RWD172

Healthcare Utilization and Costs among Patients with Episodic Migraine Initiating Galcanezumab versus Rimegepant for Migraine Prevention in the United States

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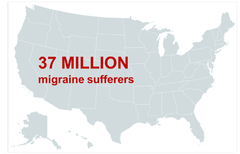
BACKGROUND

Economic impact of migraine in the US[1-3]



$52 billion/year Spent in migraine treatment

$36 billion/year Spent in healthcare costs and lost productivity

- In 2018, the US FDA approved the first calcitonin gene-related peptide monoclonal antibodies (CGRP mAb), for migraine prevention; these included galcanezumab, fremanezumab, and erenumab.[4-6]
- Oral CGRP antagonists, rimegepant, and atogepant for migraine prevention were FDA approved in 2021. For acute treatment of migraine, ubrogepant and rimegepant were FDA approved in 2019 and 2020, consecutively.[7-9]
- In two recent claims database studies, reductions in migraine-related medical visits and other migraine-related preventive and acute medication costs were observed with CGRP mAbs over time; the magnitude of reductions were significantly higher in CGRP mAb vs. traditional standard of care.[10,11]
- However, there is lack of real-world data comparing the injectable CGRP mAb vs. oral CGRP antagonists for migraine prevention. This study examines all-cause and migraine-related healthcare resource utilization (HCRU) and costs in patients with episodic migraine who initiate galcanezumab vs. rimegepant.[12]

OBJECTIVE

To compare all-cause and migraine-related HCRU (inpatient, ER, outpatient, and pharmacy) and costs among US patients with episodic migraine initiating the following for migraine prevention

Galcanezumab		***Rimegepant***
(GMB; monthly subcutaneous injectable)	**vs.**	(RIME; orally disintegrating tablet taken every other day)

*All-cause HCRU and costs include any claims (both migraine and other disease-related) captured during the study
*Migraine-related HCRU and costs include claims that contain a migraine diagnosis or migraine specific prescription pharmacy claims

CONCLUSION

- Both GMB and RIME cohorts showed increase in all-cause and migraine-related total costs over time.
- The magnitude of total cost increase was significantly lower for all-cause and migraine-specific costs in GMB cohort vs RIME cohort during the 1-year follow-up.
- These findings may aid informed decision making by clinicians and payers in selecting appropriate preventive and acute migraine medications for effective migraine management.

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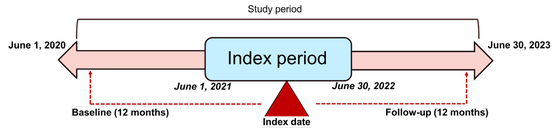
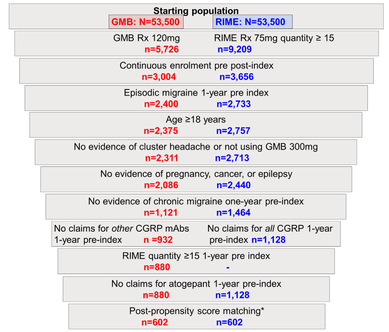
STUDY DESIGN

- This retrospective, observational study used de-identified claims data from the Merative™ MarketScan® Database.
- Index date was the earliest galcanezumab prescription claim (for GMB cohort) or rimegepant prescription claim (for RIME cohort).



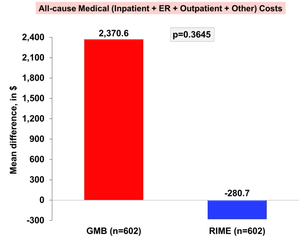
RESULTS: PATIENT ATTRITION

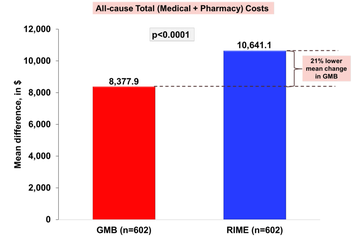


*Cohorts were matched on (age, sex, region, provider type, and the following during baseline: back pain, COVID, chronic pain, GERD, headache, hyperlipidemia, nausea, obesity, stroke, anxiety, asthma, depression, diabetes, fibromyalgia, osteoarthritis, sleep disorder, preventive migraine medication use, beta blocker use, antiepileptic use, tricyclic antidepressant use, acute migraine medication use, CGRP/gepant use, triptan use, anti-emetic use, NSAIDS use, opioid use, ubrogepant use, rimegepant (days supply less than 9), total all cause costs, and total migraine costs)

