

# Is Some Anticoagulant Prescription Data Missing in Your Atrial Fibrillation Population? An Approach to Attaching Prescription Data Omitted from Health Plan Claims

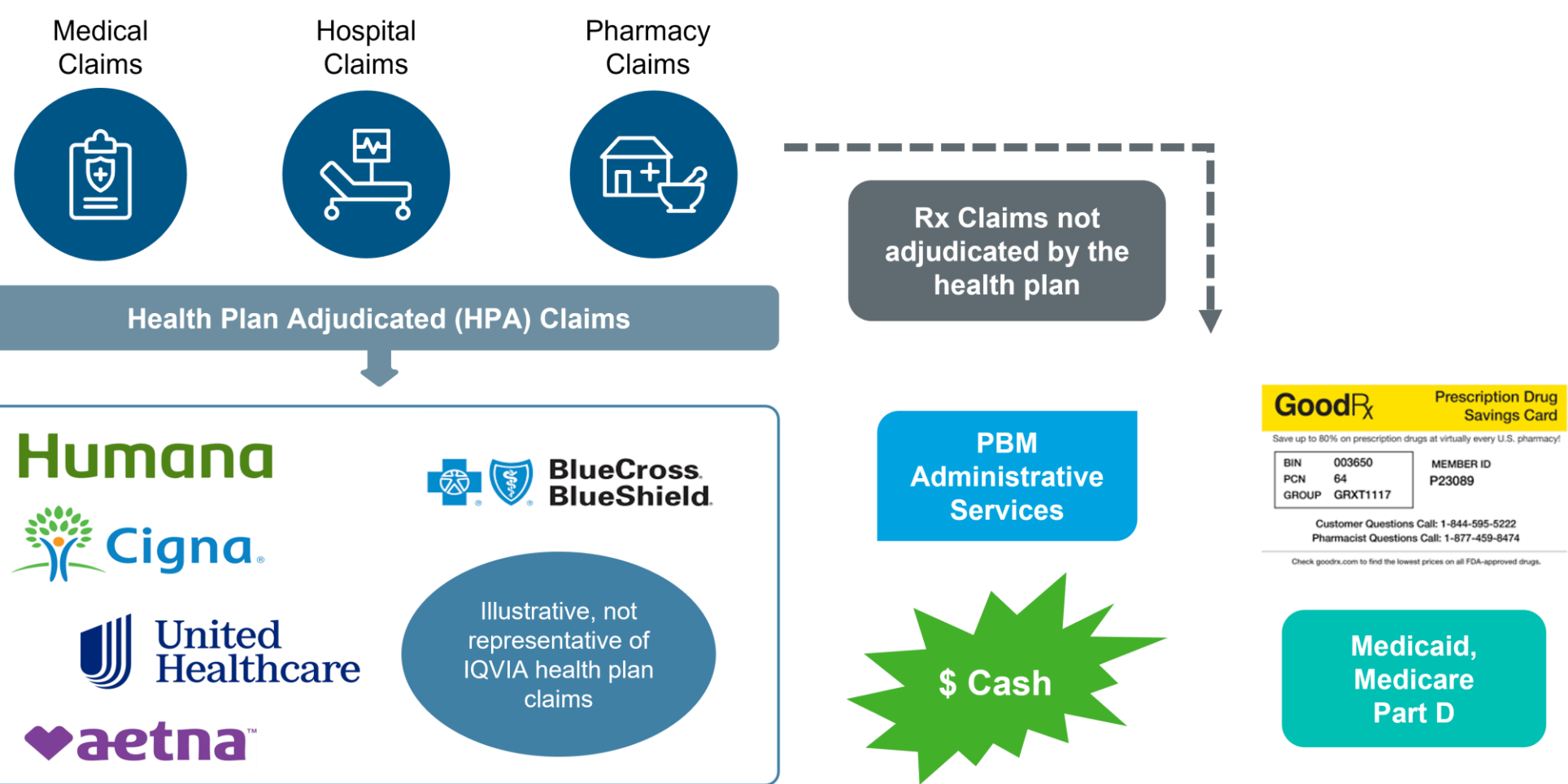
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## Introduction

