American Academy of Neurology

Headache
Quality Measurement Set

FINAL

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Physician Quality Measures (Measures) and related data specifications developed by the American Academy of Neurology (AAN) are intended to facilitate quality improvement activities by physicians.

These measures are intended to assist physicians in enhancing quality of care. Measures are designed for use by any physician who manages the care of a patient for a specific condition or for prevention. The AAN encourages use of these Measures by other health care professionals, as appropriate. These Measures are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications. The AAN encourages testing and evaluation of its Measures.

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TOWARDS IMPROVING OUTCOMES FOR PATIENTS WITH HEADACHE

The American Academy of Neurology (AAN) formed a multi-disciplinary Headache Work Group (Work Group) to identify and define quality measures towards improving outcomes for patients with headache. The majority of the available evidence that supported a gap in care focused on migraine headache with some additional reports that concentrated on primary headache disorders. Therefore, this measurement set is focused on migraine headache and primary headache disorders.

The Work Group sought to develop measures to support the delivery of high quality care and to improve patient outcomes. The Work Group based these measures on available clinical evidence that was focused on gaps in care in need of marked improvement. The Work Group considered the development of process, outcome, individual practitioner level and system level quality measures, where appropriate. The focus was on quality that would be applicable to patients with a diagnosis of migraine headache, cluster headache, or primary headache disorders. The background information provided below is strictly informational and may be used to help guide any future submissions of the measures for pay-for-reporting, pay-for-performance, or accountability programs.

Importance of Topic

Prevalence and Incidence

- General:
  - Headaches are among the most prevalent neurological disorders and are among the most frequent symptoms seen in general practice.[1]
  - Headache disorders affect more than 90% of all Americans.[2] It has been estimated that 47% of the general adult population have headache at least once within last year.[2]
  - Headache disorders are associated with personal and societal burdens of pain, disability, damaged quality of life, and financial cost.[2]
  - The World Health Organization (WHO) has identified primary headaches as a major public health problem due to their high prevalence, widespread age and geographic distribution, and significant functional and socioeconomic impact.[3]
- Migraine
  - Migraine ranks in the top 20 of the world's most disabling medical illnesses.[1]
  - In US population studies, the prevalence of migraine is approximately 18% in women and 6% in men.[4,5,6] The prevalence of migraine in children is 7.7%.[7] Migraines affect 29.5 million Americans.[8]
  - Compared with a slightly higher proportion of 22.7% in the National Health and Nutrition Examination Survey (NHANES), the 2011 National Health Interview Survey (NHIS) suggested 16.6% of adults 18 or older reported having migraine or other severe headaches in the last 3 months.[9]
  - The American Migraine Prevalence and Prevention (AMPP) study found an overall prevalence of migraine of 11.7% and probable migraine of 4.5%, for a total of 16.2%[9]
  - Data from National Ambulatory Medical Care Survey/National Hospital Ambulatory Medical Care Survey showed that head pain was the fifth leading cause of emergency department (ED) visits overall in the US and accounted for 1.2% of outpatient visits. The burden of headache was highest in females 18-44 years of age, where the 3-month prevalence of migraine or severe headache was 26.1% and head pain was the third leading cause of ED visits. The prevalence and burden of headache was substantial even in the least

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affected subgroup of males 75 or older, where 4.6% reported experiencing severe headache or migraine in the previous 3 months. [9]
    - Triptans accounted for almost 80% of anti-migraine analgesics prescribed at office visits in 2009, nearly half of which were for sumatriptan. Migraine is associated with increased risk for other physical and psychiatric comorbidities, and this risk increases with headache frequency.[9]
    - Migraine remains under-recognized and undertreated.[8]
    - Chronic migraine (CM) is the most disabling of the four types of primary chronic daily headache (CDH) of long duration, a syndrome defined by primary headaches 15 or more days per month for at least 3 months with attacks that last 4 hours or more per day on average. CM affects approximately 2% of the adult population in Western countries, imposing substantial burdens on individual sufferers and their families and more broadly upon society. Although this disorder is highly disabling and prevalent, it remains largely underdiagnosed and undertreated.[10]
    - Global estimates of chronic migraine prevalence using various definitions typically range from 1.4% to 4%.[1,11]
    - In the US population, the prevalence of CM was nearly 1%. In adjusted models, CM prevalence was highest among females, in mid-life, and in households with the lowest annual income. Severe headache-related disability was more common among persons with CM and most common among females with CM.[11]

- Tension Type Headache (TTH):
    - TTH is the most prevalent primary headache disorder, more common than migraine with lifetime prevalence of 52%.[7]
    - TTH is more prevalent and has a higher incidence in women.[12]

- Cluster Headache (CH)
    - CH is relatively uncommon affecting less than 1 in 1000 adults, affecting six men to each woman. [1] However, CH attacks are among the most severe pain conditions known.[2]
    - Most people developing CH are in their 20s or older.[1]

- Chronic Daily Headache (CDH):
    - CDH is defined as >15 headaches per month.[13]
    - The average prevalence of CDH is 3-5% of the population.[13]
    - CDH is more common in women than men.[13]

Mortality and Morbidity

- Headaches, notably migraine, are associated with significant disability.[14]
- Migraine is strongly associated with anxiety and mood disorders, chronic pain disorders, and epilepsy.[7]
- Headache can be attributed to comorbid conditions which need adequate management.[7]
- Migraine is associated with increased risk for other physical and psychiatric comorbidities and this risk increases with headache frequency.[14]

Office Visits, Emergency Room Visits, and Hospitalizations

- Data from National Ambulatory Medical Care Survey/ National Hospital Ambulatory Medical Care Survey showed that head pain was the fifth leading cause of ED visits overall in the US and accounted for 1.2% of outpatient visits.[14]

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- The burden of headache was highest in females 18-44 years of age, where the 3-month prevalence of migraine or severe headache was 26.1% and head pain was the third leading cause of ED visits. [14]

Quality of Life

- 90% of people with headache have some headache-related disability, and approximately half are severely disabled or require bed rest.[7]
- Migraine reduces health-related quality of life more than osteoarthritis or diabetes.[14]
- Disability:
    - 9 out of 10 people with headache report they can't "function normally" during days in which a migraine strikes and 3 in 10 require bed rest.[8]
    - More than 25% of migraine sufferers missed at least one day of work over the past three months due to a migraine.[8]
    - Nearly 50% of sufferers report their migraines prevented them from doing household chores.[8]
    - Approximately 30% of people with headache did not participate in a family or social activity due to a migraine.[8]
- Chronic TTH causes significant disability.

Costs

- Migraine headache is a highly prevalent, chronic, episodic disorder that is associated with high direct and indirect costs.[15]
- Financial cost of headache arises partly from direct treatment costs. Loss of work time and productivity account for most of the cost of headache. The annual US direct medical costs attributable to migraine were estimated at $1 billion in 1999.[5]
- Headache disorders are among the most costly and disabling medical conditions.
    - The US annual direct and indirect economic costs of headache disorders exceed $31 billion.[2]
    - Headache disorders are responsible for 9% of all US lost labor productivity.[2]
    - According to a WHO analysis, migraine alone is responsible for at least 1% of the total US medical disability burden and severe migraine attacks are as disabling as quadriplegia.[2]
- In one study, patients with migraine (n=215,209) had significantly higher average health care expenditures compared with matched controls ($7,007 vs. $4,436 per person per year; difference of $2,571; P<.001). Migraine-associated national expenditure estimates include outpatient care$5.21 billion; prescriptions $4.61 billion; inpatient care $0.73 billion; and ED care $0.52 billion.[16]

Opportunities for Improvement

- Some measures exist for headache, notably migraine, but there is a strong need for valid and reliable quality of care measures for migraine disease management. These measures are also needed on the health plan level.[15]
- A minority of people with headache disorders worldwide are diagnosed appropriately by a health care provider.[1]
- Headache has been underestimated, under-recognized, and under-treated throughout the world.[1]
- Prophylactic Treatment of Headache:
    - Epidemiological studies suggest approximately 38% of people with headache need preventative therapy but only 3-13% currently use it.[17]
    - Preventive therapies can decrease the occurrence of migraines by 50 to 80% and reduce the severity and duration of migraines that do occur.[1]

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- The AMPP study found that approximately 12% of Americans have migraines and approximately 40% could benefit from preventative therapies.[17]

Disparities

- In 2013, Smitheran, et al. concluded that 1) migraine/severe headache is more common among females than males, with a peak sex prevalence ratio of roughly 3:1 during midlife; data suggest that roughly 1 in every 4 women will experience migraine; (2) prevalence peaks between early and middle adulthood and declines substantially thereafter; (3) prevalence is inversely related to income and educational attainment; (4) migraine is significantly disabling and burdensome; and(5) migraine is associated with increased rates of medical and psychiatric comorbidities. These general conclusions are consistent with those from the migraine-specific AMPP study, supporting the view that most of the "severe" headaches reported in the NHIS and NHANES are in fact migraine.[14]
- There is an equal sex ratio for TTH.[7]
- Cross-sectional data from the Frequent Headache Epidemiology (FHE) study and the AMPP study show that patients with chronic daily headaches have lower levels of education and household income. In addition, epidemiologic profiles show that CM sufferers tend to be older and have higher body mass indexes.[18]

Rigorous Clinical Evidence Base

Clinical practice guidelines and peer-reviewed papers served as the foundation or evidence-base for the development of these headache quality measures. The majority of the guidelines focused on migraine headache.

Many guidelines use a less rigorous, less transparent process for guideline development than the AAN and the Work Group prefers. Notably, the guideline developed by the European Federation for Neurological Sciences (EFNS) uses a much less rigorous process than the AAN. Selected guidelines met the required elements outlined in the AMA convened Physician Consortium for Performance Improvement® (PCPI®) framework for the consistent and objective selection of clinical practice guidelines from which measures may be derived.[19] Guideline recommendations or peer reviewed literature that followed a much more rigorous guideline development process are listed as supporting evidence for the measures. Evidence papers from the AAN, US Headache Consortium, American Headache Society, EFNS, Scottish International Guideline Network, National Institute for Health and Clinical Excellence, Department of Veteran Affairs/Department of Defense, GroupHealth, AMPP study articles, and other peer-reviewed publications were used as the evidence base for the measures in this measurement set.

Desired Outcomes for Patients with Primary Headache Disorders

Before any headache quality measures were drafted the Work Group focused on identifying the "desired outcomes for patients with headaches." The desired outcomes served as the goal(s) for the measures that were developed for this measurement set.

The Work Group developed two patient reported outcome measures that are included in this measurement set. These outcome measures are patient reported outcome measures focused on quality of life and disability due to headache. It should be noted that the disability due to headache measure is a system- level measure that was designated for quality improvement only due the paucity of strong, high-level guideline recommendations to support the implementation of the measure in an accountability program.

<u>Desired outcomes for patients with Headache include:</u>

1. Reduce inappropriate utilization of diagnostic tests for the evaluation of headache.
2. Reduce improper selection of headache (phenotype specific) acute treatments.

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3. Increase use of appropriate prophylactic headache therapies.
4. Formalize the approach to evaluate headache in primary care with standardized tools.
5. Reduce overutilization of neuroimaging for atraumatic headache with a normal neurologic evaluation.
6. Maintain or improve the quality of life of headache sufferers.
7. Improve care coordination between the ED, primary care physicians, neurologists and other clinicians who manage the care of patients with headache.
8. Engage patients to take an active role in their own care and treatment.
9. Understand headache-related disability on the system level to point out where improvements can be made (risk stratified by headache severity, provider type, socioeconomic status, etc. as appropriate).

Intended Audiences, Care Settings, and Patient Population

The AAN encourages the use of the headache quality measures by physicians and other health care professionals, where appropriate, to manage the care for patients with headache, including migraine, primary headache disorders, or cluster headaches. These measures are intended to be used to calculate performance or reporting rates at the practitioner level or system level. Quality measurement may not achieve the desired goal of improving patient care by itself. Measures have their greatest impact when they are used appropriately and are linked directly to operational steps that clinicians, patients, and health plans can apply in practice to improve care.

Headache Work Group Recommendations

The measurement set includes measures that focus on appropriate medication use, overuse of treatments and therapies, patient reported outcomes, and patient engagement and care coordination. Current gaps in providing high-quality patient care for headache and improving patient outcomes emphasize the need to improve specific processes for the care and management of headache patients. As a result, many of the measures in the Headache measurement set focus on the provision of appropriate patient-centered care and treatment. All but one measure in this measurement set (Headache Related Disability) are designed for individual practitioner level quality improvement. However, the measure data may be aggregated up from the individual practitioner level to the clinic or system level to look at the quality of care being delivered as a whole. Unless otherwise indicated, the measures are also appropriate for accountability if the appropriate methodological, statistical, and implementation rules are achieved.

Overuse Measures

Overuse is defined as the use of a service that is unlikely to improve patient outcomes or for which potential harms exceed likely benefits. There are two issues specific to overuse measures that set them apart from other types of quality measures. According to the National Quality Forum and the AMA PCPI, the level of evidence for overuse measures does not need to come from randomized controlled trials and guidelines; and lower levels of evidence may be used if it the majority of experts doubt the service is of value to the target population. Developers may rely on assessment of the quality, quantity, and consistency of evidence to serve as the foundation for an overuse measure.[20] The AAN followed this methodology in the development of its outcome measures.

The outcome measures in this measurement are patient reported outcomes. They rely on patient reports to define quality of life or categorize disability due to headache. Subjective ratings of headaches are the "gold standard" in behavioral headache research.[21] Primary headache measures include the attack frequency or headache days per month. Secondary measures of headache may include headache activity, headache index, headache duration, peak headache severity, and/or frequency of severe headaches per month. Secondary measures of disability and quality of life include Migraine Disability Assessment (MIDAS), Headache Impact Test (HIT), and Headache Disability Inventory (HDI). A baseline period that is adequate for each measure needs to be considered. A minimum of four weeks is recommended for most tools (MIDAS's minimum is 90

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days between evaluations) for primary headache measures. This period was as the basis for the quality of life measure included in this measurement set.