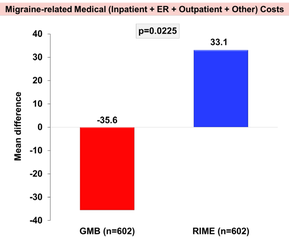
KEY RESULTS

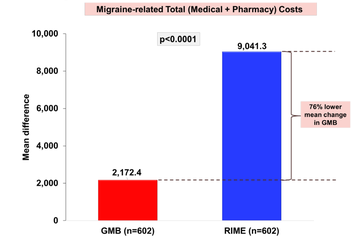
Compared to RIME, GMB resulted in a higher mean change from baseline to follow-up in all-cause medical costs; overall 21% lower mean change in all-cause total medical+pharmacy costs





Compared to RIME, GMB resulted in greater cost savings in migraine-related total medical costs and 76% lower mean cost increase in migraine related total medical+pharmacy cost during follow-up





METHODS

Inclusion criteria

- ≥1 claim for GMB 120 mg or RIME 75 mg between June 1, 2021, and June 30, 2022
- For rimegepant, only claims with quantity of ≥15 were counted for preventive use (as rimegepant is indicated to be used every other day for preventive use)
- Continuous enrolment with medical and pharmacy benefits in the 12 months before and after index date
- ≥1 medical claim with an ICD-10-CM diagnosis code for episodic migraine (for episodic cohorts in primary objectives) during the baseline or on the index date.
- ≥18 years old at index date

Exclusion criteria

- Patients with the following:
  - Evidence of cluster headache diagnosis during study period or preventive treatment dosing indicated for cluster headache (i.e. GMB 300mg)
  - Chronic migraine during baseline or index date
  - Pregnancy, cancer, or epilepsy diagnosis during the study period
- **For GMB Cohort:** any claims for other CGRP mAbs and gepants (rimegepant quantity ≥15* and atogepant) indicated for prevention during baseline or on index date
- **For RIME Cohort:** any claims for CGRP mAbs and atogepant indicated for prevention during baseline or on the index date

Statistical analysis

- Patients categorized to either GMB or RIME cohorts were matched using propensity score matching (PSM) in a 1:1 ratio based on select demographic, clinical, and migraine treatment characteristics.
- Change from baseline in all-cause and migraine-related costs and HCRU between matched cohorts were examined using Wilcoxon signed rank test and chi-square test.

*Rimegepant (quantity<15) and Ubrogepant (oral CGRP antagonists/gepants for acute administration) permitted as concurrent acute medication in both cohorts.
Non-CGRP migraine SOC concurrent medications (acute and prevention) were permitted in both cohorts.

RESULTS

Baseline Patient demographics, clinical, and migraine treatment in matched cohorts

Characteristics	GMB n=602	RIME n=602
Age (years), mean (SD)	43.4 (11.0)	44.0 (11.0)
Female, n (%)	531 (88.2%)	539 (89.5%)
Type of provider*		
Missing	74 (12.29%)	69 (11.46%)
Neurologist	85 (14.12%)	85 (14.12%)
Other	277 (46.01%)	281 (46.68%)
PCP	166 (27.57%)	167 (27.74%)
Comorbidities during baseline, n (%)		
Anxiety	257 (42.69%)	248 (41.20%)
Back pain	247 (41.03%)	247 (41.03%)
Headache	158 (26.25%)	162 (26.91%)
Hypertension	153 (25.42%)	170 (28.24%)
Hyperlipidemia	151 (25.08%)	158 (26.25%)
Depression	149 (24.75%)	156 (25.91%)
Any acute migraine medications use at baseline, n (%)	578 (96.01%)	583 (96.84%)
Any preventive migraine medications use at baseline, n (%)	330 (54.82%)	343 (56.98%)

All standardized mean differences for the variables in both the cohorts were <0.05. Acute medication included: Antiemetics, acetaminophen, NSAID, barbiturate (butalbital), ergotamine, isometheptene, opioids, triptans, ditan (lasmiditan), ubrogepant, rimegepant (quantity less than 9). Preventive medication included tricyclic antidepressants, beta blockers, angiotensin receptor blockers, calcium channel blockers, botulinum toxin A.