- Health plan claims databases are used extensively for health outcomes research, with prescription claims used as a proxy for drug utilization. Prescription claims in health plan adjudicated (HPA) claims data may omit prescription claims using alternative forms of payment including discount cards, cash, Medicaid and Medicare Part D (Figure 1)
- Previous Research has demonstrated that as many as 15-20% of patients in HPA claims data may have prescription claims that are not captured by the health plan, and 15% or more of the patients in HPA claims databases may be missing all dispensed prescriptions in specific therapeutic classes due to alternate payers<sup>1,2</sup>
- While the magnitude of omitted prescription data in some therapeutic categories has been demonstrated, there has not been a method described to augment such claims data. Such an augmented data file may provide more accurate metrics for measuring prescription drug exposure and utilization
- Atrial fibrillation (also called AFib or AF) is a quivering or irregular heartbeat (arrhythmia) that can lead to blood clots, stroke, heart failure and other heart-related complications. Treatment of AF includes blood thinning medications such as coumarin anticoagulants (CA) and thrombin inhibitors (TI), medications to control rhythm, as well as surgery and lifestyle modifications<sup>3</sup>
- The prevalence of AF in the United States was estimated to rise from ≈5.2 million in 2010 to 12.1 million in 2030. The underuse of anticoagulation in AF has been demonstrated to be a global problem<sup>4</sup>

Figure 1: Loss of Pharmacy Claims in Health Plan Claims Data



## Objectives

- This study quantifies the extent of prescription claims information for atrial fibrillation patients that are not adjudicated within health-plan-sourced claims data and shows how appending with point-of-sale data (POS) may provide a more accurate proxy for utilization

## Methods

### Databases

#### ***IQVIA PharMetrics® Plus***

- IQVIA PharMetrics® Plus is a health plan claims database comprised of fully adjudicated medical and pharmacy claims for more than 210 million unique enrollees since 2006. Data contributors to the database are largely commercial health plans. It is representative of the commercially insured US national population for patients under 65 years of age. It contains a longitudinal view of inpatient and outpatient services, prescription and office/outpatient administered drugs, costs, and detailed enrollment information. All data are compliant to the Health Insurance Portability and Accountability Act (HIPAA) to protect patient privacy. Over 250 peer reviewed publications have used PharMetrics Plus data

### ***Longitudinal Prescription Data (LRx)***

- IQVIA receives nearly 4 billion prescription claims per year with history from January 2004 with coverage up to 92% for the retail channel, 62% for traditional and specialty mail order, and 76% for long-term care. The longitudinal prescription data (LRx) is derived from electronic information received from pharmacies, payers, software providers and transactional clearinghouses. This information represents activities that take place during the prescription transaction and contains information regarding the product, provider, payer and geography. LRx data is longitudinally linked back to an anonymous patient token and can be linked to events within the dataset itself and across other patient data assets, including PharMetrics Plus

### Study population

- Patients included in the analysis met the following criteria:
  - Patients with  $\geq 1$  non-ancillary medical claim for atrial fibrillation in PharMetrics Plus during the index period 1/1/19 - 12/31/2019
  - Patients in #1 with continuous eligibility for medical and pharmacy benefits during the study period 1/1/2019 - 12/31/2020 (Figure 2)
  - Patients in #2 with a linkable ID to the LRx database
  - Patients in #3 with at least 1 prescription claim in PharMetrics Plus for CA or TI during the study period
- Development of the study population can be seen in Table 1
- Patients meeting the above criteria had all CA and TI prescriptions extracted and merged during the study period. The merged prescription data were then de-duped resulting in an augmented prescription dataset that included all the prescription claims in PharMetrics Plus along with those prescription claims in LRx that were not observed in PharMetrics Plus (Figure 3)