Headache Measures
Appropriate Medication Use (Process Measures)
1. Medication Prescribed For Acute Migraine Attack
2. Medication Prescribed For Acute Cluster Headache
3. Preventive Migraine Medication Prescribed
Overuse Measures (Process Measure)
4. Overuse Of Barbiturate Containing Medications For Primary Headache Disorders
5. Overuse Of Opioid Containing Medication For Primary Headache Disorders
6a. Assessment Of Medication Overuse Headache In The Treatment Of Primary Headache Disorders *Paired measure with 6b.*
6b. Plan of Care Or Referral For Possible Medication Overuse Headache *Paired measure With 6a*
7.Overuse Of Neuroimaging For Patients With A Primary Headache And A Normal Neurological Examination
Outcome Measures
8. Quality Of Life Assessment For Patients With Primary Headache Disorders
9. Migraine Headache Related Functional Disability Status
Patient Engagement and Care Coordination
10. Plan Of Care For Migraine Headache Developed Or Reviewed

Institute of Medicine (IOM) Domains of Health Care Quality

The landmark IOM report *Crossing the Quality Chasm: A New Health System for the 21st Century* challenged all healthcare organizations to purse six major aims of health care improvement: safety, timeliness, effectiveness, efficiency, equity, and patient centeredness. Please see below for how the Work Group feels these quality measures fit into the scope of these six major aims.

Measure	Safe	Effective		Patient-Centered	Timely	Efficient	Equitable
		Underuse	Overuse				
Medication Prescribed For Acute Migraine Attack	X	X		X	X	X	
Medication Prescribed For Acute Cluster Headache	X	X		X	X	X	
Preventive Migraine Medication Prescribed	X	X		X	X	X	
Overuse Of Barbiturate Containing Medications For Primary Headache Disorders	X		X				
Overuse Of Opioid Containing Medication For Primary Headache Disorders	X		X	X			

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Assessment Of Medication Overuse Headache In The Treatment Of Primary Headache Disorders *Paired measure with 6b.*	X		X	X			
Plan of Care Or Referral For Possible Medication Overuse Headache *Paired measure With 6a*	X		X	X			
Overuse Of Neuroimaging For Patients With A Primary Headache And A Normal Neurological Examination	X		X			X	
Quality Of Life Assessment For Patients With Primary Headache Disorders	X			X			
Migraine Headache Related Functional Disability Status	X			X			
Plan Of Care For Migraine Headache Developed Or Reviewed	X			X	X	X	

Other Potential Measures

The Work Group considered several other important constructs in headache care, though ultimately determined that the evidence was too weak, the gap in care was too small, or the opportunity for improvement from the measure was too low to continue with the development of the measure and they were not suitable for inclusion in this measurement set at this time.

Measure Harmonization

Institute for Clinical Systems Improvement (ICSI)

When existing measures are available for the same measurement topic, the AAN attempts to harmonize the measures to the extent it is feasible. The AAN works to ensure there is no duplication of existing measures. ICSI has published several measures for headache. The AAN carefully reviewed the methodology that was used to develop the measures. While the aims of ICSI were similar to the desired outcomes and objectives of the AAN measure development Work Group, the measures did not use the same rigorous measure development process as the AAN including (i.e., multidisciplinary stakeholder group, citing specific guideline recommendations with the strength of evidence, public comment period, and technical specifications for the measures). While the intent of the some of the measures may be similar to those of the AAN, the rigor and thoroughness of the ICSI measure development process was found deficient. Therefore, the AAN did not further consider the ICSI measures for harmonization.

CMS Contractor Headache Measure on Overuse of Neuroimaging

The AAN was also made aware of another effort by a contractor working with the Centers for Medicaid and Medicare Services (CMS) to create a headache-specific measure focused on overuse of neuroimaging. There was enough difference in the contractor eligible denominator population and in the numerator specifications that the Work Group felt it was worthwhile to continue developing an AAN Imaging Overuse Measure to be used by primary care, EDs, neurologists, and other clinicians.

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Depression Measure

The AAN work group briefly considered the development of a measure focused on co-morbid psychiatric conditions associated with headache, namely depression. It was noted that CMS has already included measure 134/NQF 418, *Screening for Clinical Depression*, in its Physician Quality Reporting System (PQRS). This measure should be considered by clinicians when managing the care of patients diagnosed with headache. Available: CMS PQRS Website (www.cms.gov/pqri) or NQF website (www.qualityforum.org).

Existing Quality Improvement (QI) Initiative or Collaborative for Measure Implementation

The AAN has developed a performance in practice program for maintenance of certification (MOC). NeuroPI (http://tools.aan.com/practice/pip/) meets the American Board of Psychiatry and Neurology (ABPN) requirements for MOC Performance in Practice requirements. NeuroPI will be releasing a module on headache in 2014.

Technical Specifications Overview

The AAN develops technical specifications for multiple data sources, including:

- Paper Medical Record/Retrospective Data Collection Flow Sheet
- Electronic Health Record (EHR) Data
- Electronic Administrative Data (Claims)
- Expanded (multiple-source) Administrative Data

Administrative claims specifications are still being used for quality measure data collection and reporting. In the past the AAN has worked with the AMA to create Current Procedural Terminology (CPT®) Category II codes to simplify the reporting burden. However, since September 2013 the AMA is no longer producing or supporting the development of CPT® Category II codes. The AAN is in the process of identifying the clinical data model elements, creating the code value sets, and the drafting the logic required for electronic capture of the quality measures with EHRs. A listing of the quality data model elements, code value sets, and measure logic (through the CMS Measure Authoring Tool) for each of the headache measures will be made available at a later date.

Measure Exceptions and Exclusions

The AAN includes three possible types of exceptions or exclusions for reasons why a patient should not be included in a measure: medical, patient, or system reasons.

- Medical exception examples:
  - not indicated (absence of organ/limb, already received/performed, other)
  - contraindicated (patient allergic history, potential adverse drug interaction, other)
- Patient exception examples:
  - patient declined
  - social or religious reasons
  - other patient reasons
- System exception examples:
  - resources to perform the services not available
  - insurance coverage/payer-related limitations
  - other reasons attributable to health care delivery system

For each measure, there must be a clear rationale to permit an exception or exclusion for a medical, patient, or system reason. For some measures, specific exceptions have been provided in the measure specification language for why the patient should not be included in the measure. This is not an all-inclusive list. The AAN

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requests that physicians document the *specific* reasons for exception or exclusion in patients' medical records for purposes of optimal patient management and audit-readiness. The AAN also encourages the systematic review and analysis of each physician's exceptions and exclusions data to identify practice patterns and opportunities for quality improvement. Please refer to measure specifications for each individual measure for information on the acceptable exceptions to be used for reporting each individual measure.

Testing and Implementation of the Measurement Set

The measures in the set are being made available without any prior testing. The AAN recognizes the importance of testing all of its measures. The AAN plans to test those measures that meet the criteria for endorsement by the National Quality Forum or those measures that the AAN plans to submit for inclusion in pay-for-reporting, pay-for-performance, or accountability programs. The AAN welcomes the opportunity to collaborate on initial testing of these measures.

The AAN is also in the process of development measure worksheets and associated tools to aid in the implementation of the quality measures in practice by clinicians. Please check the AAN website for more information at: https://www.aan.com/practice/quality-measures/.

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21. Andrasik F, Lipchik GL, MCCrory Dc, Wittrock DA. Outcome measurement in behavioral headache research: headache parameters and psychosocial outcomes. *Headache* 2005; 45 (5): 429-37.

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MEASURE #1: MEDICATION PRESCRIBED FOR ACUTE MIGRAINE ATTACK

Headache

Measure Description

Percentage of patients age 12 years and older with a diagnosis of migraine who were prescribed a guideline recommended medication for acute migraine attacks within the 12 month measurement period.

Measure Components

Numerator Statement	Patients who were prescribed a guideline recommended medication for acute migraine attacks*within the 12 month measurement period. * Guideline recommended acute medications for acute migraine attack include the following but are not limited to: triptans, dihydroergotamine (DHE). Triptans and DHE are only examples of medications that may be used. The clinician should use his/her best judgment to prescribe a medication for acute migraine attacks to meet the specific needs of the individual patient. Note: There is an exception for this measure for patients whose migraines are controlled with over the counter (OTC) medications. Note: The above list of medications/drug names is based on clinical guidelines and other evidence and may not be all-inclusive or current. Physicians and other health care professionals should refer to the Food and Drug Administration's (FDA) web site page entitled "Drug Safety Communications" for up-to-date drug recall and alert information when prescribing medications.
Denominator Statement	All patients age 12 years old and older with a diagnosis of migraine headache.
Denominator Exceptions	Exceptions: • Medical exception for not prescribing a guideline recommended acute migraine medication (i.e., guideline recommended medication is medically contraindicated or ineffective for the patient; migraines are effectively controlled with OTC medications or with NSAIDs; patient is already on an effective acute migraine medication prescribed by another clinician; patient has no pain with migraine) • Patient exception for not prescribing a guideline recommended acute migraine medication (i.e., patient declines a prescription for any acute migraine medication) • System exception for not prescribing a guideline recommended acute migraine medication (i.e., patient does not have insurance to cover the cost of prescribed abortive migraine medication)
Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • Triptans for treatment of acute migraine attacks: Sumatriptan 25, 50, 100 mg (oral including rapid-release); 10, 20mg (nasal spray); 6mg (subcutaneous) (Level A) [1];Triptans for treatment of acute migraine attacks: Zolmitriptan 2.5, 5mg (oral including disintegrating form); 2.5, 5 mg (nasal spray) (Level A) [1];Triptans for treatment of acute migraine attacks: Naratriptan 2.5mg (oral) (Level A) [1];Triptans for treatment of acute migraine attacks: Rizatriptan 10 mg (oral including 5 mg when

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taking propranolol wafer form) (Level A) [1];Triptans for treatment of acute migraine attacks: Almotriptan 12.5 mg (oral) (Level A) [1];Triptans for treatment of acute migraine attacks: Frovatriptan 2.5 mg (oral) (Level A) [1]; Oral triptans are recommended for acute treatment in patients with all severities of migraine if previous attacks have not been controlled using simple analgesics. (Level A*) [2]; If a patient does not respond to one triptan an alternative triptan should be offered. (Level B) [2]; Triptans for treatment of acute migraine attacks: Eletriptan 20, 40 mg (oral) (Level A) [1]; Almotriptan 12.5 mg, eletriptan 40-or rizatriptan 10 mg, are the preferred oral triptans for acute migraine. (Level A) [2] Naratriptan PO; Rizatriptan PO; Sumatriptan SC, IN, PO; Zolmitriptan PO. (GROUP1)[3]; Almotriptan 12.5 mg, rizatriptan 10 mg, are the preferred oral triptans for acute migraine. (Level A) [2] Triptans for treatment of acute migraine attacks: Eletriptan 20, 40 mg (oral) (Level A) [1].

Children:

- Acute Treatment of Migraine: Ibuprofen is effective and should be considered for the acute treatment of migraine in children. (Level A)[4]
- Acute Treatment of Migraine: Acetaminophen is probably effective and should be considered for the acute treatment of migraine in children. (Level B)[4]
- Acute Treatment of Migraine: Sumatriptan nasal spray is effective and should be considered for the acute treatment of migraine in adolescents. (Level A)[4]
- In the US, almotriptan is approved by the FDA for acute migraine for ages 12 and older. Rizatriptan is approved for ages 6 years old and older. There are no specific guideline recommendations currently published on the use of these two drugs for children and adolescents. The last guideline on pharmacologic treatment for migraine in adolescents was published in 2004. There is a double-blind, placebo-controlled study of almotriptan in adolescents with positive results.[5]
- There is also a review (not a guideline) regarding almotriptan in adolescents.[6]

[1]EFNS guideline on the drug treatment of migraine – revised report of an EFNS task force. *Evers Afra Frese European J of Neurology* 2009, 16: 968–981 (EFNS: 2009; Drug treatment of migraine)
[2] Scottish Intercollegiate Guidelines Network (SIGN) Diagnosis and management of headache in adults Guideline 107. 2008; www.sign.ac.uk
[3] US Headache Consortium. Matchar D, Young W, Rosenberg J et al. Evidence-Based Guidelines for Migraine Headache in the Primary Care Setting: Pharmacological Management of Acute Attacks. Available at: https://www.aan.com/Guidelines/Home/GetGuidelineContent/7. Accessed 05.01.2013
[4]American Academy of Neurology. Lewis D, Ashwal S, Hershey A et al. Pharmacological treatment of migraine headache in children and adolescents. *Neurology*. 2004; 63; 2215.
[5] Linder SL, Mathew NT, Cady RK et al. Efficacy and tolerability of almotriptan in adolescents: a randomized, double-blind, placebo-controlled trial. *Headache*. 2008; 48(9):1326-36.
[6]Lewis DW. Almotriptan for the acute treatment of adolescent migraine. *Expert Opin Pharmacother*. 2010; 11(14):2431-6.

Rationale for the Measure
Migraine is under diagnosed and suboptimally treated in the majority of patients.

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The Work Group noted although there are no guidelines available, almotriptan is approved for ages 12-17 and rizatriptan was recently approved by the FDA for ages 6-17. The Work Group also noted that although the triptans in individuals less than 12 years old may be prescribed off label, there is limited or no evidence to support this.

