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## Trends in Drug Spending of Oral Anticoagulants for Atrial Fibrillation, 2014–2021

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### Abstract

**Introduction:** This study documents cost trends in oral anticoagulants (OAC) in patients with newly diagnosed atrial fibrillation.

**Methods:** Using MarketScan databases, the mean annual patients' out-of-pocket costs, insurance payments, and the proportion of patients initiating OAC within 90 days from atrial fibrillation diagnosis were calculated from July 2014 to June 2021. Costs of OACs (apixaban, dabigatran, edoxaban, rivaroxaban, and warfarin) and the payments by three insurance types (commercial payers, Medicare, and Medicaid) were calculated. Patients' out-of-pocket costs and insurance payments were adjusted to 2021 prices. Joinpoint regression models were used to test trends of outcomes and average annual percent changes (AAPC) were reported. Data analyses were performed in 2022–2023.

**Results:** From July 2014 to June 2021, the mean annual out-of-pocket costs of any OAC increased for commercial insurance (AAPC 3.0%) and Medicare (AAPC 5.1%) but decreased for Medicaid (AAPC –3.3%). The mean annual insurance payments for any OAC significantly

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#### SUPPLEMENTAL MATERIAL

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increased for all insurance groups (AAPC 13.1% [95% CI 11.3–15.0] for Medicare; AAPC 11.8% [95% CI 8.0–15.6] for commercial insurance; and AAPC 16.3% [95% CI 11.3–21.4] for Medicaid). The initiation of any OAC increased (AAPC 7.3% for commercial insurance; AAPC 10.2% for Medicare; AAPC 5.3% for Medicaid).

**Conclusions:** There was a substantial increase in the overall cost burden of OACs and OAC initiation rates in patients with newly diagnosed atrial fibrillation in 2014–2021; these findings provide insights into the current and anticipated impact of rising drug prices on patients' and payers' financial burden.

## INTRODUCTION

Atrial fibrillation (AF), the most common cardiac arrhythmia, had an estimated prevalence of 2.7–6.1 million in 2010 and is projected to reach 12.1 million in 2030 in the U.S.<sup>1,2</sup> As the U.S. population ages, a 1.6-fold increase in the incidence of AF from 2010 to 2030 is projected, predominantly among those over the age of 80.<sup>2</sup> AF can cause blood clots and is associated with an increased risk of stroke, heart failure, and other cardiovascular complications.<sup>3–6</sup> Thus, use of the 5 U.S. Food and Drug Administration (FDA)-approved oral anticoagulants (OACs) including warfarin and direct oral anticoagulants (DOACs) is recommended to reduce stroke risk for those with AF.<sup>7</sup> Since the approval of DOACs (2010 dabigatran; 2011 rivaroxaban; 2012 apixaban; 2015 edoxaban), large studies have demonstrated that DOACs are more effective in preventing stroke and systemic embolism and have lower bleeding risks compared to warfarin.<sup>8</sup> Based on this evidence, AF management guidelines recommend DOACs over warfarin for stroke prevention.<sup>3,7</sup> However, drug cost is also an important factor in prescribing decisions.<sup>9</sup> The unit cost of DOACs was 12–30 times higher than that of warfarin in 2021, which may lead to an increased financial burden for patients and payers.<sup>10</sup> Medicare Part D spending data by drug in 2021 showed that Eliquis (apixaban) and Xarelto (rivaroxaban) were ranked among the top three Medicare Part D drugs.<sup>11</sup>

The generic formulations of apixaban and rivaroxaban were approved by the FDA in 2019 and 2020, but these will likely not be available until the branded patents for these medications expire.<sup>8,12</sup> In addition, in January 2022, the prices for brand-name apixaban and rivaroxaban increased again.<sup>13</sup> Evidence indicates that high out-of-pocket cost can affect patient behaviors including initiation of medication and prescription refill patterns.<sup>9,14,15</sup> Therefore, information on trends in the financial burden faced by patients and payers is needed to evaluate the current and anticipated impact of rising drug prices on initiation and adherence. Despite the importance, there is a scarcity of prior studies documenting the patients' out-of-pocket costs and insurance payments associated with OACs among patients with AF.

Thus, this study investigated how OAC costs (patients' out-of-pocket costs and insurance payments) and initiation rates have changed over time among patients with AF. Because the initiation rates and drug payments can differ by insurance types, the trends were evaluated by the three insurance plans: commercial, Medicare, and Medicaid.