Figure 2: Study Timeframe

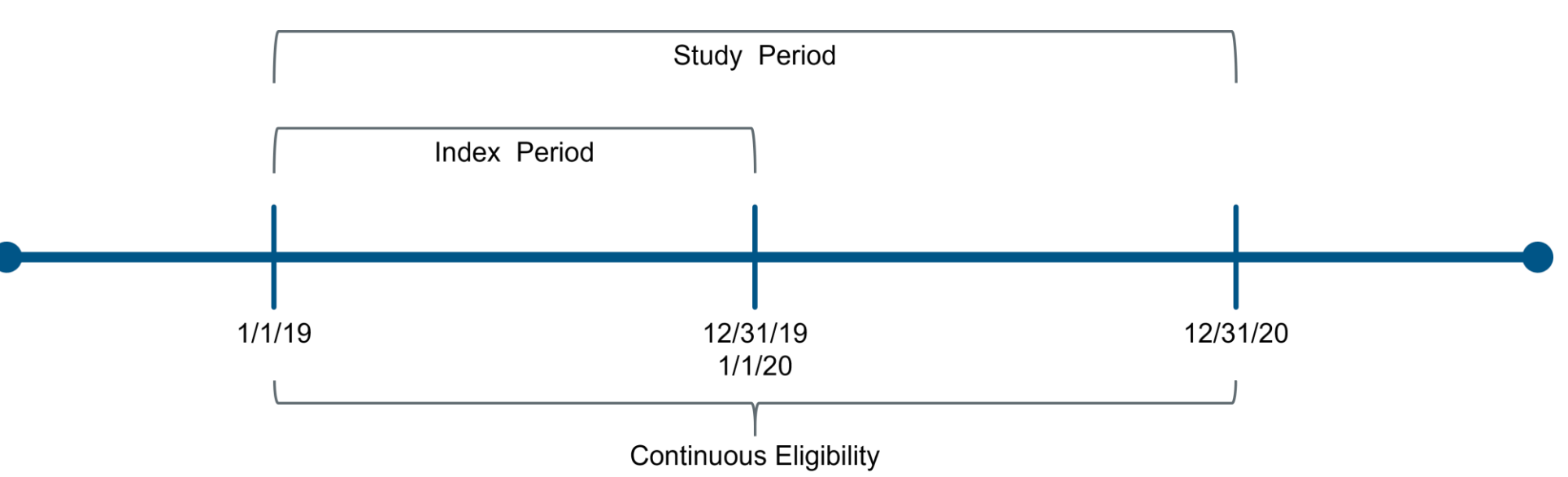
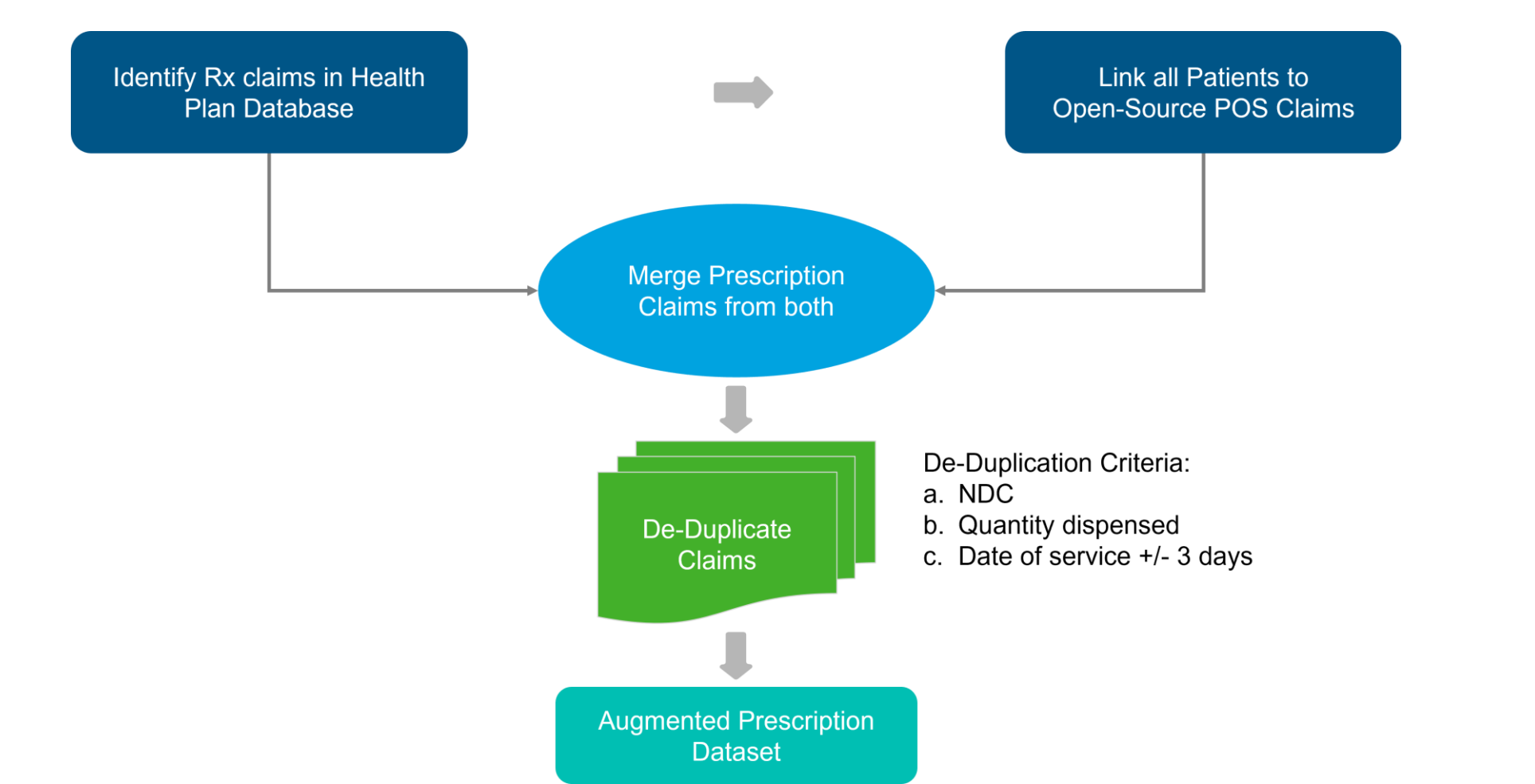