Gap in Care
Only 29% of patients are satisfied with their acute migraine treatment.[1] Among persons with episodic migraine, 18.31% reported current use of triptans for acute headache treatment.[2] Triptan use increased with headache frequency, headache-related disability and allodynia, but decreased among persons with depression.[2] Less than 1 in 5 persons with migraine in the US who were respondents to this survey used triptans for acute headache treatment over the course of a year.[2]

In a population sample of individuals with episodic migraine (EM), more than 40% have at least one unmet need in the area of acute treatment. The leading reasons for unmet needs, which include headache-related disability and dissatisfaction with current acute treatment, suggest opportunities for improving outcomes for persons with EM.[3]

In an analysis of data from the 2005 American Migraine Prevalence and Prevention (AMPP) study, authors reported that 91.7% of respondents meeting criteria for EM used acute treatment for their headaches. Of these respondents, only 36.1% used migraine-specific medications. Triptans were used by 18.3% of the sample, opioids were used by 11.7% of the sample, and barbiturate medications were used by 6.1% of the sample.[4] According to another study, 21.87% of patients use triptans for acute treatment of migraine, 20% use ergots, 20.87% use opioids, and 13.52% use barbiturates.[5]

Opportunity for Improvement
Using the guideline recommended first-line acute treatments for migraine would provide superior pain relief for migraine sufferers. Triptans and ergots are considered first-line acute treatments for migraine, not opioids or barbiturates according to the US Headache Consortium Guideline.[6] The leading reasons for unmet needs, which include headache-related disability and dissatisfaction with current acute treatment, suggest opportunities for improving outcomes for persons with EM.[3]

[1] Lipton RB, Stewart WF. Acute migraine therapy: do doctors understand what patients with migraine want from therapy? *Headache*. 1999; 39 (suppl 2):S20-S26.)
[2]Bigal ME, Buse DC, Hen YT, et al. Rates and predictors of starting a triptan: results from the American Migraine Prevalence and Prevention Study. *Headache* 2010: 50 (9): 1440-8
[3]Lipton RB, Buse DC, Serrano D, et al. Examination of unmet treatment needs among persons with episodic migraine: results of the American migraine prevalence and prevention (AMPP) study. *Headache* 2011 Presented at the 53rd Annual Scientific Meeting of the AHS, Washington, DC, June 2-5, 2011.
[4] Lipton RB, Buse DC, Seranno D, et al. Acute medication use patterns in episodic migraine: Results of the American migraine prevalence and prevention (AMPP) study. Cephalgia 2009; 29:17 (Presented at the 14th Congress of the International Headache Society, September 10-13, 2009)

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	[5] Bigal ME, Borouchu S, Serrano D. The acute treatment of episodic and chronic migraine in the United States. *Cephalgia* 2009 29: 891-897. [6] Matchar DB, Young WB, Rosenerg J, et al. Multispecialty consensus on diagnosis and treatment of headache: pharmacological management of acute attacks. Available at http://www.aan.com/professionals/practice/pdfs/gl0087.pdf (accessed November 2008)

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Individual practitioner
Care setting	• Inpatient • Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes

ICD-9	ICD-10
346.0 Migraine with aura	Non-specific code
346.00	**G43.109**, Migraine with aura, not intractable, without status migrainosus
346.01	**G43.119**, Migraine with aura, intractable, without status migrainosus
346.02	**G43.101,** Migraine with aura, not intractable, with status migrainosus
346.03	**G43.111**, Migraine with aura, intractable, with status migrainosus
346.1 Migraine without aura	Non-specific code
346.10	**G43.009** Migraine without aura, not intractable, without status migrainosus
346.11	**G43.019** Migraine without aura, intractable, without status migrainosus
346.12	**G43.001**, Migraine without aura, not intractable, with status migrainosus
346.13	**G43.011,** Migraine without aura, intractable with status migrainosus

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346.2 Variants of migraine	Non-specific code
346.20	**G43.809**, Other migraine, not intractable without status migrainosus
346.21	**G43.819** Other migraine, intractable, without status migrainosus
346.22	**G43.801**, Other migraine, not intractable, with status migrainosus
346.23	**G43.811**, Other migraine, intractable, with status migrainosus
346.4 Menstrual Migraine	Non-specific code
346.40	**G43.829** Menstrual migraine not intractable, without status migrainous
346.41	**G43.839** Menstrual migraine intractable without status migrainosus
346.42	**G43.821** Menstrual migraine not intractable with status migrainosus
346.43	**G43.831** Menstrual migraine intractable with status migrainosus
346.7 Chronic migraine without aura	Non-specific code
346.70	**G43.709** Chronic migraine without aura, not intractable, without status migrainosus
346.71	**G43.719** Chronic migraine without aura, intractable, without status migrainosus
346.72	**G43.701** Chronic migraine without aura, not intractable, with status migrainosus
346.73	**G43.711** Chronic migraine without aura, intractable, with status migrainosus
346.8 Other forms of migraine	Non-specific code
346.80	**G43.809** Other migraine, not intractable, without status migrainosus
346.81	**G43.819** Other migraine intractable without status migrainosus
346.82	**G43.801** Other migraine not intractable with status migrainosus
346.83	**G43.811** Other migraine intractable with status migrainosus
346.9 Migraine unspecified	Non-specific code
346.90	**G43.909** Migraine unspecified not intractable without status migrainosus
346.91	**G43.919** Migraine unspecified intractable without status migrainosus
346.92	**G43.901** Migraine unspecified not intractable with status migrainosus
346.93	**G43.911** Migraine unspecified intractable with status migrainosus

AND

CPT® Evaluation and Management Service Codes:

Outpatient: 99201-5, (Office or other outpatient visit-New Patient); 99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);

Inpatient: 99221-99223 (Initial Hospital Care); 99231-99233 (Subsequent Hospital Care); 99238-99239 (Hospital Discharge); 99251-99255 (Initial Inpatient Consultation).

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MEASURE #2: ACUTE MEDICATION PRESCRIBED FOR CLUSTER HEADACHE

Headache

Measure Description

Percentage of patients age 18 years old and older with a diagnosis of cluster headache (CH) who were prescribed a guideline recommended acute medication for cluster headache within the 12-month measurement period.

Measure Components

Numerator Statement	Patients who were prescribed a guideline recommended* acute medication for cluster headache within the 12 month measurement period. * Guideline recommended acute medications for CH include the following but are not limited to: Oxygen 100%, Sumatriptan SC, Sumatriptan IN, Zolmitriptan IN, DHE (IV, IM, SC, IN)[1,2,3] Note: The above list of medications/drug names is based on clinical guidelines and other evidence and may not be all-inclusive or current. Physicians and other health care professionals should refer to the Food and Drug Administration's (FDA) web site page entitled "Drug Safety Communications" for up-to-date drug recall and alert information when prescribing medications.
Denominator Statement	All patients age 18 years old and older with a diagnosis of cluster headache.
Denominator Exceptions	Exceptions: • Medical exception for not prescribing a guideline recommended acute CH medication (i.e., guideline recommended medication is medically contraindicated or ineffective for the patient; patient reports no CH attacks within the past 12 months; CH are sufficiently controlled with over the counter [OTC] medications; patient is already on an effective prescribed acute CH medication) • Patient exception for not prescribing a guideline recommended acute CH medication (i.e., patient declines any prescription of an acute CH medication) • System exception for not prescribing a guideline recommended acute CH medication (i.e., patient does not have insurance to cover the cost of any prescribed an acute CH medications)
Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • As first choice, acute attacks of CH should be treated with the inhalation of 100% oxygen with at least 7 L/min over 15 minutes (Class II trials) or with the subcutaneous injection of 6 mg sumatriptan or the intranasal application of zolmitriptan 5 mg. (Class I trials) As second choice, sumatriptan 20 mg nasal spray can be used (Class I trial) with minor efficacy or more side effects. Prophylaxis of CH should be first tried with verapamil in a daily dose of at least 240 mg (maximum dose depends on efficacy or tolerability; electrocardiogram [ECG] controls] obligatory with increasing doses). Although no Class I or II trials are available, steroids are clearly effective in CH. Therefore, the use of at least 100 mg oral up to

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500 mg intravenous per day methylprednisone (or equivalent corticosteroid) over 5 days (then tapering down) is recommended.(Level A)[1]

- Intranasal lidocaine (4%) can be tried in acute CH attacks if Level A medication is ineffective or contraindicated. Oral zolmitriptan 10 mg is effective in some patients (Class I trial), but high dose produces many side effects and limits practical use. (Level B)[1]
- Methysergide* and lithium are drugs of second choice if verapamil is ineffective or contraindicated. Corticosteroids can be used for short courses where bouts are short or to help establish another medicine. Topiramate is promising, but only open trials exist at this point. Melatonin is useful in some patients. Except for lithium, the maximum dose depends on efficacy and tolerability. Ergotamine tartrate is recommended for short term prophylaxis. (Class III studies) In spite of positive Class II studies, pizotifen and intranasal capsaicin should not be used because of side effects. (Level B)[1]
- Acute abortive treatment of CH: Sumatriptan SC should be offered to patients for acute treatment of CH (Level A); Sumatriptan NS should be considered for acute treatment of CH. (Level B) Zolmitriptan NS should be offered to patients for acute treatment of CH. (Level A) Oral zolmitriptan should be considered for acute treatment of episodic CH. (Level B) One hundred percent oxygen should be offered for acute treatment of CH. (Level A)[2]
- Although there are no controlled trials of injectable DHE, clinical experience has demonstrated that IV administration provides prompt and effective relief of CH within 15 minutes.[3]

[1] EFNS Evers S, Afra J, Frese A, et al. Cluster headache and other trigemino-autonomic cephalgias. European handbook of neurological management. 2nd ed. Vol 1. Oxford (UK): Wiley-Blackwell; 2001; pg. 179-190.
[2]American Academy of Neurology. Francis GJ, Becker WJ, Pringsheim TM. Acute and Preventive Pharmacologic Treatment of Cluster Headache *Neurology* 2010; 75;463
[3] Dodick D, Rozen T, Goadsby P, Silberstein S. Cluster headache. *Cephalalgia* 2000; 20: 787-803.

*May not be available in the United States.

Rationale for the Measure
CH is under diagnosed and undertreated.[1] Although CH has a much lower prevalence than many other types of headache[2], it is often considered the most severe headache pain. Suicidality ideations in one study were as high as 55% of the study population.[3]

Gap in Care
There is a gap in care in the diagnosis and appropriate treatment of CH. In 2000, Klapper, et al. using a web-based survey noted an average time delay of 6.6 years before a proper diagnosis of CH was made in sample of 789 US respondents.[3] Most notably is gap on the use oxygen treatment for CH. Despite oxygen being known as a fast acting treatment for cluster headache it is not often reimbursed. Center for Medicare and Medicaid Services (CMS) has determined that the evidence does not demonstrate that the home use of oxygen to treat CH improves health outcomes in Medicare beneficiaries with CH.[4]

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	Opportunity for Improvement Appropriate treatment for patients diagnosed with CH could lead to decreased suffering and increased quality of life. CH leads to major socioeconomic impacts on patients as well as society due to direct healthcare costs and indirect costs caused by loss of working capacity.[5] Approximately 20% of CH patients have lost a job secondary to CH, while another 8% are out of work or on disability secondary to their headaches.[3] [1]Klapper JA, Klapper A and Voss T. The misdiagnosis of cluster headache: a nonclinical, population-based, Internet survey. *Headache.* 2000 Oct; 40(9):730-5. [2]Fischera M, Marziniak M, Gralow I, Evers S The incidence and prevalence of cluster headache: a meta-analysis of population-based studies. *Cephalalgia.* 2008 Jun;28(6):614-8 [3] Rozen RD, Fishman RS Cluster headache in the United States of America: Demographics, Clinical Characteristics, Triggers, Suicidality, and Personal Burden. 2012 *Headache* doi: 10.1111/j.1526-4610.2011.02028.x [4] CMS decision memo on the use of oxygen for cluster headache. January 4, 2011. Available at: http://www.cms.gov [5] Gaul C, Finken J, Biermann J, et al. Treatment costs and indirect costs of cluster headache: A health economics analysis. *Cephalgia* 2011; 31 (16): 1664-1672.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Individual practitioner
Care setting	• Inpatient • Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)	**ICD-9 or ICD-10 Diagnosis Codes:** ICD-9: 339.00 (Cluster headache syndrome, unspecified) to ICD-10: CD-9-CM 339.0 is a non-specific code, that is, there are codes below this code that have a greater level of detail. One of these child codes will contain a conversion record; 339.01 (episodic cluster headache) to ICD-10: G44.019 (Episodic cluster headache, not intractable); 339.02 (Chronic cluster headache) to ICD-10: G44.029 (Chronic cluster headache, not intractable)

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CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);
Inpatient: 99221-99223 (Initial Hospital Care); 99231-99233 (Subsequent Hospital Care); 99238-99239 (Hospital Discharge); 99251-99255 (Initial Inpatient Consultation).

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MEASURE #3: PREVENTIVE MIGRAINE MEDICATION PRESCRIBED

Headache

Measure Description

Percentage of patients age 18 years old and older diagnosed with migraine headache whose migraine frequency is ≥4 migraine attacks* per month or migraine frequency was ≥8 days per month who were prescribed a guideline recommended prophylactic migraine treatment** within the 12 month reporting period.