## METHODS

### Study Sample

The administrative claims data came from the Merative® Watson Truven Health MarketScan® Commercial Claims and Encounters (CCAE), Medicare supplement, and Medicaid database from January 1, 2014 to June 30, 2021.<sup>16</sup> The MarketScan® CCAE database was derived from a convenience sample of enrollees (aged <65 years) with employer-sponsored health insurance plans with 300+ large employers, 30+ health plans, and 500+ hospitals in the United States with approximately 26.0 million unique enrollees in 2014 and 13.8 million enrollees in 2020. The MarketScan Medicare supplement database was derived from employees or retirees (aged ≥ 65 years) who were covered by their current or previous employers with 2.3 million enrollees in 2014 and 0.5 million enrollees in 2020. The MarketScan® Medicaid database came from a subset of Medicaid states that included 6–13 states (state information unknown due to a data user agreement) with 6.8 million enrollees in 2014 and 8.4 million enrollees in 2020. The MarketScan databases are longitudinal and allow tracking of patients' drug claims over time. They provide patient-level inpatient, outpatient, emergency department medical, and outpatient pharmacy claims as well as patient characteristics such as age, sex (male and female), type of insurance plans, urban/rural status and Census region of the residency (only for the commercial and Medicare supplement), and race and ethnicity (only for Medicaid). The MarketScan database was accessed through Truven Health MarketScan Treatment Pathways, a cloud-based analytic platform that allows researchers to generate and select samples. The MarketScan database used for this analysis only includes individuals with prescription drug coverage.

All MarketScan® patient data are deidentified and comply with Health Insurance Portability and Accountability Act (HIPAA), therefore this study was not subject to institutional review board approval from the Centers for Disease Control and Prevention. The authors cannot make data publicly available because of the data use agreement. The program codes used for the study will be available upon request to the corresponding author.

Patients were defined as having a new diagnosis of AF if patients had at least one inpatient or emergency department (ED) encounter or 2 outpatient encounters at least 7 days apart but no more than 365 days apart (Appendix Figure 1).<sup>17</sup> The ICD-9-CM of 427.3 (from January 1, 2014 to September 30, 2015) and ICD-10-CM of I48 (from October 1, 2015 to June 30, 2021) were used to identify AF diagnoses.

The patient selection was limited to those continuously enrolled from 180 days before to 90 days after the date of the first AF diagnosis and aged ≥ 18 years at the date of the first AF diagnosis. Patients with the following conditions 180 days before the first AF diagnosis were excluded: (1) AF diagnosis; (2) OAC drug claims (apixaban, warfarin, dabigatran, edoxaban, or rivaroxaban); (3) valvular heart disease (as they were recommended to use warfarin); and (4) venous thromboembolism (as they may use OACs). Also, patients with Hip-Knee replacement (as they may use OACs) 6 weeks prior to the first diagnosis of AF, pregnancy (as they were not recommended to use OACs) from 180 days prior to the first AF to the end of sample period (June 30, 2021), were excluded. This study focused on patients with non-capitated (i.e., fee-for-service) health insurance to capture more accurate payment

information. Details of the study sample selection of patients with AF are documented in Appendix Figure 1 and the corresponding ICD-9/10-CM diagnosis and procedure codes for exclusion criteria are documented in Appendix Table 1.<sup>18-20</sup>

## Measures

The primary outcome variables are trends in 90-day drug payments by payers and initiation rates of OAC. The average annual out-of-pocket drug costs and insurance payments within 90 days of AF diagnosis per patient per year were documented among patients with AF by the insurance type for each of the OAC agents from July 1, 2014 to June 30, 2021. To capture the burden of drug costs paid by patients, the proportion of out-of-pocket costs was documented, calculated by the ratio of patients' out-of-pocket costs and total drug costs (i.e., sum of out-of-pocket costs and insurance payments). The patients' out-of-pocket drug costs and insurance drug payments were adjusted to 2021 prices using the consumer price index for all urban consumers (CPI-U).<sup>21</sup>

Patients who initiated OAC drugs were defined as those for whom a pharmacy claim showed any of the 5 OACs (apixaban, dabigatran, edoxaban, rivaroxaban, warfarin) within 90 days from the initial AF diagnosis. The initiation rates from July 2014 to June 2021 were documented by insurance plans and for each OAC.

## Statistical Analysis

For patients' out-of-pocket costs for drugs, insurance drug payments, and initiation of OAC treatment rates, the first year was defined as July 2014–June 2015, and the same for the following years, where July 2020–June 2021 was the last year from July 2014 to June 2021. As supplementary analyses, authors reported (1) percent of patients with zero out-of-pocket costs or zero insurance payments; (2) median patients' out-of-pocket costs and insurance payments; and (3) relative volumes of OACs.

