Social Determinants of Health and Migraine Management: A Real-World Analysis

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Background

- Migraine is a leading cause of disability worldwide, yet access to effective care remains limited. Social determinants of health (SDoH) factors like income, location, and healthcare access impact treatment and outcomes.
- Calcitonin gene related peptide (CGRP) inhibitors improve outcomes, but their higher costs can limit access for disadvantaged groups.
- The Area Deprivation Index (ADI) allows stratification by socioeconomically disadvantaged at the zip code level to identify disparities in migraine therapy use and related health outcomes.

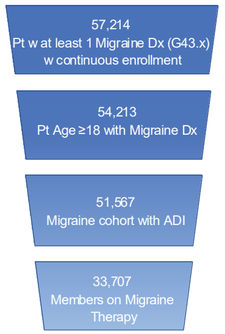
Objectives

- To assess the relationship between ADI level and utilization of migraine specific therapies including: CGRPs, Triptans, Botox, and Ditans to evaluate disparities in access, adherence, and healthcare utilization across ADI tiers in a managed care population.

Methods

- A retrospective observational claims analysis was done using medical and pharmacy claims from a regional health plan operating in several states across the Pacific Northwest providing commercial coverage to approx. 2.5M members.

Figure 1: Member Selection Table



- The study period was from January 1, 2023 to December 31, 2024. Members ≥18 years with a migraine diagnosis (ICD-10 G43.*) or ≥1 claim for a migraine-specific medication, continuous enrollment during the study, and residence in a four-state area were included (WA, OR, ID, UT).
- The ADI, ranging from 1 (least disadvantaged) to 10 (most), was grouped into tertiles: Advantaged Tier 1 (1–3), Neutral Tier 2 (4–7), and Disadvantaged Tier 3 (8–10). Endpoints included: 1) use of CGRPs (gepants + mAbs), Triptans, Botox, and Ditans by tier; 2) proportion without migraine treatment; 3) Most common co-morbidities, 4) Migraine-related ED/UC visits. 5) Migraine members by state/ADI, 6) Opioid utilization. Descriptive statistics compared utilization across tiers.

Results

Table 1: Baseline Member Demographics

Migraine Members	% (N = 54,213)
Gender	
Male	15.1% (8,186)
Female	84.8% (45,973)
Missing/Unknown	0.1% (54)
Age (Mean = 43.7)	
18 – 29	17.4% (9,460)
30 – 39	22.3% (12,090)
40 – 49	26.1% (14,149)
50 – 59	21.2% (11,480)
60 – 64	8.4% (4,547)
65+	4.6 % (2,487)

Figure 2: Migraine Therapy Utilization by Member (n=33,707)

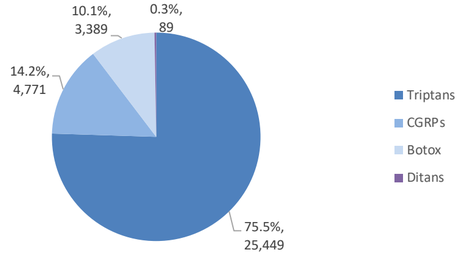


Figure 3: Migraine Members by ADI
(1 = Most Advantaged, 10 = Most Disadvantaged)

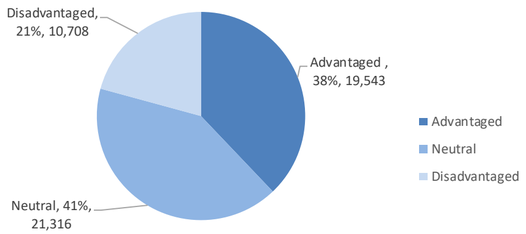


Figure 4: Migraine Patients with Migraine Therapy
ADI Advantaged vs Disadvantaged

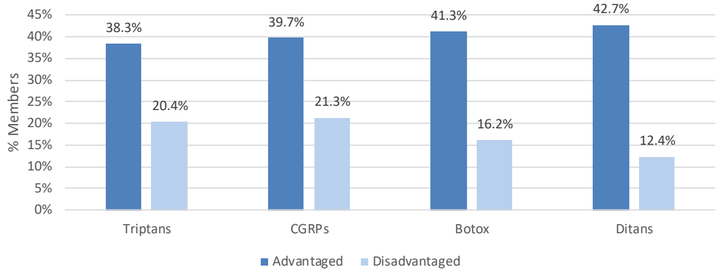


Figure 5: Most Common Co-morbidities

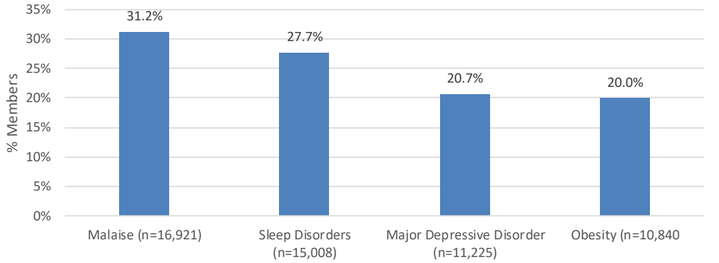
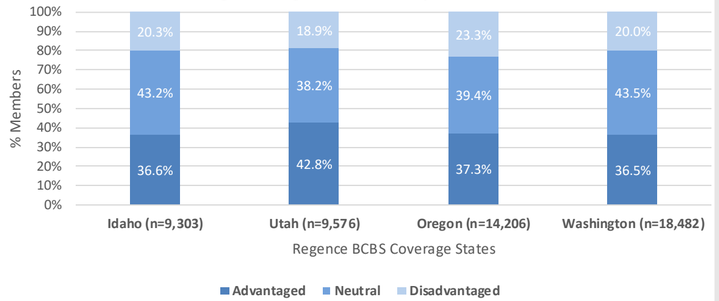


Figure 6: Migraine Members by State/ADI



Results

- Over 150,000 paid migraine Rx claims were identified; more came from advantaged areas (42.5%), with fewer from disadvantaged areas (14.9%).
- The four most common comorbidities (malaise, MDD, sleep disorders, obesity) occurred more frequently in advantaged members (36.2%) compared to disadvantaged members (22.9%).
- Emergency department and urgent care visits were more frequent among advantaged members (33.8%/38.6%) than those in disadvantaged areas (23.8%/20.7%).
- Opioid prescriptions were also more frequent among advantaged members (32.8%) compared to disadvantaged members (23.9%).
- CGRPs and Botox had the highest average Rx claims (6) per member with Triptans and Ditans trending lower average Rx claims (4) per member.

Limitations

- Findings may be influenced by insured status, as all members had commercial coverage, indicating generally higher healthcare access.
- ADI highlights area-level disparities but may miss individual socioeconomic differences.
- Z codes documenting patient-level SDOH (e.g., housing, income, food insecurity) may offer more precise insights than neighborhood-level indices.

Conclusions

- Members in higher ADI (more disadvantaged) areas were less likely to receive migraine therapy, despite similar insurance coverage. (figure 4)
- Social and geographic factors continue to impact access to recommended treatments. Incorporating social determinants of health (SDOH) into managed care may improve equity.
- Leveraging ADI data and z-codes, provider outreach, and formulary design can expand access to high-value therapies. Addressing these disparities may enhance both clinical and economic outcomes for migraine patients.

Acknowledgements / Disclosures

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