Measure Components

Numerator Statement	Patients whose migraine frequency is ≥4 migraine attacks* per month or migraine frequency was ≥8 days per month who were prescribed a guideline recommended prophylactic migraine treatment** within the 12 month reporting period. *Migraine attack: Recurrent headache disorder manifesting in attacks lasting 4-72 hours. Typical characteristics of the migraine may include unilateral location, pulsating quality, moderate or severe intensity, aggravation by routine physical activity, and association with nausea and/or photophobia or phonophobia. (ICHD-III published July 2013) **Guideline recommended medications: Level A (AAN 2012): Divalproex sodium, Sodium valproate, topiramate, propranolol, metoprolol, timolol, petasites (butterbur). Level B (AAN 2012): Amitriptyline, venlafaxine, atenolol, nadolol, NSAIDS (fenoprofen, ibuprofen, ketoprofen, naproxen, naproxen sodium), riboflavin, or magnesium Note: The above list of medications/drug names is based on clinical guidelines and other evidence and may not be all-inclusive or current. Physicians and other health care professionals should refer to the Food and Drug Administration's (FDA) web site page entitled "Drug Safety Communications" for up-to-date drug recall and alert information when prescribing medications.
Denominator Statement	All patients age 18 years old and older* diagnosed with migraine headache. *Age: Although these medications may be used in children and adolescents there is currently not enough evidence to support the development of a measure focused on those younger than 18 years old.
Denominator Exceptions	Exceptions: • Medical exception for not prescribing a prophylactic medication for migraine (i.e., patient migraine frequency <8 days per month or <4 attacks per month; patient is already on a prophylactic medication for migraine; patient has failed all prophylactic medications; patient has a contraindication to all migraine preventive treatments; patient adequately responding to non-pharmacologic preventive treatment) • Patient exception for not prescribing a prophylactic medication for migraine (i.e., patient declines any prophylactic medication for migraine) • System exception for not prescribing a prophylactic medication for migraine (i.e., patient has no insurance coverage for any prophylactic migraine medication)

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Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • The following medications are established as effective and should be offered for migraine prevention: Antiepileptic drugs (AEDs): divalproex sodium, sodium valproate, topiramate; Beta-Blockers: metoprolol, propranolol, timolol; Triptans: frovatriptan (for short-term prophylaxis of menstrually related migraines [MRM]). (Level A)[1] • The following medications are probably effective and should be considered for migraine prevention: Antidepressants: amitriptyline, venlafaxine; Beta-blockers: atenelol, nadolol; Drugs recommended for use: divalproex/sodium valproate (400-1000mg/daily); metoprolol (47.5-200mg/day); petasites butterbur (50-75 mg bid); propranolol (120-240 mg/day); timolol (10-15 mg bid); topiramate (25-200 mg/day). (Level A)[2] • Recommended substances (drugs of first choice) for the prophylactic drug treatment of migraine: Beta blockers: metoprolol 50–200; propranolol 40–240. (Level A)[3] • Recommended substances (drugs of first choice) for the prophylactic drug treatment of migraine: Antiepileptic drugs: valproic acid 500-1800mg; topiramate 25-100mg. (Level A)[3] • Pharmacological management for prevention of migraine preventive migraine medications (Group 1): amitriptyline, divalproex sodium, propranolol, timolol. (Group 1)[4] • Migraine prophylaxis: Antiepileptics: In patients with episodic migraine and chronic migraine topiramate 50-200 mg per day is recommended to reduce headache frequency and severity. (Level A)[5] • Migraine prophylaxis: Antiepileptics: In patients with episodic migraine sodium valproate 800-1,500 mg per day is recommended to reduce headache frequency and severity. (Level A)[5] • Migraine prophylaxis: Propranolol 80-240 mg per day is recommended as first line therapy for prophylaxis in patients with migraine. (Level A)[5] • NSAIDS and complementary medications with established efficacy (> Class I trials): herbal preparations, vitamins, minerals, and other- petasites (butterbur). (Level A)[6] • Drugs recommended for use: Amitriptyline (25-150mg/day); fenoprofen (200-600 mg/day); feverfew (50-300 mg bid; 2.08-18.75 mg tid for MIG-99 preparation); histamine (1-10 ng subcutaneously twice a week); ibuprofen (200 mg bid); ketoprofen (50 mg tid); magnesium (600 mg trigmagnesium dicitrate qd); naproxen/naproxen sodium (500-100 mg/day for naproxen; 550 mg bid for naproxen sodium); riboflavin (400 mg/day); venlafaxine (150 mg extended release/day); atenelol (100 mg/day). (LEVEL B)[2] • Drugs of second choice for migraine prophylaxis (evidence of efficacy, but less effective or more side effects than drugs of first choice): Amitriptyline 50–150mg; venlafaxine 75–150mg; naproxen 2 • 250–500 mg; petasites 2 75mg; bisoprolol 5–10mg. (Level B)[3]

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	• Migraine prophylaxis: Antidepressants: Amitriptyline 25-150 mg per day is recommended for patients requiring prophylaxis of migraine. (Level B)[5] • Migraine prophylaxis: Antidepressants: Venlafaxine 75-150 mg per day is an effective alternative to tricyclic antidepressants for prophylaxis of migraine. (Level B)[5] • NSAIDS and complementary medications are probably effective (1 class I or 2 Class II studies): NSAIDs-fenoprofen, ibuprofen, ketoprofen, naproxen, naproxen sodium; herbal preparations, vitamins, minerals, and other-magnesium, MIG-99* (ferverfew), riboflavin; Histamines-histamine SC. (Level B)[6] • Advise people with migraine that riboflavin (400 mg q once a day) may be effective in reducing migraine frequency and intensity for some people.[7] [1] American Academy of Neurology. Silberstein S, Holland S, Freitag F et al. Evidence-based guideline update: Pharmacologic treatment for episodic migraine prevention in adults 2012; *Neurology* 78; 1337-1345 [2] Loder E, Burch R, Rizzoli P. The 2012 AHS/AAN guidelines for prevention of episodic migraine: a summary and comparison with other recent clinical practice guidelines. *Headache.* 2012; 52(6):930-45 [3]EFNS guideline on the drug treatment of migraine – revised report of an EFNS task force. Evers Afra Frese *Eur J Neurol* 2009, 16: 968–981 [4]US Headache Consortium. Ramadan N, Silberstein S, Freitag F et al. Evidence-based guidelines for Migraine Headache in the Primary Care Setting: Pharmacological Management for Prevention of Migraine. Group 1: Medium to high efficacy, good strength of evidence, and a range of severity (mild to moderate) and frequency (infrequent to frequent) of side effects. Group 2: Lower efficacy than those listed in first column, or limited strength of evidence, and mild to moderate side effects [5]Scottish Intercollegiate Guidelines Network (SIGN) Diagnosis and management of headache in adults Guideline 107. 2008; www.sign.ac.uk [6]American Academy of Neurology. Holland S, Silberstein SD, Freitag F, Et al Evidence-based guideline update: NSAIDs and other complementary treatments for episodic migraine prevention in adults *Neurology* 2012; 78; 1346 [7]NICE Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150 *May not be available in the United States.
	Rationale for the Measure This measure is designed to address the strong gap in care in the use of prophylactic medication for migraine headache. Migraine is suboptimally treated in the majority of patients. Note: this measure does not specifically address chronic migraine or MRM. **Gap in Care** Epidemiologic studies suggest approximately 38% of people with headache need preventive therapy, but only 3%–13% currently use it.[1] Preventive therapies can decrease the occurrence of migraines by 50 to 80% and reduce the severity and duration of migraines that do occur.[2] The American Migraine Prevalence and Prevention (AMPP) study found that approximately 12% of Americans have migraines and approximately 40% could benefit from preventative therapies.[1]

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In one study, of 465 patients meeting the study criteria, nearly 30% that had migraine diagnosis were prescribed antimigraine medications, and 20% that had migraine diagnosis were not prescribed antimigraine medications. The remaining 50% were prescribed antimigraine medications, but did not have migraine diagnosis. Patients with antimigraine medication prescriptions showed lower frequency of emergency department visits than those without antimigraine medication prescriptions. Regression models indicated an increase in migraine-related health care costs by 86%, but decreases in all-cause medical costs and total health care costs by 42 and 26%, respectively, in the antimigraine medication use group after adjusting for covariates. Employed patients experienced inadequate pharmacotherapy for migraine treatment. After controlling for covariates, antimigraine prescription drug use was associated with lower total medical utilization and health care costs.[3]

Opportunity for Improvement:
There was significant discussion by the Work Group on the number of migraines or impaired migraines that would indicate the prescription of a prophylactic migraine medication. There are a number of patients who would benefit from prevention therapy. It was noted there is no specific evidence available for when prophylactic migraine medications should be prescribed. However, recent US, Canadian, and European guidelines[1, 4-9] have established a modicum of circumstances under which migraine prevention treatment should be considered. These include: 1) recurring migraine attacks that significantly interfere with a patient's quality of life and daily routine despite appropriate use of acute medications, trigger management and/or lifestyle modification strategies; 2) frequent headaches (>4 attacks/month or >8 headache days per month) because of the risk of chronic migraine; 3) failure of, contraindication to, overuse, or troublesome side-effects from acute medications; 4) patient preference, that is, the desired to have as few acute attacks as possible; 5) presence of certain migraine conditions: hemiplegic migraine, basilar migraine, frequent prolonged or uncomfortable aura symptoms or migrainous infarction.[1,8,9]

[1]Lipton RB, Bigal ME, Diamond M, et al. The American Migraine Prevalence and Prevention Advisory Group. Migraine prevalence, disease burden, and the need for preventative therapy. *Neurology* 2007; 68: 343-349
[2]World Health Organization. Headache Disorders Fact Sheet. http://www.who.int/mediacentre/factsheets/fs277/en/ Accessed. 8.22.2013
[3]Loder E. Triptan therapy in migraine. *N Engl J Med* 2010; 363:63-70.
[4]Silberstein SD, Holland S, Freitag F, Dodick DW, Argoff C, Ashman E. Evidence-based guideline update: pharmacologic treatment for episodic migraine prevention in adults: report of the Quality Standards Subcommittee of the American Academy of Neurology and the American Headache Society. *Neurology* 2012;78:1337-1345.
[5]Holland S, Silberstein SD, Freitag F, Dodick DW, Argoff C, Ashman E. Evidence-based guideline update: NSAIDs and other complementary treatments for episodic migraine prevention in adults: report of the Quality Standards Subcommittee of the American Academy of Neurology and the American Headache Society. *Neurology* 2012;78:1346-1353.
[6]Pringsheim T, Davenport W, Mackie G, et al. Canadian Headache Society guideline for migraine prophylaxis. *Can J Neurol Sci* 2012;39:S1-59.
[7]Carville S, Padhi S, Reason T, Underwood M. Diagnosis and management of headaches in young people and adults: summary of NICE guidance. *BMJ* 2012;345:e5765
[8]Silberstein SD. Headaches in pregnancy. *Neurol Clin* 2004;22:727-756.

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	[9] Lipton RB, Diamond M, Freitag F, Bigal M, Stewart WF, Reed ML: Migraine prevention patterns in a community sample: results from the American migraine prevalence and prevention (AMPP) study. *Headache* 2005;45:792-793.(Abstract)

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Individual practitioner
Care setting	• Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:
Migraine with aura 346.00-346.03
Migraine without aura 346.10-346.13
Variants of migraine, not elsewhere classified 346.20-346.23
Menstrual migraine 346.40-346.43
Persistent migraine aura without cerebral infarction 346.5
Chronic migraine without aura 346.7
Other forms of migraine 346.8
Migraine unspecified 346.9

ICD-9	ICD-10
346.0 Migraine with aura	Non-specific code
346.00	**G43.109**, Migraine with aura, not intractable, without status migrainosus
346.01	**G43.119**, Migraine with aura, intractable, without status migrainosus
346.02	**G43.101,** Migraine with aura, not intractable, with status migrainosus
346.03	**G43.111**, Migraine with aura, intractable, with status migrainosus
346.1 Migraine without aura	Non-specific code
346.10	**G43.009** Migraine without aura, not intractable, without status migrainosus
346.11	**G43.019** Migraine without aura, intractable, without status migrainosus
346.12	**G43.001**, Migraine without aura, not intractable, with status migrainosus

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346.13	**G43.011,** Migraine without aura, intractable with status migrainosus
346.2 Variants of migraine	Non-specific code
346.20	**G43.809**, Other migraine, not intractable without status migrainosus
346.21	**G43.819** Other migraine, intractable, without status migrainosus
346.22	**G43.801**, Other migraine, not intractable, with status migrainosus
346.23	**G43.811**, Other migraine, intractable, with status migrainosus
346.7 Chronic migraine without aura	Non-specific code
346.70	**G43.709** Chronic migraine without aura, not intractable, without status migrainosus
346.71	**G43.719** Chronic migraine without aura, intractable, without status migrainosus
346.72	**G43.701** Chronic migraine without aura, not intractable, with status migrainosus
346.73	**G43.711** Chronic migraine without aura, intractable, with status migrainosus
346.8 Other forms of migraine	Non-specific code
346.80	**G43.809** Other migraine, not intractable, without status migrainosus
346.81	**G43.819** Other migraine intractable without status migrainosus
346.82	**G43.801** Other migraine not intractable with status migrainosus
346.83	**G43.811** Other migraine intractable with status migrainosus
346.9 Migraine unspecified	Non-specific code
346.90	**G43.909** Migraine unspecified not intractable without status migrainosus
346.91	**G43.919** Migraine unspecified intractable without status migrainosus
346.92	**G43.901** Migraine unspecified not intractable with status migrainosus
346.93	**G43.911** Migraine unspecified intractable with status migrainosus

AND
CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);

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MEASURE #4: Overuse of Barbiturate Containing Medications for Primary Headache Disorders

Headache

Measure Description

Percentage of patients age 18 years old and older with a diagnosis of primary headache who were NOT prescribed barbiturate containing medications related to the primary headache disorder diagnosis during the 12-month measurement period.

Measure Components

Numerator Statement	Patients who were NOT prescribed barbiturate containing medications related to the primary headache disorder diagnosis* during the 12-month measurement period. *Prescribing a barbiturate containing medication for the primary headache disorders, without a justified exception, is not recommended by current evidence-based guideline recommendations. Clinicians who would have a higher score or percentage of patients that met this measure would be delivering a higher quality of care. Note: The above list of medications/drug names is based on clinical guidelines and other evidence and may not be all-inclusive or current. Physicians and other health care professionals should refer to the Food and Drug Administration's (FDA) web site page entitled "Drug Safety Communications" for up-to-date drug recall and alert information when prescribing medications.
Denominator Statement	All patients age 18 years old and older diagnosed with a primary headache disorder*. *Primary Headache: A headache that is not caused by another disease or medical condition. For the purpose of this measure this includes the following types of headache: **Migraine:** Migraine without aura, migraine with aura, childhood periodic syndromes that are commonly precursors of migraine, retinal migraine, complications of migraine, probable migraine. **Tension-Type Headache (TTH):** Infrequent episodic TTH, frequent episodic TTH, chronic TTH, probable TTH. **Cluster Headache (CH) and Other Trigeminal Autonomic Cephalgias:** Cluster headache, paroxysmal hemicrania, short-lasting unilateral neuralgia form headache attacks with conjunctival injection and tearing (SUNCT), and probable trigeminal autonomic cephalgia. **Other Primary Headaches:** Primary stabbing headache, primary cough headache, primary exertional headache, primary headache associated with sexual activity, hypnic headache, primary thunderclap headache, hemicrania continua, and new daily-persistent headache.
Denominator Exceptions	Exceptions: • Medical exception for prescribing a barbiturate containing medications for primary headache disorder (i.e., use as a last resort for a patient who has failed all other guideline recommended medications for headache or who have contraindications; may be considered for rescue therapy in a supervised setting for acute migraine when sedation side effects will not put the patient at risk and when the risk abuse has been addressed).

