

## Measure Overview and Rationale: Migraine Preventive Therapy (MPT)

### Description

The percentage of individuals  $\geq 18$  years of age with frequent use of acute migraine treatment medications that also received preventive migraine treatment medications.

A higher rate indicates better performance.

### Additional Information

<b>Intended Use</b>	Performance measurement for health plans.
<b>Data Sources</b>	Prescription claims, medical claims.
<b>Denominator</b>	Individuals $\geq 18$ years of age receiving acute migraine treatment medications with $\geq 12$ headaches within the denominator evaluation period.
<b>Exclusions</b>	Exclude individuals with any of the following: <ul style="list-style-type: none"> <li>• Cluster headache: Diagnosis of cluster headache at any time during the measurement year.</li> <li>• Tension-Type Headache: Diagnosis of tension-type headache at any time during the measurement year and no diagnosis of migraine during the measurement year.</li> </ul>
<b>Numerator</b>	The number of individuals from the denominator with $\geq 1$ prescription claims for a preventive medication during the measurement year.

### Rationale

Migraine ranks in the top 10 of the world's most disabling illnesses and continues to be under-recognized and undertreated.<sup>1,2</sup> Among neurologic conditions, migraine ranks second globally in terms of years lost to disability,<sup>3</sup> and according to the Global Burden of Disease Study in 2013, migraine is one of only eight chronic medical conditions that affect more than 10% of the world population.<sup>4</sup> It is estimated that 12% of the U.S. is affected by migraine,<sup>5,6</sup> or about one in seven Americans.<sup>6-8</sup> Worldwide, only 40% of those with migraine are professionally diagnosed.<sup>1</sup>

Migraine can lead to significant decreases in quality of life. Migraine reduces health-related quality of life more than osteoarthritis or diabetes.<sup>9</sup> In one study 78% of patients reported that migraine affected their ability to do everyday activities, 69% of patients reported affects to their social function, and 59% reported emotional impacts.<sup>10</sup> Migraine also poses significant societal burden. Impact and burden of migraine on worker productivity has been estimated to be an average of a loss of four workdays per year and 10 days of reduced productivity,<sup>10</sup> and estimated corporate costs due to migraine-related absenteeism and reduced job productivity total \$21.5 million and \$24.4 million.<sup>11</sup> Another study indicated that significantly more people with chronic migraines than people with episodic migraines were unemployed.<sup>7</sup> In 2018, approximately 40% of adults with migraines in the US were unemployed, and a similar proportion were classified as poor or near poor.<sup>2</sup>

In 2016, migraine accounted for approximately 4 million emergency department visits in the US, and over 4.3 million office visits.<sup>2</sup> In the US, migraine is associated with annual total costs estimated to be between \$27 billion to \$56.31 billion.<sup>3,5,12</sup> An analysis of data from the Household Component of Medical Expenditure Survey found that mean total migraine-specific expenditures were significantly different between high-cost patients, who are among the top 10th percentile of direct healthcare costs and indirect costs, and medium- or low-cost patients (\$14,348 versus \$1,373 and \$14, respectively).<sup>5</sup> Direct costs were largely associated with primary care (~50%), outpatient specialty (~20%), and emergency department visits (~15%).

Among the risk factors for migraine progression, acute symptomatic medication overuse (SMO) or medication-overuse headache (MOH) is one of the most significant.<sup>13,14</sup> It has been shown that frequent use of acute migraine medications increases the risk of transforming episodic migraines into chronic migraines.<sup>14</sup> Patients

taking large amounts of acute migraine treatment medications are eligible for preventive migraine treatment medication. Preventive care can decrease the occurrence of migraines by 50-80% and reduce the severity and duration of migraines that do occur.<sup>1, 4</sup> However, patients suffering from chronic migraine may not receive the adequate care needed, due to undertreatment, under-diagnosis, etc. A large proportion of patients do not receive the necessary preventive therapy, leading to more headache days, increased morbidity, and higher societal cost.<sup>4</sup> Although approximately 38% of patients who have episodic migraines would benefit from preventive migraine medication treatment, only 3-13% receive it.<sup>10, 15, 16</sup> Preventive treatment for migraine can decrease the number and severity of headache attacks, and prevent progression from episodic migraines to chronic migraines, which improves health outcomes and quality of life.<sup>4</sup> The goals of migraine preventive medication therapy are to: 1) reduce the frequency, severity, and duration of acute attacks; 2) improve responsiveness to and avoid escalation in use of acute medication treatment; 3) improve function and reduce disability; 4) reduce reliance on poorly tolerated, ineffective, or unwanted acute treatments; 5) reduce overall cost associated with migraine treatment; 6) enable patients to manage their own disease to enhance a sense of personal control; 7) improve health-related quality of life; and 8) reduce headache-related distress and psychological symptoms.<sup>3, 17</sup>

Preventive migraine medication treatments have been shown to decrease diagnosis-related office and other outpatient visits by 51% during the second six months after initial preventive treatment, as well as decrease ED visits with migraine diagnosis by 81.8%, CT scans by 75%, MRIs by 88.2%, and other migraine medication dispensements by 14.1%.<sup>18</sup> Migraine patients treated with either acute or preventive migraine medications (OR = 0.81, 95% CI = 0.72-0.92) or both (OR = 0.93, 95% CI = 0.89-0.98) were also significantly less likely than untreated patients to have short-term disability claims.<sup>12</sup>

According to the 2012 US Headache Consortium Guidelines, patients with four or more headache days with functional disability, or three or more headache days per month resulting in disability requiring bed rest, should be offered migraine preventive medication. The Institute of Clinical Systems Improvement specifically recommends a threshold for preventive migraine treatment as three or more severe migraines per month that fail to respond adequately to abortive treatment.<sup>19</sup> The American Headache Society recommendations for consideration of patients for preventive treatment align with recommendations of the latter two guidelines, and additionally includes patients with contraindication to, failure, or overuse of acute treatments, and patient preference.<sup>3</sup> Consistent with these guidelines, this measure identifies patients who might benefit from preventive migraine treatment medications where frequent migraine is defined as four or more migraines per month during the last 120 days that result in treatment with a prescription abortive medication. Since it is not possible to directly quantify migraines, quantification of acute migraine treatment medications against a threshold is used as a proxy for frequent migraines. Commonly used preventive migraine treatment medications include anticonvulsants, beta-blockers, calcium channel blockers, and tricyclic antidepressants. Recommended first-line preventive migraine treatment medications include propranolol, timolol, amitriptyline, and valproic acid derivatives; however, other medications from these therapeutic classes may be appropriate.<sup>17, 20</sup>

Quality measures are a tool to target and fill gaps in care, like those for the treatment of migraine headache. Furthermore, performance metrics that link outcomes directly attributable to effective migraine medication management can lead to: decreased healthcare utilization and associated costs with poor prophylactic management; increased quality of life for patients; and improved shared decision-making. The American Academy of Neurology has developed several measures that assess headache. However, scientifically acceptable performance measures that focus on preventive treatment of migraine are lacking.<sup>21</sup>

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