

# Migraine Diagnoses Among United States Employees from 2017 to 2022: Real World Evidence of Calcitonin Gene-Related Peptide Inhibitors (CGRPi) and Short-term Disability Utilization

Richard A Brook, MS, MBA<sup>1, 2, 3</sup>; Alek A. Drnach<sup>4</sup>; Chester Bernie Good, MD, MPH<sup>5</sup>; Samuel K. Peasah, PhD, MBA<sup>5</sup>; Eric M. Rosenberg, MA<sup>4</sup>.

<sup>1</sup>Better Health Worldwide, Newfoundland, NJ. <sup>2</sup>The National Payor Roundtable, Glastonbury, CT. <sup>3</sup>National Association of Specialty Pharmacy, Washington, DC. <sup>4</sup>Workpartners, LLC, Pittsburgh, PA. <sup>5</sup>Center for High-Value Health Care, UPMC Health Plan, Pittsburgh, PA. Workpartners, LLC, Loveland, CO.

## Background

- Persons with Migraine (PwM) headaches have increased workplace absences.
- Calcitonin gene-related peptide inhibitors (CGRPi):
  - Aim to reduce the impact of migraines
  - Often require prior authorization based on a diagnosis (Dx) and migraine frequency
  - Are given to people with higher frequency of migraines for prevention
- We explored US employees' annual PwM diagnoses, CGRPi use, prescription costs, and short-term disability (STD) utilization.

## Objective

- To characterize migraine diagnoses, prescriptions and short-term disability (STD) claims of employees with migraines and those initiating a CGRPi from 2017 to 2022.

## Study Population

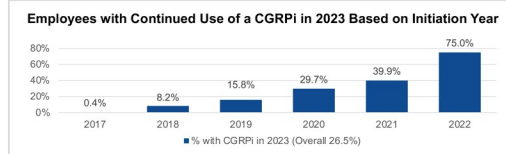
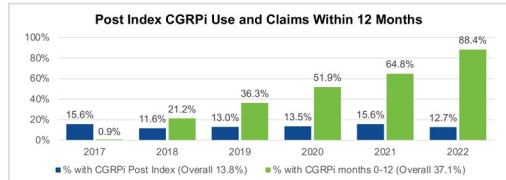
- US employees within the Workpartners Research Reference Database (RRDB) from 2001 to present, covering all US states:
  - Medical and pharmaceutical claims for over 5.5 million employees and dependents Enhanced employee demographics (including race and marital status)
  - Job-related employee information (salary, job type, full/part-time status, exemption/exempt status)
  - Claims with absence durations and payments for employee populations eligible for STD=1.3 million, LTD=1.2 million, WC=2.8 million
  - Dental (21.2 million) and vision claims (12.0 million)
  - Self-assessed presenteeism records for 185,094 employees (579,042 total records)
- Workpartners RRDBs has been used for research on conditions including:
  - Disability and workers' compensation trends for employees with mental disorders and substance use disorders,<sup>3</sup> cancer,<sup>4</sup> and eye disorders<sup>5</sup>
  - The impact on employees of conditions such as rheumatoid arthritis,<sup>6</sup> bipolar disorder,<sup>7,8</sup> cancer,<sup>4</sup> diabetes,<sup>9</sup> eye disorders,<sup>5,9</sup> and multiple sclerosis<sup>10</sup>
  - Caregiver research on the impact of major depressive disorder with and without suicidal ideation,<sup>11</sup> pediatric asthma,<sup>12</sup> epilepsy,<sup>13</sup> cancer<sup>14</sup> and multiple sclerosis<sup>15</sup>

## Methods

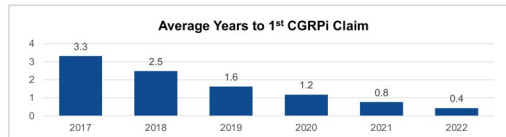
- Retrospective analysis of WorkPartners' Research Reference Database of employees.
- All subjects received an initial migraine Dx (ICD-10 G43.x) between 2017 and 2022.
- All employees had ≥1 year eligibility post-Dx with continuous data into 2023.
- Persons with Migraine (PwM) were reported based on their initial Dx year.
- Outcomes included:
  - Direct (plan plus employee medical and prescription) costs
  - Indirect costs and lost days due to STD claims (with a migraine Dx) anytime following their index date
  - Initial and use of CGRPi in 2023
- Cost data were inflation adjusted to December 2023.