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Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • Based on concerns of overuse, medication-overuse headache, and withdrawal, the use of butalbital-containing analgesics should be limited and carefully monitored. (Grade B) [1] • Don't use opioid or butalbital treatment for migraine except as a last resort. (No Level of Evidence; Choosing Wisely Recommendation) [2] • Any use of barbiturates and opiates was associated with increased risk of transformed migraine after adjusting for covariates. (Not a guideline) [3] • Limit and carefully monitor their use (butalbital containing agents) based on overuse, medication overuse headache, and withdrawal concerns. (Level B)[4] [1] National Institute for Health and Clinical Excellence (NICE) Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150 [2] Lander-Gould A, Anderson W, Armstrong M et al. The American Academy of Neurology's Top Five Choosing Wisely recommendations. *Neurology* 2013; Published online before print February 20, 2013, doi: 10.1212/WNL.0b013e31828aab14 *Neurology* 10.1212/WNL.0b013e31828aab14 [3] Bigal ME, Serano D, Buse D, et al Acute migraine medications and evolution from episodic to chronic migraine: a longitudinal population-based study *Headache.* 2008; 48(8):1157-68 [4]Silberstein SD. Practice parameter: evidence-based guidelines for migraine headache (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology* 2000 26;55(6):754-62 (Updated in 2012 by the AAN)
	Rationale for the Measure **Gap in Care** Triptans and ergots are considered first line acute treatments for migraine, not opioids or barbiturates by the US Headache Consortium Guideline.[1] However, barbiturates or butalbital containing agents are prescribed frequently. The use of barbiturates increases the risk of chronic daily headache and drug induced hyperalgesia.[2] One study noted that barbiturate or opioid class of medicine is more likely to be overused among those patients presenting to a tertiary headache center (overused substances: Butalbital containing combination products, 48%; Acetaminophen, 46.2%; Opioids, 33.3%; ASA, 32.0%; Ergotamine tartrate, 11.8%; Sumatriptan, 10.7%; Nonsteroidal anti-inflammatory medications other than ASA, 9.8%; Zolmitriptan, 4.6%; Rizatriptan, 1.9%; Naratriptan, 0.6%. Total of all triptans, 17.8%).[1] **Opportunity for Improvement** By reducing the use of barbiturate for primary headache disorders there is potential to decrease chronic daily headaches, improve quality of life and reduce headache associated disability. [1]Matchar DB, Young WB, Rosenerg J, et al. Multispecialty consensus on diagnosis and treatment of headache: pharmacological management of acute attacks. Available at http://www.aan.com/professionals/practice/pdfs/gl0087.pdf (accessed November 2008

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	[2] Lipton RB, Buse DC, Serrano D et al. Examination of Unmet Treatment Needs Among Persons With Episodic Migraine: Results of the American Migraine Prevalence and Prevention (AMPP) Study. *Headache*. 2013 Jul 23. doi: 10.1111/head.12154. [Epub ahead of print]

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Individual Practitioner
Care setting	• Inpatient • Outpatient visits • Emergency Departments • Urgent care
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:

ICD-9 Code	ICD-10 Code
346 Migraine	G43 Migraine
346.0 Migraine with aura	G43.1 Migraine with aura
346.00 without mention of intractable migraine without mention of status migrainosus	G43.109 Migraine with aura, not intractable, without status migrainosus
346.01 with intractable migraine, so stated, without mention of status migrainosus	G43.119 Migraine with aura, intractable, without status migrainosus
346.02 without mention of intractable migraine with status migrainosus	G43.101 Migraine with aura, not intractable with status migrainosus
346.03 with intractable migraine, so stated, with status migrainosus	G43.111 Migraine with aura, intractable with status migrainosus
346.1 Migraine without aura	G43.0 Migraine without aura
346.10 without mention of intractable migraine without mention of status migrainosus	G43.009 Migraine without aura, not intractable without status migrainosus
346.11 with intractable migraine, so stated, without mention of status migrainosus	G43.019 Migraine without aura, intractable without status migrainosus

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346.12 without mention of intractable migraine with status migrainosus	G43.001 Migraine without aura, not intractable with status migrainosus
346.13 with intractable migraine, so stated, with status migrainosus	G43.011 Migraine without aura, intractable with status migrainosus
346.2 Variants of migraine, not elsewhere classified	G43.9 Migraine, unspecified
346.20 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.21 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.22 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.23 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
346.3 Hemiplegic migraine	G43.4Hemiplegic migraine
346.30 without mention of intractable migraine without mention of status migrainosus	G43.409 Hemiplegic migraine, not intractable without status migrainosus
346.31 with intractable migraine, so stated, without mention of status migrainosus	G43.419 Hemiplegic migraine, intractable without status migrainosus
346.32 without mention of intractable migraine with status migrainosus	G43.401 Hemiplegic migraine, not intractable with status migrainosus
346.33 with intractable migraine, so stated, with status migrainosus	G43.411 Hemiplegic migraine, intractable with status migrainosus
346.4 Menstrual migraine	G43.8 Other migraine
346.40 without mention of intractable migraine without mention of status migrainosus	G43.829 Menstrual migraine, not intractable without status migrainosus
346.41 with intractable migraine, so stated, without mention of status migrainosus	G43.839 Menstrual migraine, intractable without status migrainosus
346.42 without mention of intractable migraine with status migrainosus	G43.821 Menstrual migraine, not intractable with status migrainosus
346.43 with intractable migraine, so stated, with status migrainosus	G43.831 Menstrual migraine, intractable with status migrainosus
346.5 Persistent migraine aura without cerebral infarction	G43.5 Persistent migraine aura without cerebral infarction
346.50 without mention of intractable migraine without mention of status migrainosus	G43.509 Persistent migraine aura without cerebral infarction, not intractable without status migrainosus
346.51 with intractable migraine, so stated, without mention of status migrainosus	G43.519 Persistent migraine aura without cerebral infarction, intractable without status migrainosus
346.52 without mention of intractable migraine with status migrainosus	G43.501 Persistent migraine aura without cerebral infarction, not intractable with status migrainosus
346.53 with intractable migraine, so stated, with status migrainosus	G43.511 Persistent migraine aura without cerebral infarction, intractable with status migrainosus

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346.6 Persistent migraine aura with cerebral infarction	G43.6 Persistent migraine aura with cerebral infarction
346.60 without mention of intractable migraine without mention of status migrainosus	G43.609 Persistent migraine aura with cerebral infarction, not intractable without status migrainosus
346.61 with intractable migraine, so stated, without mention of status migrainosus	G43.619 Persistent migraine aura with cerebral infarction, intractable without status migrainosus
346.62 without mention of intractable migraine with status migrainosus	G43.601 Persistent migraine aura with cerebral infarction, not intractable with status migrainosus
346.63 with intractable migraine, so stated, with status migrainosus	G43.611 Persistent migraine aura with cerebral infarction, intractable with status migrainosus
346.7 Chronic migraine without aura	G43.7 Chronic migraine without aura
346.70 without mention of intractable migraine without mention of status migrainosus	G43.709 Chronic migraine without aura, not intractable without status migrainosus
346.71 with intractable migraine, so stated, without mention of status migrainosus	G43.719 Chronic migraine without aura, intractable without status migrainosus
346.72 without mention of intractable migraine with status migrainosus	G43.701 Chronic migraine without aura, not intractable with status migrainosus
346.73 with intractable migraine, so stated, with status migrainosus	G43.711 Chronic migraine without aura, intractable with status migrainosus
346.8 Other forms of migraine	G43.8 Other migraine
346.80 without mention of intractable migraine without mention of status migrainosus	G43.809 Other migraine, not intractable without status migrainosus
346.81 with intractable migraine, so stated, without mention of status migrainosus	G43.819 Other migraine, intractable without status migrainosus
346.82 without mention of intractable migraine with status migrainosus	G43.801 Other migraine, not intractable with status migrainosus
346.83 with intractable migraine, so stated, with status migrainosus	G43.811 Other migraine, intractable with status migrainosus
346.9 Migraine unspecified	G43.9 Migraine, unspecified
346.90 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.91 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.92 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.93 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
784 Symptoms involving head and neck	
784.0 Headache	G44.1 Vascular headache, not elsewhere classified R51 Headache
307 Special symptoms or syndromes not elsewhere classified	
307.8 Pain disorders related to psychological factors	

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307.81 Tension headache	G44.209 Tension-type headache, unspecified, not intractable
339 Other headache syndromes	
339.0 Cluster headaches and other trigeminal autonomic cephalgias	
339.00 Cluster headache syndrome, unspecified	G44.009 Cluster headache syndrome, unspecified, not intractable
339.01 Episodic cluster headache	G44.019 Episodic cluster headache, not intractable
339.02 Chronic cluster headache	G44.029 Chronic cluster headache, not intractable
339.03 Episodic paroxysmal hemicranias	G44.039 Episodic paroxysmal hemicrania, not intractable
339.04 Chronic paroxysmal hemicranias	G44.049 Chronic paroxysmal hemicrania, not intractable
339.05 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing	G44.059 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing (SUNCT), not intractable
339.09 Other trigeminal autonomic cephalgias	G44.099 Other trigeminal autonomic cephalgias (TAC), not intractable
339.1 Tension type headache	
339.10 unspecified	G44.209 Tension-type headache, unspecified, not intractable
339.11 Episodic tension type headache	G44.219 Episodic tension-type headache, not intractable
339.12 Chronic tension type headache	G44.221 Chronic tension-type headache, intractable G44.229 Chronic tension-type headache, not intractable
339.4 Complicated headache syndromes	
339.41 Hemicrania continua	G44.51 Hemicrania continua
339.42 New daily persistent headache	G44.52 New daily persistent headache (NDPH)
339.43 Primary thunderclap headache	G44.53 Primary thunderclap headache
339.44 Other complicated headache syndrome	G44.59 Other complicated headache syndrome
339.8 Other specified headache syndromes	
339.81 Hypnic headache	G44.81 Hypnic headache
339.82 Headache associated with sexual activity	G44.82 Headache associated with sexual activity
339.83 Primary cough headache	G44.83 Primary cough headache
339.84 Primary exertional headache	G44.84 Primary exertional headache
339.85 Primary stabbing headache	G44.85 Primary stabbing headache
339.89 Other headache syndromes	G44.89 Other headache syndrome

AND

CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);

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Inpatient: 99221-99223 (Initial Hospital Care); 99231-99233 (Subsequent Hospital Care); 99238-99239 (Hospital Discharge); 99251-99255 (Initial Inpatient Consultation).
Emergency Department: 99281-99285
Urgent care: 99201-99205 or 99211-99215.

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MEASURE #5: OVERUSE OF OPIOID CONTAINING MEDICATIONS FOR PRIMARY HEADACHE DISORDERS

Headache

For Quality Improvement Only. Not to be used for Public Reporting or Accountability

Measure Description

Percentage of patients aged 12 years and older diagnosed with primary headache disorder and taking opioid containing medication who were assessed for opioid containing medication overuse within the 12-month measurement period and treated or referred for treatment if identified as overusing opioid containing medication.

Measure Components

Numerator Statement	Patients assessed for opioid containing medication overuse within the 12-month measurement period and treated or referred for treatment if identified as overusing opioid containing medication *Prescribing an opioid containing medication for patients with a primary headache disorder in most cases is not guideline recommended. Use of opioid containing medication ≥10 days per month for more than 3 months is considered overuse of opioids according to ICDHD-III classification raises the possibility of opioid overuse headache. The purpose of this measure is to reduce the prescription and use of opioid containing medications for primary headache disorders.
Denominator Statement	All patients aged 12 years and older diagnosed with a primary headache disorder* and taking opioid containing medication. *Define Primary Headache: A headache that is not caused by another disease or medical condition. For the purpose of this measure this includes the following types of headache: **Migraine:** Migraine without aura, Migraine with aura, childhood periodic syndromes that are commonly precursors of migraine, retinal migraine, complications of migraine, probable migraine **Tension-Type Headache (TTH):** Infrequent episodic TTH, frequent episodic TTH headache, chronic TTH, probable TTH. **Cluster Headache (CH) and Other Trigeminal Autonomic Cephalgias:** Cluster headache, paroxysmal hemicrania, short-lasting unilateral neuralgia form headache attacks with conjunctival injection and tearing (SUNCT), probably trigeminal autonomic cephalgia **Other Primary Headaches:** Primary stabbing headache, primary cough headache, primary exertional headache, primary headache associated with sexual activity, hypnic headache, primary thunderclap headache, hemicrania continua, new daily-persistent headache.
Denominator Exceptions	Exceptions: • Medical exception for not assessing, treating, or referring patient for treatment of opioid medication overuse (i.e., patient already assessed and treated for opioid use disorder within the last year; patient has a documented failure of non-opioid options and does not have an opioid use disorder; patient has contraindications to all other medications for primary headache).