Patient characteristics such as age at first AF diagnosis, sex, urban/rural residency, census region, race, and ethnicity (only available to individuals in Medicaid), and the number and proportion of patients who had OAC drug claims and total drug payments within 90 days of the first AF diagnosis by the OAC agents were summarized by insurance types.

For trend analysis, Joinpoint regression models (version 4.9.0.0, National Cancer Institute) were used to test the yearly trends of the proportions of patients treated with OAC. The average annual percentage change (AAPC) was calculated, which showed the average measure of total annual percentage changes for the entire study period (from July 2014 to June 2021). All other analyses were conducted using Stata SE statistical software version 17 (StataCorp, College Station, TX). Data analyses were performed in 2022–2023.

## RESULTS

A total of 107,166 with commercial insurance, 90,849 Medicare enrollees, and 20,059 Medicaid enrollees with newly diagnosed AF were identified (Appendix Figure 1). The baseline characteristics of study cohorts are shown in Table 1. Patients with Medicare (mean [SD] age, 79.0 [8.5] years) were older, compared to patients with Medicaid (mean [SD] age,

55.4 [12.9] years) and patients with commercial insurance (mean [SD] age, 53.9 [9.3] years). The most frequently initiated OAC was apixaban (12.2%–19.3% among total patients) in all insurance cohorts. Total mean 90-day drug payments were highest in patients who initiated with apixaban (\$968.0–\$1187.7), compared to patients who initiated other OACs in all insurance cohorts.

Trends in patients' out-of-pocket costs and payers' payments for OACs are presented in Figures 1 and 2, respectively. For patients with commercial insurance, the average total out-of-pocket costs for any OAC per patient significantly increased from \$113.4 in July 2014–June 2015 to \$138.6 in July 2020–June 2021 (AAPC 3.0%, 95% CI 2.3–3.7) (Figure 1). For patients with Medicare, the average total out-of-pocket costs for any OAC significantly increased from \$80.4 in July 2014–June 2015 to \$99.5 in July 2020–June 2021 (AAPC 5.1%, 95% CI 0.7–9.7). However, for patients with Medicaid, the average total out-of-pocket costs for any OAC significantly decreased from \$2.6 in July 2014–June 2015 to \$2.1 in July 2020–June 2021 (AAPC –3.3%, 95% CI –5.6 to –1.0). Although Medicaid out-of-pocket costs decreased during this period, the magnitude (\$0.6) was much smaller than the increase in Medicaid insurance payments (\$590.9). From 2014 to 2021, the out-of-pocket costs for each individual OAC generally showed non-significant increasing or decreasing trends, but the out-of-pocket cost for any OAC significantly increased in commercial insurance and Medicare cohorts, which may have been driven by increased utilization of apixaban and higher costs of DOACs compared to warfarin.

The proportion of patients' out-of-pocket costs compared to total drug costs is presented in Appendix Table 2. The proportions generally decreased over time for OACs, except warfarin for patients with Medicare. For OAC, the proportions decreased from 16.8% to 11.5% for commercial insurance, 11.6% to 7.1% for Medicare, and 0.6% to 0.2% for Medicaid, respectively, from the first year July 2014–June 2015 to the last year July 2020–June 2021 of evaluation period (Appendix Table 2, Panel A). For warfarin, the proportions slightly decreased from 53.2% to 47.1% and 5.3% to 3.7% for commercial and Medicaid, respectively, whereas the proportion slightly increased from 58.0% to 63.5% for Medicare.

The average total insurance payments for any OAC significantly increased for all insurance cohorts (Figure 2). For commercial insurance, the average total insurance payments for any OAC per patient increased from \$563.0 in July 2014–June 2015 to \$1063.2 in July 2020–June 2021 (AAPC 11.8%, 95% CI 8.0–15.6). For Medicare, the average total insurance payments for any OAC per patient increased from \$612.7 in July 2014–June 2015 to \$1,296.4 in July 2020–June 2021 (AAPC 13.1%, 95% CI 11.3–15.0). For Medicaid, the average total insurance payments for any OAC per patient increased from \$434.8 in July 2014–June 2015 to \$1,025.7 in July 2020–June 2021 (AAPC 16.3%, 95% CI 11.3–21.4). Among all OACs, only apixaban and rivaroxaban showed significant increases in the insurance payments for all insurance groups during the study period.