Table 1 – Patient Attrition

| Step # | Attrition Reason                                                                                                  | CA                 | TI                 |
|--------|-------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|
|        |                                                                                                                   | Patients Remaining | Patients Remaining |
|        |                                                                                                                   | n                  | n                  |
| 1      | Patients in P+ with a non-ancillary medical claim for A-Fib during the index period 1/1/19 - 12/31/2019           | 390,801            | 390,801            |
| 2      | Patients in #1 with CE between 1/1/2019 - 12/31/2020 (the study period)                                           | 222,042            | 222,042            |
| 3      | Patients in #2 with a linkable ID to LRx (study population)                                                       | 186,025            | 186,025            |
| 4      | Patients in #3 with at least 1 prescription claim in PharMetrics Plus for CA or TI during the study period        | 26,888             | 91,759             |
| 5      | Patients in #3 with at least 1 prescription claim in PharMetrics Plus or LRx for CA or TI during the study period | 28,603             | 96,159             |

Figure 3: Creation of the Augmented Prescription Dataset



## Results

- The Linkage rate from PharMetrics Plus to the LRx database was 83.8%
- In the PharMetrics Plus dataset prior to augmentation, 6.9% of the patients had a prescription claim for CA, and 23.5% of the patients had a prescription claim for TI during the study period
- In the augmented dataset, 7.3% of the patients had a prescription claim for CA, and 24.6% of the patients had a prescription claim for TI during the study period
- In the augmented dataset, we observed 6.4% additional users of CA, and 4.8% additional users of TI, these patients having claims only in LRx
- The total volume of claims not adjudicated in health plan claims was 14.3% for CA and 10.3% for TI (Table 2)
- In the augmented dataset, the payer type for the non-HPA claims seen in Table 2 are described in Table 3
- Adherence data for the original and augmented populations (N=26,803 for CA and N=95,159 for TI) are shown in Table 4. Augmentation of the PharMetrics Plus data with LRx increased the mean MPR for CA from 0.66 to 0.73, and for TI from 0.65 to 0.70. The percentage of patients with an MPR of  $\geq 0.8$  increased from 46% to 55% for CA, and from 51% to 56% for TI