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Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • Do not offer opioids for the acute treatment of tension-type headaches. Age range: 12 and older.[1] (No level of evidence noted) • Oral opiate combinations may be considered for use in acute migraine when sedation side effects will not put the patient at risk and/or the risk for abuse has been addressed. (Grade A)[2] • Parenteral opiates may be considered for rescue therapy in a supervised setting for acute migraine when sedation side effects will not put the patient at risk and when the risk abuse has been addressed. (Grade B)[2] • Don't use opioid or butalbital treatment for migraine except as a last resort.[3] • Headache and other problems: Opioids are not usually indicated for migraine or TTH, or for patients with functional gastrointestinal problems. (No level of evidence noted)[4] • Refer patients with significant headache to a neurologist for evaluation and treatment. (No level of evidence noted)[5] [1] National Institute for Health and Clinical Excellence (NICE) Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150 [2] US Headache Consortium Matchar D, Young W, Rosenberg J et al. Evidence-Based Guidelines for Migraine Headache in the Primary Care Setting: Pharmacological Management of Acute Attacks *Neurology* 2000 www.aan.com [3] Lander-Gould A, Anderson W, Armstrong M et al. The American Academy of Neurology's Top Five Choosing Wisely recommendations. *Neurology* 2013; Published online before print February 20, 2013, doi: 10.1212/WNL.0b013e31828aab14 Neurology 10.1212/WNL.0b013e31828aab14 [4]Saper JR, Lake AE 34d. Continuous opioid therapy (COT) is rarely advisable for refractory chronic daily headache: Limited efficacy, risks, and proposed guidelines. *Headache* 2008; 48: 838-849 [5]Department of Veteran Affairs and Department of Defense. VA/DoD Clinical Practice Guideline for Management of Opioids for Chronic Pain. 2010. Available at: http://www.healthquality.va.gov/Chronic_Opioid_Therapy_COT.asp
	Rationale for the Measure **Gap in Care** Triptans and ergots are considered first line acute treatments for migraine, not opioids or barbiturates by the US Headache Consortium Guideline.[1] The use of barbiturates or opioids increases the risk of chronic daily headache and drug induced hyperalgesia.[2] In one study, any use of barbiturates and opiates was associated with increased risk of transformed migraine after adjusting for covariates, while triptans were not.[3] In a sample of 5,796 people with headache, 4,076 (70.3%) were opioid nonusers, 798 (13.8%) were previous users, and 922 (15.9%) were current opioid users. Rates of headache-related health-care resource utilization were higher for all opioid-use groups for emergency department/urgent care, primary care, and specialty care visits

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	compared to nonusers.[4] Opioid use for migraine is associated with more severe headache-related disability, symptomology, comorbidities (depression, anxiety, and cardiovascular disease and events), and greater health-care resource utilization for headache.[4] • Average headache frequency in days per month was higher among current opioid users.[4] • Previous and current opioid users "had significantly higher average Migraine Disability Assessment (MIDAS) scores when compared to nonusers" .[4] • Comorbidities tended to occur at higher rates among all opioid-use groups compared to nonusers, with depression significantly more common among opioid-use groups compared to nonusers .[4] • Health-care resource use was higher among previous and current opioid user.[4] **Opportunity for Improvement** Using the recommended first-line treatments for migraine would provide superior pain relief for migraine sufferers and reduce overuse of chronic daily headaches. [1] Matchar DB, Young WB, Rosenerg J, et al. Multispecialty consensus on diagnosis and treatment of headache: pharmacological management of acute attacks. Available at http://www.aan.com/professionals/practice/pdfs/gl0087.pdf (accessed November 2008 [2] Lipton RB, Buse DC, Serrano D et al. Examination of Unmet Treatment Needs Among Persons With Episodic Migraine: Results of the American Migraine Prevalence and Prevention (AMPP) Study. *Headache.* 2013 Jul 23. doi: 10.1111/head.12154. [Epub ahead of print] [3]Bigal ME, Serrano D, Buse D, et al. Acute migraine medications and evolution from episodic to chronic migraine: a longitudinal population-based study. *Headache.* 2008 Sep;48(8):1157-68. doi: 10.1111/j.1526-4610.2008.01217.x. [4]Buse DC, Pearlman SH, Reed ML et al. Opioid Use and Dependence among Persons with Migraine: Results of the AMPP Study Headache: *The Journal of Head and Face Pain* Volume 52, Issue 1, pages 18–36, January 2012

Measure Designation	
Measure purpose	• Quality improvement
Type of measure	• Process
Level of Measurement	• Individual Practitioner
Care setting	• Inpatient • Outpatient visits • Emergency Services • Urgent care
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

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Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:

ICD-9 Code	ICD-10 Code
346 Migraine	G43 Migraine
346.0 Migraine with aura	G43.1 Migraine with aura
346.00 without mention of intractable migraine without mention of status migrainosus	G43.109 Migraine with aura, not intractable, without status migrainosus
346.01 with intractable migraine, so stated, without mention of status migrainosus	G43.119 Migraine with aura, intractable, without status migrainosus
346.02 without mention of intractable migraine with status migrainosus	G43.101 Migraine with aura, not intractable with status migrainosus
346.03 with intractable migraine, so stated, with status migrainosus	G43.111 Migraine with aura, intractable with status migrainosus
346.1 Migraine without aura	G43.0 Migraine without aura
346.10 without mention of intractable migraine without mention of status migrainosus	G43.009 Migraine without aura, not intractable without status migrainosus
346.11 with intractable migraine, so stated, without mention of status migrainosus	G43.019 Migraine without aura, intractable without status migrainosus
346.12 without mention of intractable migraine with status migrainosus	G43.001 Migraine without aura, not intractable with status migrainosus
346.13 with intractable migraine, so stated, with status migrainosus	G43.011 Migraine without aura, intractable with status migrainosus
346.2 Variants of migraine, not elsewhere classified	G43.9 Migraine, unspecified
346.20 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.21 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.22 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.23 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
346.3 Hemiplegic migraine	G43.4Hemiplegic migraine
346.30 without mention of intractable migraine without mention of status migrainosus	G43.409 Hemiplegic migraine, not intractable without status migrainosus
346.31 with intractable migraine, so stated, without mention of status migrainosus	G43.419 Hemiplegic migraine, intractable without status migrainosus

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346.32 without mention of intractable migraine with status migrainosus	G43.401 Hemiplegic migraine, not intractable with status migrainosus
346.33 with intractable migraine, so stated, with status migrainosus	G43.411 Hemiplegic migraine, intractable with status migrainosus
346.4 Menstrual migraine	G43.8 Other migraine
346.40 without mention of intractable migraine without mention of status migrainosus	G43.829 Menstrual migraine, not intractable without status migrainosus
346.41 with intractable migraine, so stated, without mention of status migrainosus	G43.839 Menstrual migraine, intractable without status migrainosus
346.42 without mention of intractable migraine with status migrainosus	G43.821 Menstrual migraine, not intractable with status migrainosus
346.43 with intractable migraine, so stated, with status migrainosus	G43.831 Menstrual migraine, intractable with status migrainosus
346.5 Persistent migraine aura without cerebral infarction	G43.5 Persistent migraine aura without cerebral infarction
346.50 without mention of intractable migraine without mention of status migrainosus	G43.509 Persistent migraine aura without cerebral infarction, not intractable without status migrainosus
346.51 with intractable migraine, so stated, without mention of status migrainosus	G43.519 Persistent migraine aura without cerebral infarction, intractable without status migrainosus
346.52 without mention of intractable migraine with status migrainosus	G43.501 Persistent migraine aura without cerebral infarction, not intractable with status migrainosus
346.53 with intractable migraine, so stated, with status migrainosus	G43.511 Persistent migraine aura without cerebral infarction, intractable with status migrainosus
346.6 Persistent migraine aura with cerebral infarction	G43.6 Persistent migraine aura with cerebral infarction
346.60 without mention of intractable migraine without mention of status migrainosus	G43.609 Persistent migraine aura with cerebral infarction, not intractable without status migrainosus
346.61 with intractable migraine, so stated, without mention of status migrainosus	G43.619 Persistent migraine aura with cerebral infarction, intractable without status migrainosus
346.62 without mention of intractable migraine with status migrainosus	G43.601 Persistent migraine aura with cerebral infarction, not intractable with status migrainosus
346.63 with intractable migraine, so stated, with status migrainosus	G43.611 Persistent migraine aura with cerebral infarction, intractable with status migrainosus
346.7 Chronic migraine without aura	G43.7 Chronic migraine without aura
346.70 without mention of intractable migraine without mention of status migrainosus	G43.709 Chronic migraine without aura, not intractable without status migrainosus
346.71 with intractable migraine, so stated, without mention of status migrainosus	G43.719 Chronic migraine without aura, intractable without status migrainosus
346.72 without mention of intractable migraine with status migrainosus	G43.701 Chronic migraine without aura, not intractable with status migrainosus
346.73 with intractable migraine, so stated, with status migrainosus	G43.711 Chronic migraine without aura, intractable with status migrainosus

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346.8 Other forms of migraine	G43.8 Other migraine
346.80 without mention of intractable migraine without mention of status migrainosus	G43.809 Other migraine, not intractable without status migrainosus
346.81 with intractable migraine, so stated, without mention of status migrainosus	G43.819 Other migraine, intractable without status migrainosus
346.82 without mention of intractable migraine with status migrainosus	G43.801 Other migraine, not intractable with status migrainosus
346.83 with intractable migraine, so stated, with status migrainosus	G43.811 Other migraine, intractable with status migrainosus
346.9 Migraine unspecified	G43.9 Migraine, unspecified
346.90 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.91 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.92 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.93 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
784 Symptoms involving head and neck	
784.0 Headache	G44.1 Vascular headache, not elsewhere classified R51 Headache
307 Special symptoms or syndromes not elsewhere classified	
307.8 Pain disorders related to psychological factors	
307.81 Tension headache	G44.209Tension-type headache, unspecified, not intractable
339 Other headache syndromes	
339.0 Cluster headaches and other trigeminal autonomic cephalgias	
339.00 Cluster headache syndrome, unspecified	G44.009 Cluster headache syndrome, unspecified, not intractable
339.01 Episodic cluster headache	G44.019 Episodic cluster headache, not intractable
339.02 Chronic cluster headache	G44.029 Chronic cluster headache, not intractable
339.03 Episodic paroxysmal hemicranias	G44.039 Episodic paroxysmal hemicrania, not intractable
339.04 Chronic paroxysmal hemicranias	G44.049 Chronic paroxysmal hemicrania, not intractable
339.05 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing	G44.059 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing (SUNCT), not intractable
339.09 Other trigeminal autonomic cephalgias	G44.099 Other trigeminal autonomic cephalgias (TAC), not intractable
339.1 Tension type headache	
339.10 unspecified	G44.209 Tension-type headache, unspecified, not intractable

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339.11 Episodic tension type headache	G44.219 Episodic tension-type headache, not intractable
339.12 Chronic tension type headache	G44.221 Chronic tension-type headache, intractable G44.229 Chronic tension-type headache, not intractable
339.4 Complicated headache syndromes	
339.41 Hemicrania continua	G44.51 Hemicrania continua
339.42 New daily persistent headache	G44.52 New daily persistent headache (NDPH)
339.43 Primary thunderclap headache	G44.53 Primary thunderclap headache
339.44 Other complicated headache syndrome	G44.59 Other complicated headache syndrome
339.8 Other specified headache syndromes	
339.81 Hypnic headache	G44.81 Hypnic headache
339.82 Headache associated with sexual activity	G44.82 Headache associated with sexual activity
339.83 Primary cough headache	G44.83 Primary cough headache
339.84 Primary exertional headache	G44.84 Primary exertional headache
339.85 Primary stabbing headache	G44.85 Primary stabbing headache
339.89 Other headache syndromes	G44.89 Other headache syndrome
IHS8.2 Medication Overuse	

AND
CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);
Inpatient: 99221-99223 (Initial Hospital Care); 99231-99233 (Subsequent Hospital Care); 99238-99239 (Hospital Discharge); 99251-99255 (Initial Inpatient Consultation).
Emergency Department: 99281-99285
Urgent care: 99201-99205 or 99211-99215.

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MEASURE #6A: ASSESSMENT OF MEDICATION OVERUSE IN THE TREATMENT OF PRIMARY HEADACHE DISORDERS

Headache

This is a paired measure with 6B. If the patient screens positive for probable medication overuse headache from this measure, then measure 6B should also be followed and a plan of care should be developed or the patient should be referred for this purpose.

Measure Description

Percentage of patients diagnosed with a primary headache disorder, who are actively taking an acute headache medication** and experiencing headaches ≥15 days per month for 3 months, who were assessed for medication overuse headache (MOH)*.

Measure Components

Numerator Statement	Patients who were assessed for medication overuse headache (MOH)*. *Assessment for MOH should consist of the review of the following items according to International Classification of Headache Disorders (ICHD)-III (July 2013): 1. Headache occurring on ≥15 days per month in a patient with a pre-existing headache disorder. 2. Regular overuse for ≥3 months of one or more drugs** that can be taken for acute and/or symptomatic treatment of headache. Patients indicated for meeting these two items should be noted as screening positive for possible MOH and should complete the paired measure, measure 6B. This measure says that these patients should have a plan of care created or referral for this purpose made within the 12 month measurement period.
Denominator Statement	All patients diagnosed with a primary headache disorder, who are actively taking an acute headache medication** and experiencing headaches ≥15 days per month for 3 months, who were assessed for medication overuse headache (MOH)*. *Define Primary Headache: A headache that is not caused by another disease or medical condition. For the purpose of this measure this includes the following types of headache: **Migraine:** Migraine without aura, Migraine with aura, childhood periodic syndromes that are commonly precursors of migraine, retinal migraine, complications of migraine, probable migraine **Tension-Type Headache (TTH):** Infrequent episodic TTH, frequent episodic TTH headache, chronic TTH, probable TTH. **Cluster Headache (CH) and Other Trigeminal Autonomic Cephalgias:** Cluster headache, paroxysmal hemicrania, short-lasting unilateral neuralgia form headache attacks with conjunctival injection and tearing (SUNCT), probably trigeminal autonomic cephalgia **Other Primary Headaches:** Primary stabbing headache, primary cough headache, primary exertional headache, primary headache associated with sexual activity, hypnic headache, primary thunderclap headache, hemicrania continua, new daily-persistent headache. **Actively taking an abortive headache medication as defined by the ICHD-III as: Ergotamine ≥10 days/mo Triptans ≥10 days/mo Simple analgesics ≥15 days/mo

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	Opioids ≥10 days/mo Butalbital ≥10 days/mo Combination analgesics ≥10 days/mo Combination of any of above ≥10 days/mo Note: The above list of medications/drug names is based on clinical guidelines and other evidence and may not be all-inclusive or current. Physicians and other health care professionals should refer to the Food and Drug Administration's (FDA) web site page entitled "Drug Safety Communications" for up-to-date drug recall and alert information when prescribing medications.
Denominator Exceptions	Exceptions: • Medical Exception for not assessing the patient for MOH (i.e., patient has already had MOH ruled out within the past three months; the abortive pain medication is medically appropriate for a non-headache condition)
Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • Several studies showed that MOH also exists in children and adolescents. Population-based epidemiological studies detected a 1-year prevalence of 0.3–0.5% in adolescents all of them overusing over the counter (OTC) analgesics (mainly combined analgesics). Children also benefit from withdrawal therapy. However, only very few data are available on the best treatment in this age group. One month after withdrawal therapy, about 53% of all children had a reduction in headache frequency by more than 90% regardless whether they were on preventive medication or not; the only predictor for a poor outcome after withdrawal therapy was a duration of MOH longer than 2 years.[1] • Patients with MOH should be offered advice and teaching to encourage withdrawal treatment. (Level B)[1] • Patients after withdrawal therapy should be followed up regularly to prevent relapse of MOH. (Good practice point)[1] • When diagnosing MOH, psychiatric comorbidity and dependence behavior should be considered. (SIGN)[2] • Explain the risk of MOH to people who are using acute treatments for their headache disorder.[3] • Explain to people with MOH that it is treated by withdrawing overused medication.[3] • Be alert to the possibility of MOH in people whose headache developed or worsened while they were taking the following drugs for 3 months or more: triptans, opioids, ergots or combination analgesic medications on 10 days per month or more or paracetamol, aspirin or an NSAID, either alone or in any combination, on 15 days per month or more.[3] • Review the diagnosis of MOH and further management 4–8 weeks after the start of withdrawal of overused medication.[3] [1]EFNS headache: treatment of medication overuse headache – guideline of the EFNS headache panel: S. Evers And R. Jensen; *Eur Jo Neurol* volume 18, 2011; Treatment of medication overuse headache-guideline of the EFNS headache panel 2001.