Trends in OAC initiation rates and AAPC results are presented in Figure 3. From July 2014 to June 2021, initiation of any OAC increased across insurance cohorts (AAPC 10.2%, 95% CI 7.2–13.3 for Medicare; AAPC 7.3%, 95% CI 5.3–9.3 for commercial insurance; and AAPC 5.3%, 95% CI –0.7 to 11.6 for Medicaid). The increase was larger

for apixaban (AAPC 29.1%, 95% CI 22.0–36.7 for Medicare; AAPC 24.2%, 95% CI 20.8–27.7 for commercial insurance; and AAPC 33.6%, 95% CI –4.9 to 87.7 for Medicaid). For rivaroxaban, initiation rates increased in the Medicaid cohort (AAPC 7.0%, 95% CI –9.0 to 25.7) and decreased in the commercial insurance (AAPC –5.1%, 95% CI –7.9 to –2.2) and Medicare (AAPC –11.5%, 95% CI –24.8 to 4.2) cohorts. For warfarin, initiation rates decreased in commercial insurance (AAPC –16.1%, 95% CI –19.6 to –12.6), Medicare (AAPC –24.2%, 95% CI –24.6 to –23.7), and Medicaid (AAPC –24.4%, 95% CI –27.1 to –21.5). For dabigatran, initiation rates decreased in commercial (AAPC –40.7%, 95% CI –46.0 to –35.0), Medicare (AAPC –31.4%, 95% CI –36.9 to –25.4), and Medicaid (AAPC –15.9%, 95% CI –27.2 to –3.0). The relative volumes of OACs over time are shown in Appendix Figure 2. In all three insurance groups, the percentage of warfarin decreased over time, while the use of DOACs (mostly apixaban) increased.

## DISCUSSION

In this study of patients with incident AF from July 2014 to June 2021, drug costs, especially payers' drug payments, and initiation rates for any OAC substantially increased for all insurance cohorts. On the other hand, the proportion of patients' out-of-pocket costs to total drug costs decreased over time for all OACs, except warfarin in Medicare. Given that both the unit cost and the number of patients who use DOACs continue to rise, this study provides valuable insights into the trends in financial burden of OACs associated with AF for patients and payers. For out-of-pocket costs and insurance drug payments, findings of this study suggest that there has been an increased financial burden related to OACs, particularly from the payer perspective from 2014 to 2021. The out-of-pocket costs for any OAC exhibited decreasing trends for Medicaid, whereas the insurance payments increased for all types of insurance. It has been reported that patients with Medicaid using apixaban pay an average of \$3 per month, with half paying \$0.<sup>22</sup> Our results also showed that 40%–50% of Medicaid patients paid \$0, a much higher percentage than among Medicare and commercial insurance. Previous studies of other medications have reported mean or median out-of-pocket drug costs are lowest for patients with Medicaid compared to Medicare and commercial insurance.<sup>23,24</sup> These findings underscore the crucial role that Medicaid plays in reducing patients' out-of-pocket drug costs. The higher percentage increases for insurance payments made the proportion of the patient's out-of-pocket costs to total drug costs decrease over time, which may be influenced by cost-sharing rates determined by insurance plans. While the results of this study have shown greater patient affordability and increased utilization of DOACs, the growth in payer payments is a concern from a societal perspective. There are increasing trends in the incidence and prevalence of AF, along with risk factors that predispose individuals to AF (such as hypertension, obesity, diabetes mellitus, and cardiovascular disease) over time.<sup>2</sup> Consequently, the increasing payer payments in Medicare found in this study may have a greater impact on the U.S. healthcare system.<sup>2,3,25</sup> These findings support previous concerns about increased payer drug payments driven by price increases in brand-name drugs, potentially leading to negative impacts on healthcare resource allocation or patients' access to necessary medications in the future.<sup>13</sup> However, the Inflation Reduction Act is anticipated to offer significant financial relief for the Medicare Program through drug price negotiation and inflation rebates.<sup>26</sup> Recent studies



have identified drugs expected to undergo negotiation and the U.S. government has now placed apixaban and rivaroxaban on the list of drugs included for negotiation.<sup>27-29</sup>

The observed decreases in warfarin initiation and increases in apixaban initiation are consistent with previous studies that investigated the OAC initiation rate in patients with AF.<sup>30-33</sup> The higher DOAC initiation rate in patients with Medicare could be attributed to better coverage of these novel agents.<sup>34</sup> The observations reported here may reflect the increased experience and confidence of clinicians in prescribing DOACs given the evidence on DOAC's favorable effectiveness and safety profiles combined with less need for regular monitoring compared to warfarin.<sup>9,30</sup> In addition, according to a systematic review,<sup>35</sup> apixaban showed better efficacy and safety and lower expected lifetime total costs, including drug cost, monitoring cost, and acute thromboembolic/bleeding event costs, compared to warfarin, and was most cost-effective compared to other OACs. These factors may affect drug selection decisions.<sup>9,35</sup> The initiation rates and drug cost burden related to DOACs are increasing over 7 years, but considering that DOACs are associated with less need for monitoring and lower risk of stroke and bleeding compared to warfarin, DOACs use may result in lower medical costs over the long term.<sup>8,35</sup>