## Results

- 16,588 Persons with Migraine (PwM) were identified with:
  - ≥77.9% females in each year and
  - An average of 13.8% had CGRPi claims
- Overall migraine Short-term Disability claims anytime post-index Dx annually:
  - Decreased from 2.4% to 0.7%
  - Mean claim durations ranged from 37 to 58.2 lost days/claim
  - Mean costs/claim ranged from \$6368 to \$12,370 with lost days per employee decreasing from 1.5 to 0.3 days
- Of the persons with migraines on a CGRPi, the percentage of members from 2017 – 2022:
  - Starting within 12 months post-Dx increased from 0.9% to 88.4%
  - Still using a CGRPi in 2023 increased from 0.4% to 75%
  - Have mean time until the first CGRPi claim decreasing from 3.3 to 0.4 years, suggesting that access to these drugs have improved



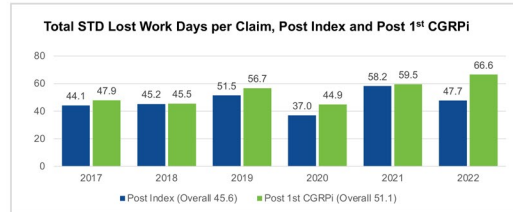
- Have mean time until the first CGRPi claim decreasing from 3.3 to 0.4 years, suggesting that access to these drugs have improved



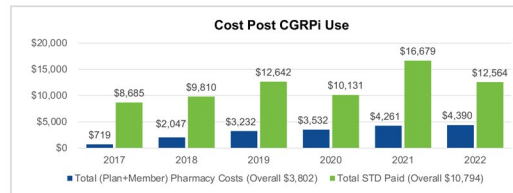
- Overall migraine Short-term Disability claims anytime post-index Dx annually:
  - Mean claim durations ranged from 37 to 58.2 lost days/claim
  - Mean costs/claim ranged from \$6368 to \$12,370



- Durations and costs are higher for those with a CGRPi, indicating a more severe disease state.



- In the 12 months post-Dx, mean CGRPi pharmacy claims ranged from 4.4 to 6.3 medications with mean direct cost/CGRPi claim increasing from \$470 in 2018 to \$758 in 2022.



## Conclusions

- The rate at which people are put on CGRPi has increased significantly since their inception.
- Access to a CGRPi has improved despite their high cost and prior authorization requirements.
- Short-term Disability (STD) claims per employee appear to be decreasing with time.

## Implications for Policy or Practice

- Understand the utilization trends of Calcitonin gene-related peptide inhibitors (CGRPis) and Short-term Disability (STD) by Persons with Migraines (PwM).
- CGRPi use is increasing for persons with a diagnosis of migraine headaches and frequent headaches and these persons may open STD claims.
- Specialty pharmacies need to understand how to manage the increased utilization of CGRPis and the needs of persons with migraines.

## References

- Goetzel RH, et al. *J Occup Environ Med.* 2003 Jan;45(1):5-14
- Chartson ME, et al. *J Chronic Dis.* 1987;40(5):373-83.
- Brook RA, et al. *Mental Health Clinician* (2021) 11 (5): 279–286.
- Brook RA, et al. *J Oncol Res Ther* 7: 10142.
- Brook RA, et al. *Am Health Drug Benefits.* 2023 [Web Exclusive]
- Kleinman NL, et al. *J Occup Environ Med.* 2013;55(3):240.
- Gardner HH, et al. *J Clin Psychiatry.* 2006;67(18):1209-18.
- Brook RA, et al. *Am J Manag Care.* 2007;13(4):179-86.
- Brook RA, et al. *Postgrad Med.* 2015 Jun;127(5):455-62.
- Hersh CM, et al. *J Med Econ.* 2021;24(1):479-486.
- Kovadla H, et al. *Prim Care Companion CNS Disord.* 2021;12(234):20m02893.
- Kleinman NL, et al. *Ann Allergy Asthma Immunol.* 2009;103(2):114-20.
- Brook RA, et al. *Am Health Drug Benefits.* 2018;11(8):396-403.
- Brook RA, et al. *J Oncol Res Ther* 7: 10143.
- Hennin B, et al. *J Health Econ Outcomes Res.* 2023 Apr 13;10(1):91-101.