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	[2]Scottish Intercollegiate Guidelines Network (SIGN) Diagnosis and management of headache in adults Guideline 107. 2008; www.sign.ac.u [3]NICE Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150
	Rationale for the Measure MOH is caused by chronic and excessive use of medication to treat headache. MOH is the most common secondary headaches. It may affect up to 5% of some populations, women more than men. MOH is oppressive, persistent and often at its worst on awakening.[1] This is a paired (or two part measure) that is scored separately for part A and part B. The measure 6A focuses on assessing for MOH using the July 2013 ICHD-III MOH criteria. In measure 6B, if the patient is found have MOH from measure 6A and is diagnosed with MOH, then he/she she should have a plan of care created by the clinician or the clinician should refer the patient for this purpose during the measurement period. **Gap in Care** MOH is an underdiagnosed condition. Abortive medications are appropriate for most patients with a primary headache disorder. However, when they are used too frequently, such as daily, the abortive medications can actually cause a rebound headache. In this case, the use of more abortive medications could make the situation worse instead of better. More than 50% of patients seen at a headache clinic meet criteria for MOH. The treatment of MOH is so different, even contrary to non-medication use headache, so it is important to distinguish the difference.[2-4] **Opportunity for Improvement** From the implementation and utilization of this measure there is the potential to increase diagnosis of MOH which will lead to appropriate medication use, increase quality of life, decrease unnecessary costs, reduce disability and lead to appropriate treatment of MOH. [1] World Health Organization. Headache Disorders Fact Sheet. http://www.who.int/mediacentre/factsheets/fs277/en/ Accessed. 8.22.2013 [2]Evers S, Jensen R; European Federation of Neurological Societies. Treatment of medication overuse headache--guideline of the EFNS headache panel. *Eur J Neurol.* 2011; 18(9):1115-21. [3]Evers S, Marziniak M. Clinical features, pathophysiology, and treatment of medication-overuse headache. *Lancet Neurol.* 2010; 9(4):391-401. [4]Bigal ME, Lipton RB. Excessive acute migraine medication use and migraine progression. *Neurology*. 2008 25; 71(22):1821-8.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Individual practitioner
Care setting	• Inpatient

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	• Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:

ICD-9 Code	ICD-10 Code
346 Migraine	G43 Migraine
346.0 Migraine with aura	G43.1 Migraine with aura
346.00 without mention of intractable migraine without mention of status migrainosus	G43.109 Migraine with aura, not intractable, without status migrainosus
346.01 with intractable migraine, so stated, without mention of status migrainosus	G43.119 Migraine with aura, intractable, without status migrainosus
346.02 without mention of intractable migraine with status migrainosus	G43.101 Migraine with aura, not intractable with status migrainosus
346.03 with intractable migraine, so stated, with status migrainosus	G43.111 Migraine with aura, intractable with status migrainosus
346.1 Migraine without aura	G43.0 Migraine without aura
346.10 without mention of intractable migraine without mention of status migrainosus	G43.009 Migraine without aura, not intractable without status migrainosus
346.11 with intractable migraine, so stated, without mention of status migrainosus	G43.019 Migraine without aura, intractable without status migrainosus
346.12 without mention of intractable migraine with status migrainosus	G43.001 Migraine without aura, not intractable with status migrainosus
346.13 with intractable migraine, so stated, with status migrainosus	G43.011 Migraine without aura, intractable with status migrainosus
346.2 Variants of migraine, not elsewhere classified	G43.9 Migraine, unspecified
346.20 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.21 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.22 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus

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346.23 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
346.3 Hemiplegic migraine	G43.4Hemiplegic migraine
346.30 without mention of intractable migraine without mention of status migrainosus	G43.409 Hemiplegic migraine, not intractable without status migrainosus
346.31 with intractable migraine, so stated, without mention of status migrainosus	G43.419 Hemiplegic migraine, intractable without status migrainosus
346.32 without mention of intractable migraine with status migrainosus	G43.401 Hemiplegic migraine, not intractable with status migrainosus
346.33 with intractable migraine, so stated, with status migrainosus	G43.411 Hemiplegic migraine, intractable with status migrainosus
346.4 Menstrual migraine	G43.8 Other migraine
346.40 without mention of intractable migraine without mention of status migrainosus	G43.829 Menstrual migraine, not intractable without status migrainosus
346.41 with intractable migraine, so stated, without mention of status migrainosus	G43.839 Menstrual migraine, intractable without status migrainosus
346.42 without mention of intractable migraine with status migrainosus	G43.821 Menstrual migraine, not intractable with status migrainosus
346.43 with intractable migraine, so stated, with status migrainosus	G43.831 Menstrual migraine, intractable with status migrainosus
346.5 Persistent migraine aura without cerebral infarction	G43.5 Persistent migraine aura without cerebral infarction
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346.51 with intractable migraine, so stated, without mention of status migrainosus	G43.519 Persistent migraine aura without cerebral infarction, intractable without status migrainosus
346.52 without mention of intractable migraine with status migrainosus	G43.501 Persistent migraine aura without cerebral infarction, not intractable with status migrainosus
346.53 with intractable migraine, so stated, with status migrainosus	G43.511 Persistent migraine aura without cerebral infarction, intractable with status migrainosus
346.6 Persistent migraine aura with cerebral infarction	G43.6 Persistent migraine aura with cerebral infarction
346.60 without mention of intractable migraine without mention of status migrainosus	G43.609 Persistent migraine aura with cerebral infarction, not intractable without status migrainosus
346.61 with intractable migraine, so stated, without mention of status migrainosus	G43.619 Persistent migraine aura with cerebral infarction, intractable without status migrainosus
346.62 without mention of intractable migraine with status migrainosus	G43.601 Persistent migraine aura with cerebral infarction, not intractable with status migrainosus
346.63 with intractable migraine, so stated, with status migrainosus	G43.611 Persistent migraine aura with cerebral infarction, intractable with status migrainosus
346.7 Chronic migraine without aura	G43.7 Chronic migraine without aura

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346.70 without mention of intractable migraine without mention of status migrainosus	G43.709 Chronic migraine without aura, not intractable without status migrainosus
346.71 with intractable migraine, so stated, without mention of status migrainosus	G43.719 Chronic migraine without aura, intractable without status migrainosus
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346.90 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.91 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.92 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.93 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
784 Symptoms involving head and neck	
784.0 Headache	G44.1 Vascular headache, not elsewhere classified R51 Headache
307 Special symptoms or syndromes not elsewhere classified	
307.8 Pain disorders related to psychological factors	
307.81 Tension headache	G44.209 Tension-type headache, unspecified, not intractable
339 Other headache syndromes	
339.0 Cluster headaches and other trigeminal autonomic cephalgias	
339.00 Cluster headache syndrome, unspecified	G44.009 Cluster headache syndrome, unspecified, not intractable
339.01 Episodic cluster headache	G44.019 Episodic cluster headache, not intractable
339.02 Chronic cluster headache	G44.029 Chronic cluster headache, not intractable
339.03 Episodic paroxysmal hemicranias	G44.039 Episodic paroxysmal hemicrania, not intractable
339.04 Chronic paroxysmal hemicranias	G44.049 Chronic paroxysmal hemicrania, not intractable

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339.05 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing	G44.059 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing (SUNCT), not intractable
339.09 Other trigeminal autonomic cephalgias	G44.099 Other trigeminal autonomic cephalgias (TAC), not intractable
339.1 Tension type headache	
339.10 unspecified	G44.209 Tension-type headache, unspecified, not intractable
339.11 Episodic tension type headache	G44.219 Episodic tension-type headache, not intractable
339.12 Chronic tension type headache	G44.221 Chronic tension-type headache, intractable G44.229 Chronic tension-type headache, not intractable
339.4 Complicated headache syndromes	
339.41 Hemicrania continua	G44.51 Hemicrania continua
339.42 New daily persistent headache	G44.52 New daily persistent headache (NDPH)
339.43 Primary thunderclap headache	G44.53 Primary thunderclap headache
339.44 Other complicated headache syndrome	G44.59 Other complicated headache syndrome
339.8 Other specified headache syndromes	
339.81 Hypnic headache	G44.81 Hypnic headache
339.82 Headache associated with sexual activity	G44.82 Headache associated with sexual activity
339.83 Primary cough headache	G44.83 Primary cough headache
339.84 Primary exertional headache	G44.84 Primary exertional headache
339.85 Primary stabbing headache	G44.85 Primary stabbing headache
339.89 Other headache syndromes	G44.89 Other headache syndrome

AND

CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);
Inpatient: 99221-99223 (Initial Hospital Care); 99231-99233 (Subsequent Hospital Care); 99238-99239 (Hospital Discharge); 99251-99255 (Initial Inpatient Consultation).

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MEASURE #6B: PLAN OF CARE OR REFERRAL FOR POSSIBLE MEDICATION OVERUSE HEADACHE

Headache

This is a paired measure with 6A. This measure should be completed if the patient screens positively for possible MOH/ diagnosed with MOH in Measure 6A.

Measure Description

Percentage of patients diagnosed with medication overuse headache (MOH) within the past 3 months or who screened positive for possible MOH (measure 6a) who had a medication overuse plan of care* created or who were referred for this purpose.

Measure Components

Numerator Statement	Patients who had a medication overuse headache plan of care* created or who were referred for this purpose. *Medication overuse plan of care may include: a plan to taper potential causative medication use, abrupt withdrawal of causative medication, assistance from other pharmacological agents to help the patient get off the overused medication.
Denominator Statement	All patients a diagnosis of medication overuse headache within the past three months or who screened positive for possible medication overuse headache (measure 6a).
Denominator Exceptions	Exceptions: • Medical exception for not creating a medication overuse plan of care or referring the patient for this purpose (i.e., patient already has an active plan of care in place)
Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • Patients with MOH should be offered advice and teaching to encourage withdrawal treatment. (Level B)[1] • The type of withdrawal treatment (inpatient, outpatient, advice alone) does not influence the success of the treatment and the relapse rate in general. (Level A)[1] • There is no general evidence whether abrupt or tapering withdrawal treatment should be preferred. For the overuse of analgesics, ergotamine derivatives, or triptans, abrupt withdrawal is recommended. For the overuse of opioids, benzodiazepines, or barbiturates, tapering down of the medication should be offered. (Good practice point)[1] • Topiramate 100 mg (up to 200 mg maximum) per day is probably effective in the treatment of MOH. (B)[1] • Patients after withdrawal therapy should be followed up regularly to prevent relapse of medication overuse. (Good practice point)[2] • Patients with MOH who have psychiatric comorbidity or dependence behavior should have these conditions treated independently. Referral to a psychiatrist or a clinical psychologist should be considered.[2] • Patients with MOH caused by simple analgesics or triptans should be advised to abruptly withdraw the overused medication. In the majority of patients this can be as an outpatient with structured advice.[3]

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	• In patients with MOH, topiramate may be considered in order to reduce the total number of headache days.[3] • Explain to people with MOH that it is treated by withdrawing overused medication.[3] • Consider prophylactic treatment for the underlying primary headache disorder in addition to withdrawal of overused medication for people with MOH.[3] • Review the diagnosis of MOH and further management 4–8 weeks after the start of withdrawal of overused medication.[3] [1]EFNS headache: treatment of medication overuse headache – guideline of the EFNS headache panel: S. Evers And R. Jensen; *Eur Jo Neurol* 2001; 18, 2011: 115-1121. [2]Scottish Intercollegiate Guidelines Network (SIGN) Diagnosis and management of headache in adults Guideline 107. 2008; www.sign.ac.u [3]NICE Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150
	Rationale for the Measures MOH is caused by chronic and excessive use of medication to treat headache. MOH is the most common secondary headaches. It may affect up to 5% of some populations, women more than men. MOH is oppressive, persistent and often at its worst on awakening.[1] This is a paired, or a two-part measure, that is scored separately for part A and part B. The measure 6A focuses on assessing for MOH using the July 2013 ICHD-III medication overuse headache criteria. In measure 6B, if the patient is found have MOH from measure 6A and is diagnosed with MOH, then he/she she should have a plan of care created by the clinician or the clinician should refer the patient for this purpose. **Gap in Care** MOH is an underdiagnosed condition. Abortive medications are appropriate for most patients with a primary headache disorder. However, when they are used too frequently, such as daily, the abortive medications can actually cause a rebound headache. In this case, the use of more abortive medications could make the situation worse instead of better. More than 50% of patients seen at a headache clinic meet criteria for MOH. The treatment of MOH is so different, even contrary to non-medication use headache, so it is important to distinguish the difference.[2-4] **Opportunity for Improvement** This measure may increase treatment of MOH, improve quality of life, decrease headache related disability, decrease direct and indirect costs, and increase appropriate treatment for MOH. [1] World Health Organization. Headache Disorders Fact Sheet. http://www.who.int/mediacentre/factsheets/fs277/en/ Accessed. 8.22.2013 [2]Evers S, Jensen R; European Federation of Neurological Societies. Treatment of medication overuse headache--guideline of the EFNS headache panel. *Eur J Neurol.* 2011 Sep; 18(9):1115-21.