## Limitations

This study has several limitations. First, findings of this study may not generalize to populations not studied in this analysis (such as those uninsured and the general population). Second, the MarketScan CCAE is a convenience sub-sample of employees and their dependents with employer-sponsored private health insurance and is not representative of the entire privately insured population. Third, the MarketScan Medicare supplement and Medicaid database may not represent all Medicare and Medicaid populations because the MarketScan Medicare supplement focused on employer-sponsored supplemental health insurance, and MarketScan Medicaid includes only 6–13 states in the U.S. Fourth, data on claims may contain recording errors, a typical administrative claims data limitation. Fifth, due to a lower number of patients who initiated edoxaban, it was not possible to determine the trends in initiation rate and drug costs in this population. Sixth, the mean annual drug costs of warfarin were calculated using the average dosage for all patients, thus the costs in practice might be higher or lower in some patients. Seventh, this study did not consider the clinical decision-making information of healthcare professionals and patient-level information (e.g., clinical characteristics that may inform OAC prescribing decisions), thus commenting on the guideline-directed treatment or appropriateness of anticoagulation treatment is not possible. Finally, this analysis was limited in its examination of important demographic (e.g., sex, race, ethnicity) and socioeconomic factors which have been shown to significantly influence initiation of anticoagulation, even among individuals who are insured.<sup>36,37</sup>

## CONCLUSIONS

In this study of patients with incident AF during July 2014 to June 2021, authors observed substantial increase in the overall cost burden of OACs (i.e., patients' out-of-pocket costs and payers payments) and initiation rates. Findings of this study suggest that an increased