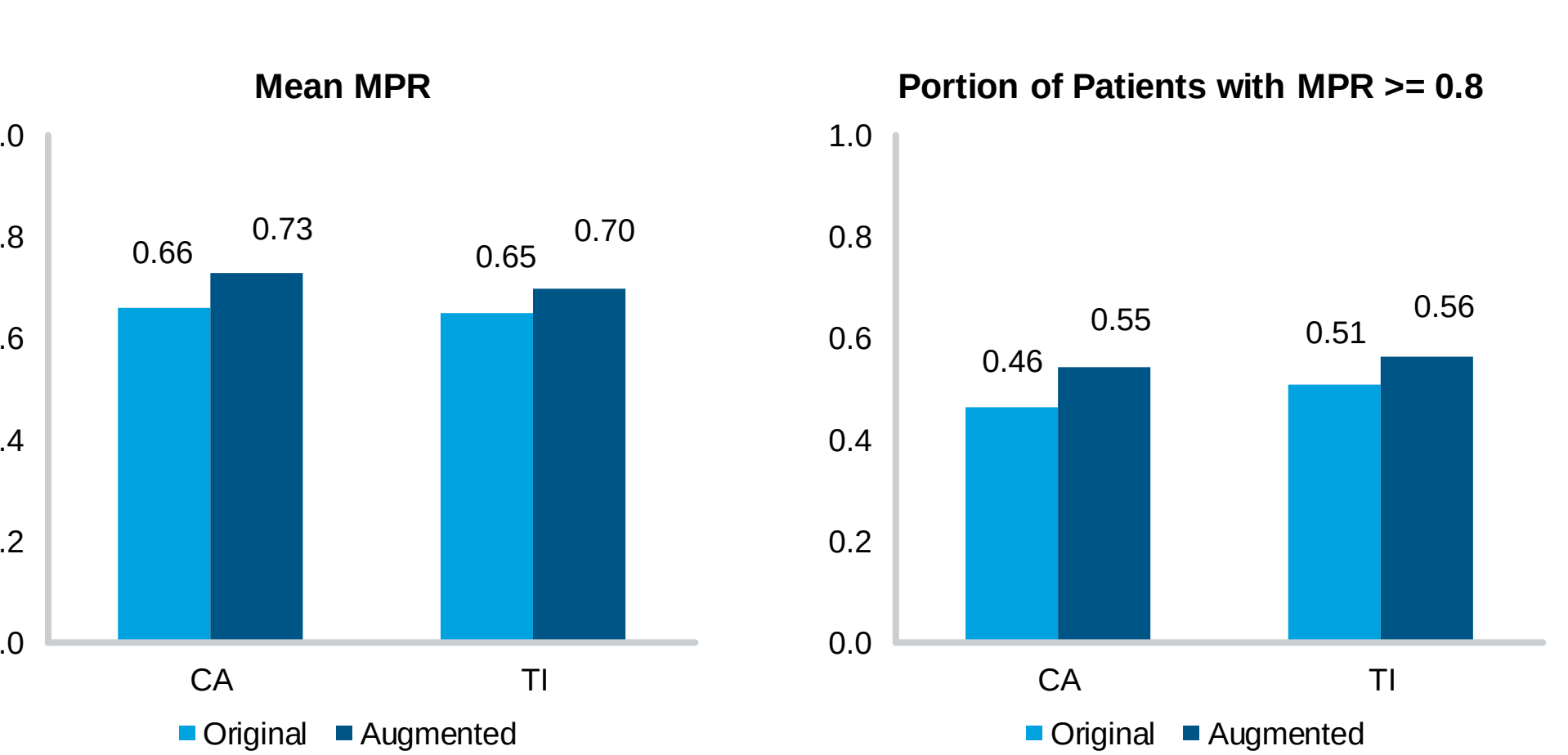
Table 2 – Volume of non-HPA Claims

|                                             | CA      | TI        |
|---------------------------------------------|---------|-----------|
| Total Rx count for PharMetrics Plus and LRx | 321,419 | 1,129,819 |
| Total Rx count for PharMetrics Plus only    | 281,151 | 1,024,162 |
| Number of non-HPA claims                    | 40,268  | 105,657   |

Table 3 – Payer Type for Non-HPA Claims

| Pay Type of Non-Adjudicated Claims in the Augmented Dataset | CA            |             | TI             |             |
|-------------------------------------------------------------|---------------|-------------|----------------|-------------|
|                                                             | n             | %           | n              | %           |
| Cash                                                        | 2,269         | 5.6%        | 804            | 0.8%        |
| Discount card: (GoodRx, Mfg vouchers etc.)                  | 2,488         | 6.2%        | 4,943          | 4.7%        |
| Medicaid                                                    | 152           | 0.4%        | 195            | 0.2%        |
| Medicare Part D                                             | 16,785        | 41.7%       | 38,467         | 36.4%       |
| Commercial (all other commercial payers)                    | 18,547        | 46.1%       | 61,180         | 57.9%       |
| Other/Unspecified                                           | 27            | 0.1%        | 68             | 0.1%        |
| <b>Total</b>                                                | <b>40,268</b> | <b>100%</b> | <b>105,657</b> | <b>100%</b> |

Figure 4 – Adherence Data for Original and Augmented Data



## Discussion and Conclusions

- Health-plan claims databases capture prescriptions that are submitted to them for payment. There may be a substantial number of prescription claims dispensed through alternate payers. In this analysis of atrial fibrillation patients, it was observed that more than 14% of the total volume of CA and over 10% of the volume for TI prescription claims were paid for outside the health plan adjudication system
- Approximately 5% of the atrial fibrillation patients had no health-plan adjudicated (HPA) claims for CA or TI, which may have classified them as non-users in a health plan claim database
- While approximately 45% of the non-HPA claims were due to patients paying cash, using discount cards or had government payers such as Medicaid or Medicare Part D, approximately 55% of the non-adjudicated claims were classified as commercial payers
- A large majority of the non-HPA claims classified as commercial payer were prescription claims processed by one of the several large pharmacy benefits managers (e.g. Express Scripts, OptumRx, Prime Therapeutics, Med Impact, Caremark and others) that were not reported at a health plan level. These included carve-out prescription benefits, HMO-capitated model plans, PBM services for union organizations, cost control – discounted fee arrangements and others
- This analysis demonstrated that a substantial number of non-HPA prescription claims in health plan claims databases can be augmented with an open-source point-of-service prescription claims database such as LRx. The resulting augmented database may provide more accurate prescription drug utilization data for use in outcomes research, quality measurement and in targeting patients for disease management programs

## References

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