All-cause total medical and pharmacy HCRU were higher during the 1-year follow-up in both GMB and RIME cohorts when compared to the baseline

	GMB n=602				RIME n=602			
	Baseline		Follow-up		Baseline		Follow-up	
	n (%)	Mean (SD)	n (%)	Mean (SD)	n (%)	Mean (SD)	n (%)	Mean (SD)
Inpatient	48 (7.97%)	2.46 (16.19)	51 (8.47%)	1.97 (9.86)	41 (6.81%)	2.16 (12.63)	35 (5.81%)	2.32 (19.14)
ER	154 (25.58%)	1.79 (4.45)	155 (25.75%)	1.85 (4.57)	176 (29.24%)	2.36 (6.17)	139 (23.09%)	2.14 (6.31)
Outpatient	601 (99.83%)	44.51 (55.29)	601 (99.83%)	52.22 (77.55)	600 (99.67%)	46.07 (63.89)	599 (99.50%)	44.37 (53.61)
Other*	602 (100%)	58.72 (61.63)	602 (100%)	64.51 (72.23)	601 (99.83%)	53.75 (54.76)	602 (100%)	55.36 (45.17)
Total Medical	-	107.47 (96.77)	-	120.54 (123.14)	-	104.36 (102.82)	-	104.18 (92.21)
Pharmacy	602 (100%)	45.04 (31.49)	602 (100%)	53.39 (36.38)	600 (99.67%)	40.28 (34.93)	602 (100%)	46.47 (34.33)

ER, Emergency room; GMB, Galcanezumab; RIME, Rimegepant; SD, Standard deviation
*Other medical HCRU includes home health care, pharmacy administration and outpatient services, skilled nursing facility, telehealth, and surgical center locations

Migraine-related pharmacy HCRU was higher during the 1-year follow-up in both GMB and RIME cohorts when compared to the baseline

	GMB n=602				RIME n=602			
	Baseline		Follow-up		Baseline		Follow-up	
	n (%)	Mean (SD)	n (%)	Mean (SD)	n (%)	Mean (SD)	n (%)	Mean (SD)
Inpatient	1 (0.17%)	0.02 (0.57)	2 (0.33%)	0.08 (1.53)	1 (0.17%)	0.04 (1.02)	0 (0%)	0 (0)
ER	39 (6.48%)	0.27 (1.43)	28 (4.65%)	0.21 (1.21)	39 (6.48%)	0.27 (1.26)	27 (4.49%)	0.25 (1.96)
Outpatient	565 (93.85%)	5.84 (13.01)	527 (87.54%)	5.95 (12.84)	552 (91.69%)	5.03 (9.84)	476 (79.07%)	4.81 (11.98)
Other	142 (23.59%)	0.50 (1.88)	144 (23.92%)	0.42 (1.28)	114 (18.94%)	0.32 (0.82)	107 (17.77%)	0.33 (1.15)
Total Medical	-	7.30 (15.45)	-	6.88 (14.08)	-	5.92 (11.19)	-	5.65 (13.22)
Migraine related pharmacy	581 (96.51%)	12.19 (10.77)	585 (97.18%)	13.50 (11.61)	579 (96.18%)	12.38 (10.98)	602 (100%)	16.24 (12.31)

ER, Emergency room; GMB, Galcanezumab; RIME, Rimegepant; SD, Standard deviation
*Other medical HCRU includes home health care, pharmacy administration and outpatient services, skilled nursing facility, telehealth, and surgical center locations

LIMITATIONS

- The study lacked data on baseline migraine severity.
- Claims data does not capture over the counter medication utilization and subject to data coding or data entry error leading to misclassification bias.
- While we defined acute vs. preventive use for each rimegepant prescription fill based on the label, we could not confirm whether patients consumed as defined.
- As this study included patients with commercial insurance, the finding may not be generalizable to individuals with other insurance types or no insurance.

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Disclosures: GK, MH, JD, AW, and LV are employees and minor share holders of Eli Lilly and Company.

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