financial burden related to OAC costs is mainly from the payer's perspective. Among all OACs, the increase in initiation and payers' drug payments was much higher for apixaban for each of the three insurance types—commercial, Medicare supplement, and Medicaid. Understanding the financial burden of OACs for patients with AF may be used to inform clinician medication selection and patient–clinician shared decision-making. Public health practitioners and healthcare systems may also use this to inform programs tailored to address affordability of OACs for patients to enhance continued equitable access to necessary medications.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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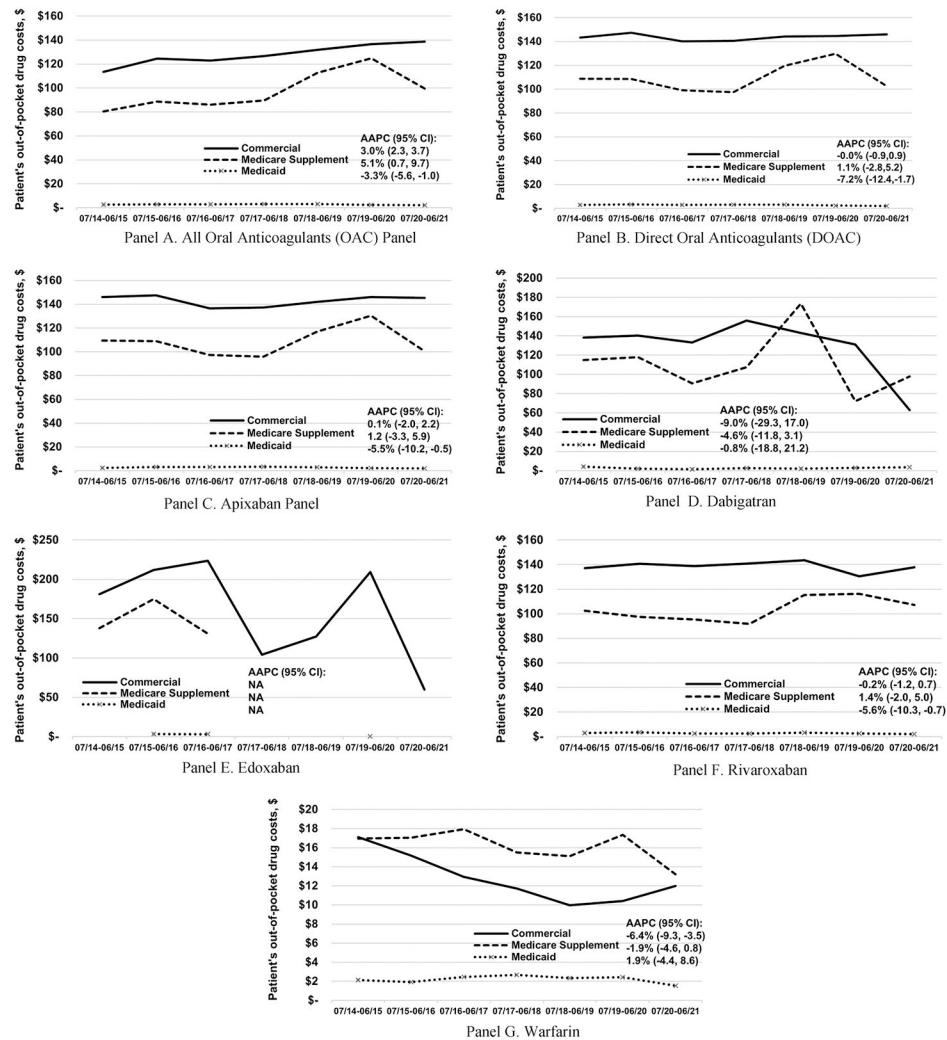
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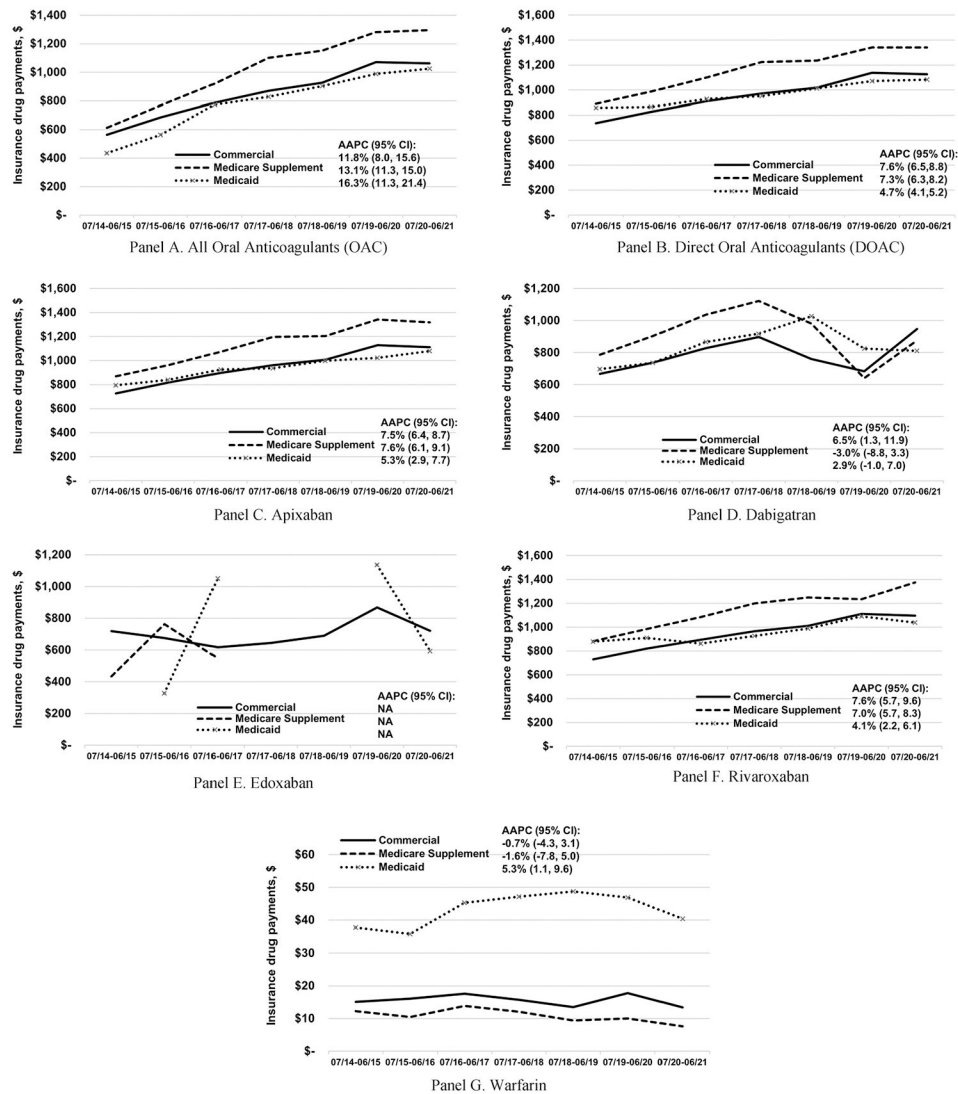
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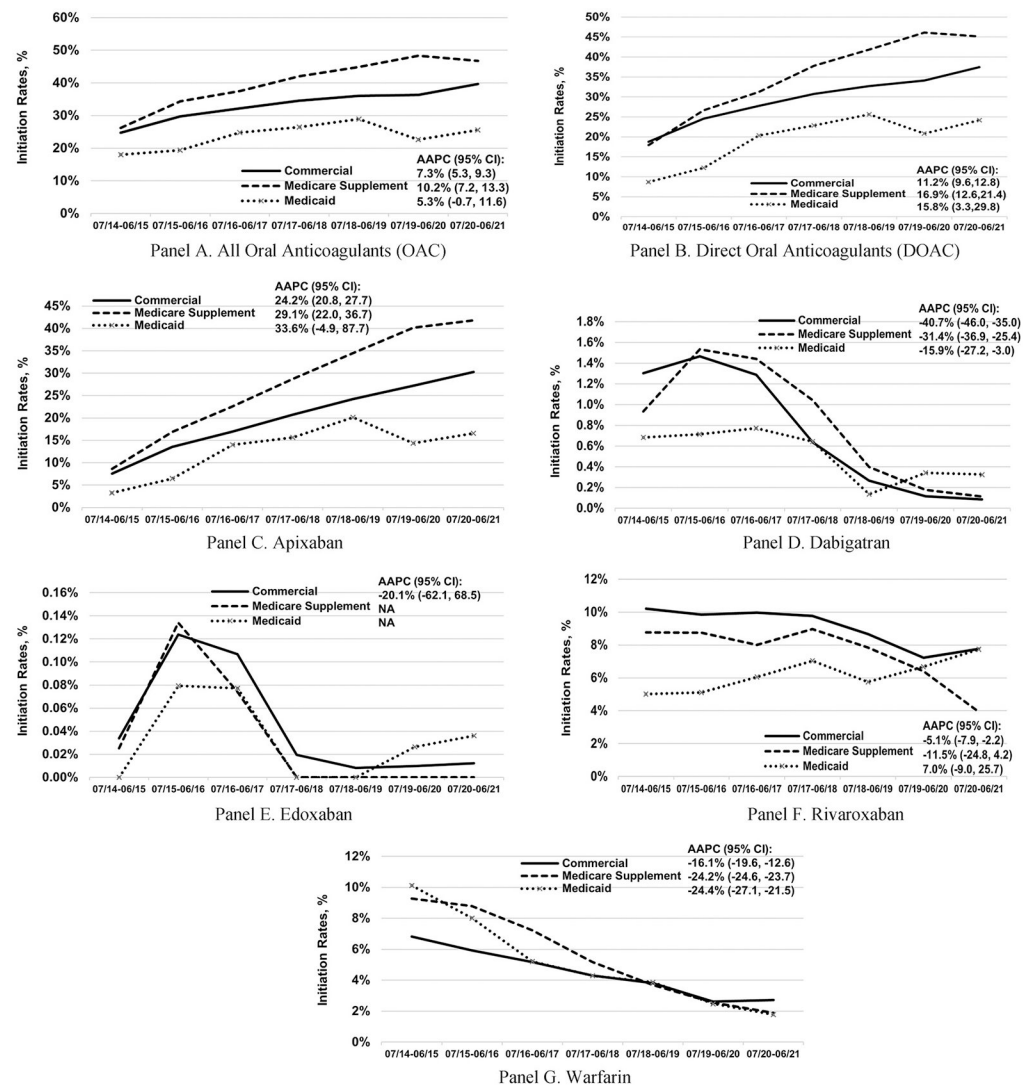
**Figure 1. Mean out-of-pocket drug costs of oral anticoagulants per patient per year among patients with atrial fibrillation by MarketScan® Commercial Claims and Encounters Database, Medicare, and Medicaid Database, July 2014-June 2021.**

