: Patients under 65, aged 75+, Medicare, and commercial insured patients
- HCO3: Patients <65, male, female, white, black, non-Hispanic, Medicaid, and commercial insured patients

Primary Adherence
- HCO1: all age groups, male, and commercially insured patients
- HCO3: Patients aged 75+

Secondary Adherence
- HCO1: All race and ethnicity subgroups, female, and Medicare patients
- HCO3: Hispanic patients

Primary Adherence
- HCO1: Female, all race and ethnicity subgroups, and Medicare patients

Secondary Adherence
- HCO1: Medicare and commercially insured patients
- HCO3: Hispanic patients

Conclusions & Future Steps

- Implementing multi-level interventions to improve medication adherence is feasible within health systems and is needed, however inconsistent access to and limited understanding of how to integrate adherence data for clinical care presents challenges.
- This study provides insights into multiple methods of data capture and how multidisciplinary teams can be engaged to support medication adherence which will ultimately reduce hospitalizations and ED visits and improve overall patient care.

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To view references, scan this QR code: