Linkage of Patient Services and Real-world Healthcare Data:
A Unique Approach to Gain Insights into Factors that Impact Medication Adherence

EPH185

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Introduction and objectives

- Patient services are support programs sponsored by pharmaceutical companies trying to improve patient access, usage, and adherence to prescribed therapies.
- Few studies have evaluated the full patient healthcare journey including treatments before and during enrollment in a patient support program.
- This research describes the novel method of tokenizing patients in a support program while maintaining their privacy to enable linkage with other secondary healthcare data sources.
- The aim is to obtain their real-world data to gain better insights into factors that can influence drug adherence.

Data sources and tokenization partner

- **Komodo Healthcare Map®**: Komodo Healthcare Map® (hereafter referred to as the Healthcare Map) is a database of de-identified, real-world patient data, representing the individual healthcare experiences of more than 330 million U.S. patients.
- **Patient support program**: The patient support program used for this analysis assisted patients who were on a novel therapy for a hematological disease. Assistance could be in various forms such as optimizing drug access, reviewing insurance coverage, and providing patient education on topics such as management of disease symptoms.
- **Datavant**: Datavant is a leader in securely and compliantly connecting health data from various sources. Its data platform enables companies and key decision-makers to fill gaps in patient journeys and generate meaningful new insights, creating a richer and deeper understanding at the patient level to drive improved outcomes.

Method

- Tokens were created for patients in a support program for the novel therapy, and Datavant's patient tokenization was used to identify any pharmacy claims for these patients in the Healthcare Map between November 2019 and September 2024.
- Pharmacy claims for the novel therapy that were approved and paid within the first 12 months of therapy initiation were assessed for each patient.
- Medication adherence, overall and by distribution channel, was estimated in patients with at least 2 filled prescriptions using the proportion of days covered (PDC) measure.

FIGURE 1: Overlap of Komodo Healthcare Map with the patient support program.

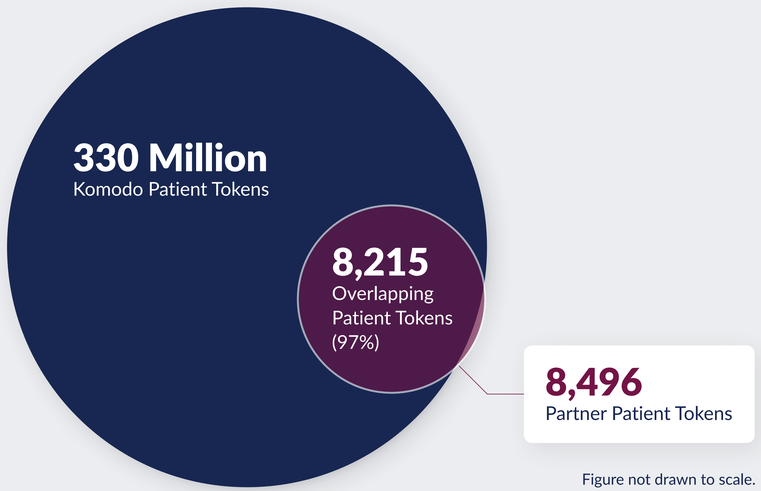
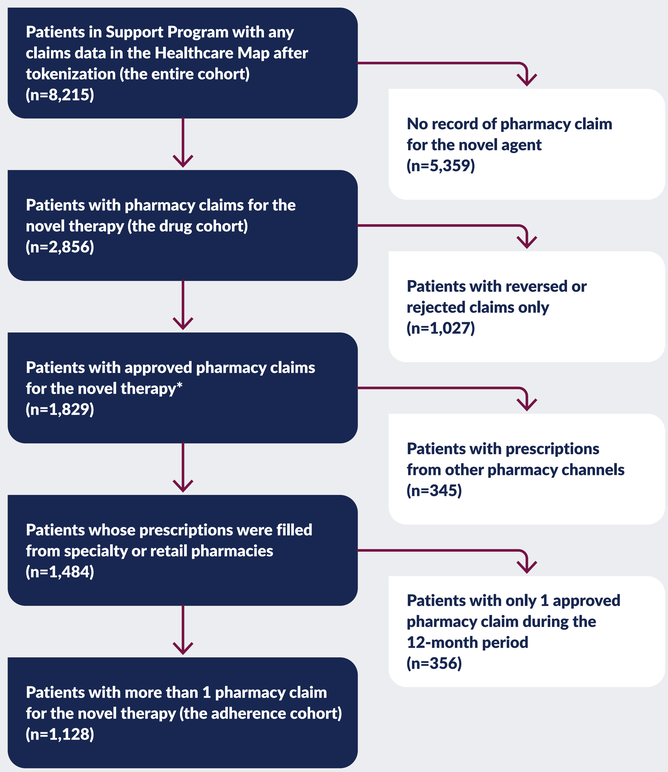


Figure not drawn to scale.