Note: On the Y-axis, authors report patients' out-of-pocket drug costs per patient per year among patients with atrial fibrillation by the 3 insurance types – commercial, Medicare supplement, and Medicaid from July 2014 to June 2021. The first year was defined as July 2014–June 2015, and the same for the following years, where July 2020–June 2021 is the last year from July 2014 to June 2021. All costs were adjusted to 2021 U.S. dollars using consumer price index for all urban consumers. There were several missing estimates in edoxaban because data were unavailable in the respective databases. AAPC indicates average annual percentage changes obtained from Joinpoint regression models.



**Figure 2. Mean insurance drug payments of oral anticoagulants per patient per year among patients with atrial fibrillation by MarketScan® Commercial Claims and Encounters Database, Medicare, and Medicaid Database, July 2014–June 2021.**

Note: On the Y-axis, authors report insurance drug payments per patient per year among patients with atrial fibrillation by the 3 insurance types – commercial, Medicare supplement, and Medicaid from July 2014 to June 2021. The first year was defined as July 2014–June 2015, and the same for the following years, where July 2020–June 2021 is the last year from July 2014 to June 2021. All costs were adjusted to 2021 U.S. dollars using consumer price index for all urban consumers. There were several missing estimates in edoxaban because data were unavailable in the respective databases. AAPC indicates average annual percentage changes obtained from Joinpoint regression models.



**Figure 3. The initiation rates of oral anticoagulants among patients with atrial fibrillation by MarketScan® Commercial Claims and Encounters Database, Medicare, and Medicaid Database, July 2014–June 2021.**

Note: On the Y-axis, we report the initiation rates (%) of oral anticoagulants by the three insurance types. The first year was defined as July 2014–June 2015, and the same for the following years, whereas July 2020–June 2021 is the last year from July 2014 to June 2021. There are 107,166, 90,849, and 20,059 patients with AF for the commercial, Medicare supplement, and Medicaid insurance, respectively (Appendix Figure 1). There were several missing estimates in edoxaban because data were unavailable in the respective databases. AAPC indicates average annual percentage changes obtained from Joinpoint regression models. NA indicates AAPC was not analyzed if data had missing or zero values.

**Table 1.** Patients Characteristics and Drug Costs Among Patients With Atrial Fibrillation, July 2014–June 2021

Variables	Commercial	Medicare supplement	Medicaid
Observations	N=107,166	N=90,849	N=20,059
Patients characteristics			
Age at first atrial fibrillation diagnosis, mean (SD)	53.9 (9.3)	79.0 (8.5)	55.4 (12.9)
Female, N (%)	36,548 (34.10%)	45,614 (50.21%)	9,594 (47.83%)
Rural residency, N (%)	15,986 (14.92%)	14,643 (16.12%)	-
Region			
Northeast, N (%)	18,291 (17.07%)	18,725 (20.61%)	-
Midwest, N (%)	24,094 (22.48%)	36,813 (40.52%)	-
South, N (%)	50,799 (47.40%)	26,620 (29.30%)	-
West, N (%)	13,625 (12.71%)	8,546 (9.41%)	-
Race and ethnicity			
Non-Hispanic White, N (%)	<i>b</i>	-	10,339 (51.54%)
Non-Hispanic Black, N (%)	-	-	5,851 (29.17%)
Hispanic, N (%)	-	-	709 (3.53%)
Other Race, N (%)	-	-	1,065 (5.31%)
OAC drugs within 90 days of atrial fibrillation diagnosis, N (%)			
Any oral anticoagulant drug	34,131 (31.85%)	31,374 (34.53%)	4,680 (23.33%)
Direct oral anticoagulant drug	29,506 (27.53%)	25,437 (28.00%)	3,726 (18.58%)
Apixaban	18,878 (17.62%)	17,514 (19.28%)	2,438 (12.15%)
Dabigatran	973 (0.91%)	969 (1.07%)	111 (0.55%)
Edoxaban	57 (0.05%)	49 (0.05%)	6 (0.03%)
Rivaroxaban	10,065 (9.39%)	7,446 (8.20%)	1,252 (6.24%)
Warfarin	5,322 (4.97%)	6,779 (7.46%)	1,097 (5.47%)
Total drug payments <sup>a</sup> within 90 days of the atrial fibrillation diagnosis, \$, mean (SD)			
Any oral anticoagulant drug	930.1 (635.4)	960.8 (671.4)	786.2 (607.6)
Direct oral anticoagulant drug	1070.6 (566.3)	1177.5 (553.7)	975.5 (534.8)
Apixaban	1086.1 (561.7)	1187.7 (547.3)	968.0 (514.5)
Dabigatran	875.3 (477.2)	1006.5 (524.3)	790.3 (424.3)



Variables	Commercial	Medicare supplement	Medicaid
Edoxaban	850.8 (518.9)	804.9 (514.1)	738.8 (450.7)
Rivaroxaban	1012.0 (570.7)	1092.9 (553.2)	944.5 (573.6)
Warfarin	29.2 (27.9)	28.2 (29.5)	40.7 (35.6)

<sup>a</sup>The drug payments were adjusted to the first quarter of 2021 prices using the consumer price index for all urban consumers (CPI-U).

<sup>b</sup>Dash (-) indicates that data are not available in the respective databases.