Result

- Tokenization of the 8,496 patients in the patient support program resulted in a match with 8,215 patients (97%) in the Healthcare Map (Figure 1).
- Restriction to only patients who filled at least 2 prescriptions of the novel therapy resulted in identification of 1,128 patients (the adherence cohort) who were included in the final analysis (Figure 2).
- The demographic characteristics of the 1,128 patients did not differ from that of the entire matched cohort (Table 1), and over 25% initiated therapy in 2024 (Figure 3).
- Most patients filled their prescriptions for the novel drug therapy through specialty pharmacies (91%), and the mean (SD) PDC for these patients was 0.82 (0.20).
- Patients who filled their prescriptions from retail pharmacies had a mean (SD) PDC of 0.79 (0.24).
- The overall PDC of the adherence cohort (mean: 0.82, median: 0.88) was greater when compared to similar cohorts reported in the literature[1,2]. In addition, approximately 65% of patients achieved the generally accepted good adherence standard of PDC>0.80 (Figure 4).
- Logistic regression assessing the association between PDC and pharmacy choice, adjusted for age and sex, pointed to a higher likelihood of good adherence (PDC>0.80) when patients filled their prescriptions from a specialty pharmacy (OR: 1.69, 95% CI: 1.23, 2.33).

FIGURE 2: Cohort inclusion flow.



n, number of unique patients. *Note that only claims within 12 months after therapy initiation were assessed.

TABLE 1: Cohort characteristics.

Demographics	Entire Cohort (n=8,215)	Drug Cohort (n=2,856)	Adherence Cohort (n=1,128)
Mean (SD) Age	34.03 (16.11)	34.13 (16.10)	32.47 (15.75)
Age Group, n (%)			
<18 years	1,630 (19.84%)	565 (19.78%)	265 (23.49%)
19-40 years	3,861 (47.00%)	1,344 (47.06%)	538 (47.70%)
41-65 years	2,424 (29.51%)	849 (29.73%)	289 (25.62%)
>65 years	294 (3.58%)	96 (3.36%)	36 (3.19%)
Unknown	6 (0.07%)	2 (0.07%)	0 (0%)
Sex, n (%)			
Male	3,497 (42.57%)	1,217 (42.61%)	484 (42.91%)
Female	4,659 (56.71%)	1,607 (56.28%)	633 (56.12%)
Unknown	59 (0.72%)	32 (1.12%)	11 (0.98%)

FIGURE 3: Year of first dispensed prescription for each patient in the adherence cohort.

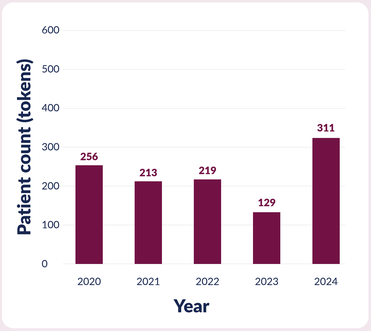
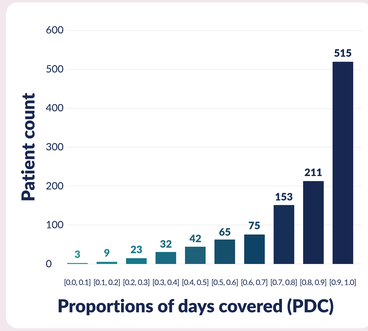


FIGURE 4: PDC distribution of patients in the adherence cohort.



Study limitations

- Potential bias in the estimation of adherence and exclusion of patients in cases where prescriptions were filled in pharmacies not covered by the Healthcare Map. Furthermore, the direction of bias (i.e., overestimation vs underestimation) cannot be assessed in the current context.
- Assessment of adherence in only a subset of patients (14% of the initial population), with the majority considered ineligible to be included in the analysis for various reasons (Figure 2).
- Inability to evaluate the effect of other factors contributing to medication adherence (such as patient disease knowledge and patient-provider relationship) due to the absence of information on these factors in claims data.

Conclusion and next steps

- Data linkage between patient support programs and real-world data is highly feasible and can provide valuable insights into the patient healthcare journey.
- Tokenization and data linkage provide enriched longitudinal data for analyses while maintaining patient privacy.
- Further analyses will explore other potential factors that contribute to lower adherence in this patient population, such as comorbidities, insurance type, and adverse outcomes.

Presented at: International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 2025, May 13 -16, Montreal, Canada. | Abbreviations: CI, confidence interval; OR, odds ratio; PDC, proportion of days covered; SD, standard deviation. | Disclosures: SI, IP, and IC are employees of United BioSource Corporation. | References: 1) Kang HA et al. *Am J Hematol* . 2023;98(1):90-101. 2) King K et al. *Pediatr Blood Cancer* . 2023; 70:e30440.