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	[3]Evers S, Marziniak M. Clinical features, pathophysiology, and treatment of medication-overuse headache. *Lancet Neurol*. 2010 Apr; 9(4):391-401. [4]Bigal ME, Lipton RB. Excessive acute migraine medication use and migraine progression. *Neurology*. 2008 Nov 25; 71(22):1821-8. doi: 10.1212/01.wnl.0000335946.53860.1d. Review. PubMed PMID: 19029522.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Individual practitioner
Care setting	• Inpatient • Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:
ICD-9: 339.3 Drug induced headache NEC
ICD-10: G44.41 Drug induced headache, NEC, intractable

AND
CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);
Inpatient: 99221-99223 (Initial Hospital Care); 99231-99233 (Subsequent Hospital Care); 99238-99239 (Hospital Discharge); 99251-99255 (Initial Inpatient Consultation).

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MEASURE #7: OVERUSE OF NEUROIMAGING FOR PATIENTS WITH PRIMARY HEADACHE AND A NORMAL NEUROLOGICAL EXAMINATION

Headache

Measure Description

Percentage of patients diagnosed with primary headache* and who have a normal neurological examination for whom advanced brain imaging (CTA, CT, MRA or MRI) was NOT ordered.

Measure Components

Numerator Statement	Patients with a normal neurological examination* for whom advanced brain imaging (CTA, CT, MRA or MRI) was NOT ordered. *Normal neurological examination: Absence of signs of increased intracranial pressure (e.g., papilledema, absent venous pulsations on funduscopic examination, altered cognition), focal neurologic deficits, ataxia, pathologic neurologic reflexes (e.g., Babinski sign, clonus), signs of meningeal irritation
Denominator Statement	All patients with a diagnosis of primary headache*. Note: If the physician believes there is the possibility of a secondary headache etiology (e.g., stroke, tumor, bleed, etc.) then they should not code as a primary headache disorder to avoid being subject to this measure. *Define Primary Headache: For the purpose of this measure this includes the following types of headache: **Migraine:** Migraine without aura, migraine with aura, retinal migraine, chronic migraine, probable migraine. **Tension-Type Headache (TTH):** Infrequent episodic TTH, frequent episodic TTH, chronic TTH, probable TTH. **Other Primary Headaches:** Primary stabbing headache, hypnic headache, hemicrania continua, new daily-persistent headache.
Denominator Exceptions	Exceptions: • Medical exceptions for ordering an advanced brain imaging study (i.e., patient has an abnormal neurological examination; patient has the coexistence of seizures, or both; recent onset of severe headache; change in the type of headache; signs of increased intracranial pressure (e.g., papilledema, absent venous pulsations on funduscopic examination, altered mental status, focal neurologic deficits, signs of meningeal irritation); HIV-positive patients with a new type of headache; immunocompromised patient with unexplained headache symptoms; patient on coagulopathy/anti-coagulation or anti-platelet therapy; very young patients with unexplained headache symptoms). • System exceptions for ordering an advanced brain imaging study (i.e., needed as part of a clinical trial; other clinician ordered the study).
Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:**

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	• Neuroimaging recurrent headache: Obtaining a neuroimaging study on a routine basis is not indicated in children with recurrent headaches and a normal neurologic examination. (Level B)[1] • Neuroimaging is not usually warranted for patients with migraine and normal neurological examination. (Level B)[2] • Neuroimaging is not indicated in patients with a clear history of migraine, without red flag features for potential secondary headache, and a normal neurological examination. (Level D)* Only included because it supports neuroimaging overuse in normal exam patients with migraine. But low level evidence; *deemed by guideline group to be one of the most clinically important recommendation.[3] • Do not refer people diagnosed with TTH, migraine, CH or medication overuse headache (MOH) for neuroimaging solely for reassurance.[4] • In adult and pediatric patients with migraine, with no recent change in pattern, no history of seizures, and no other focal neurological signs or symptoms, the routine use of neuroimaging is not warranted. (Grade B)[5] • ACR Appropriateness Criteria (2009): MRA head with or without contract (2-Usually NOT appropriate for chronic headache-No New Features); CTA with contrast (Usually not appropriate for chronic headache, No New Features)[6] • Don't do imaging for uncomplicated headache.[7] • The US Headache Consortium identified three consensus-based (not evidence-based) general principles of management for making decisions regarding neuroimaging in patients with headache: 1) testing should be avoided if it will not lead to a change in management; 2) testing is not recommended if the patient is not significantly more likely than anyone else in the general population to have a significant abnormality; and 3) testing that normally may not be recommended as a population policy may make sense at an individual level, resources notwithstanding.[2] [1] American Academy of Neurology. Lewis D, Ashwal S, Hershey A et al. Pharmacological treatment of migraine headache in children and adolescents. *Neurology*. 2004; 63; 2215. [2]US Headache Consortium. Frishberg, B, Rosenberg, J, Matchar, D et al. Evidence-based guidelines in the primary care setting: neuroimaging in patients with non-acute headache. [3]Scottish Intercollegiate Guidelines Network (SIGN) Diagnosis and management of headache in adults Guideline 107. 2008; www.sign.ac.uk [4] NICE Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150 [5] Sandrini G, Friberg L, Coppola G, et al. Janberg Neurophysiological tests and neuroimaging procedures in non-acute headache (2nd edition); 2011; *Eur J Neurol*; 18 (3) [6] American College of Radiology. ACR Appropriateness Criteria. Clinical Condition: Headache. Variant 1: Chronic Headache, No New Features. 2009 [7] American College of Radiology. Choosing Wisely 2013. Available at: http://www.choosingwisely.org/doctor-patient-lists/american-college-of-radiology/
	Rationale for the Measure **Gap in Care** Imaging headache patients absent specific risk factors for structural disease is not likely to change management or improve outcome. Those patients with a significant likelihood of

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structural disease requiring immediate attention are detected by clinical screens that have been validated in many settings. Many studies and clinical practice guidelines concur. Also, incidental findings lead to additional medical procedures and expense that do not improve patient well-being.[1]

Overuse of neuroimaging in pediatric patients was reported over a 13-year study period ranging from 41-47%[2] in a study by Graf, et al. Combining the results of the previous eight studies performed in children with recurrent headaches (7 in clinic-based population, 1 in children referred for neuroimaging), neuroimaging was undertaken in 38.1% of the study populations (1,072/2,815; range 17.5–100%).[3]

You, et al. determined the indications for CT and MRI in Ontario.[4] They studied 11,824 CT and 11,867 MRI scans from a random sample of 40 hospitals in Ontario. Hospital sampling was stratified by region and hospital teaching status. The publication reports that of the 11,824 CT scans completed, 3,930 (33%) were of the head and 1,055 (26.8%) of these were for the indication of headache. Because the CT scans were done for more than one indication the actual proportion of CT scans done solely for the purpose of headache was 16%. Similarly, 4,038 (34%) of all MRI scans were head scans of which 523 (13%) were for the indication of headache. However, similar to CT scans, the MRI scans were requested for multiple indications and the actual proportion of MRI scans done solely for the purpose of headache was estimated to be 4%. (Unpublished data, personal communication with author, April 29, 2010)[5]

Information concerning the workup of headache in the ambulatory setting is limited. In actual practice, only about 3% of patients who present with a new headache in the office setting have neuroimaging ordered.[6] When neuroimaging is performed, about 4% of CT scans find a significant and treatable lesion (in one sample of 293 CT scans, there were 12 true-positive scans and 2 false-positive scans).[7] Expert guidelines regarding headaches among ambulatory patients recommend neuroimaging for migraine patients only in the presence of persistent focal abnormal neurological findings.

Opportunity for Improvement
There is a marked need to reduce the unnecessary use of neuroimaging for atraumatic primary headache disorders. This measure is intended to reduce the use of these unnecessary tests, reduce treatment costs, and improve patient safety by reducing the exposure to unnecessary radiation and testing.

[1]American College of Radiology. Choosing Wisely 2013. Available at: http://www.choosingwisely.org/doctor-patient-lists/american-college-of-radiology/
[2]Graf WD, Kayyali HR, Alexander JJ, et al. Neuroimaging-Use Trends in Nonacute Pediatric Headache before and after clinical practice parameters. *Pediatrics* 2008: 122(5):e1001-1005
[3]Rho Y, Chung H-J, Suh E-S, et al: The role of Neuroimaging in children and adolescents with recurrent headaches. *Headache*. 2011; 51(3):403-408.
[4]You JJ, Purdy I, Rothwell DM, Przybysz R, et al. Indications for and results of outpatient computed tomography and magnetic resonance imaging in Ontario. *Can Assoc Radiol J*. 2008; 59(3):135-43.
[5]Neuroimaging for the evaluation of chronic headaches: an evidence-based analysis. *Ontario Health Technology Assessment Ser*, 2010; 10(26):1-57. Epub 2010 Dec 1
[6]Becker L, Iverson DC, Reed FM, et al. Patients with a new headache in primary care: a report from ASPN. *J Fam Pract* 1988; 27:41-47.

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	[7]Becker LA, Green LA, Beaufait D, et al. Use of CT scans for the investigation of headache: a report from ASPN, part 1. *J Fam Pract* 1993; 37:129-134.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Individual practitioner
Care setting	• Inpatient • Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:

ICD-9 Code	ICD-10 Code
346 Migraine	G43 Migraine
346.0 Migraine with aura	G43.1 Migraine with aura
346.00 without mention of intractable migraine without mention of status migrainosus	G43.109 Migraine with aura, not intractable, without status migrainosus
346.01 with intractable migraine, so stated, without mention of status migrainosus	G43.119 Migraine with aura, intractable, without status migrainosus
346.02 without mention of intractable migraine with status migrainosus	G43.101 Migraine with aura, not intractable with status migrainosus
346.03 with intractable migraine, so stated, with status migrainosus	G43.111 Migraine with aura, intractable with status migrainosus
346.1 Migraine without aura	G43.0 Migraine without aura
346.10 without mention of intractable migraine without mention of status migrainosus	G43.009 Migraine without aura, not intractable without status migrainosus
346.11 with intractable migraine, so stated, without mention of status migrainosus	G43.019 Migraine without aura, intractable without status migrainosus
346.12 without mention of intractable migraine with status migrainosus	G43.001 Migraine without aura, not intractable with status migrainosus
346.13 with intractable migraine, so stated, with status migrainosus	G43.011 Migraine without aura, intractable with status migrainosus

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346.2 Variants of migraine, not elsewhere classified	G43.9 Migraine, unspecified
346.20 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.21 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.22 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.23 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
346.3 Hemiplegic migraine	G43.4Hemiplegic migraine
346.30 without mention of intractable migraine without mention of status migrainosus	G43.409 Hemiplegic migraine, not intractable without status migrainosus
346.31 with intractable migraine, so stated, without mention of status migrainosus	G43.419 Hemiplegic migraine, intractable without status migrainosus
346.32 without mention of intractable migraine with status migrainosus	G43.401 Hemiplegic migraine, not intractable with status migrainosus
346.33 with intractable migraine, so stated, with status migrainosus	G43.411 Hemiplegic migraine, intractable with status migrainosus
346.4 Menstrual migraine	G43.8 Other migraine
346.40 without mention of intractable migraine without mention of status migrainosus	G43.829 Menstrual migraine, not intractable without status migrainosus
346.41 with intractable migraine, so stated, without mention of status migrainosus	G43.839 Menstrual migraine, intractable without status migrainosus
346.42 without mention of intractable migraine with status migrainosus	G43.821 Menstrual migraine, not intractable with status migrainosus
346.43 with intractable migraine, so stated, with status migrainosus	G43.831 Menstrual migraine, intractable with status migrainosus
346.5 Persistent migraine aura without cerebral infarction	G43.5 Persistent migraine aura without cerebral infarction
346.50 without mention of intractable migraine without mention of status migrainosus	G43.509 Persistent migraine aura without cerebral infarction, not intractable without status migrainosus
346.51 with intractable migraine, so stated, without mention of status migrainosus	G43.519 Persistent migraine aura without cerebral infarction, intractable without status migrainosus
346.52 without mention of intractable migraine with status migrainosus	G43.501 Persistent migraine aura without cerebral infarction, not intractable with status migrainosus
346.53 with intractable migraine, so stated, with status migrainosus	G43.511 Persistent migraine aura without cerebral infarction, intractable with status migrainosus
346.7 Chronic migraine without aura	G43.7 Chronic migraine without aura
346.70 without mention of intractable migraine without mention of status migrainosus	G43.709 Chronic migraine without aura, not intractable without status migrainosus

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346.71 with intractable migraine, so stated, without mention of status migrainosus	G43.719 Chronic migraine without aura, intractable without status migrainosus
346.72 without mention of intractable migraine with status migrainosus	G43.701 Chronic migraine without aura, not intractable with status migrainosus
346.73 with intractable migraine, so stated, with status migrainosus	G43.711 Chronic migraine without aura, intractable with status migrainosus
346.8 Other forms of migraine	G43.8 Other migraine
346.80 without mention of intractable migraine without mention of status migrainosus	G43.809 Other migraine, not intractable without status migrainosus
346.81 with intractable migraine, so stated, without mention of status migrainosus	G43.819 Other migraine, intractable without status migrainosus
346.82 without mention of intractable migraine with status migrainosus	G43.801 Other migraine, not intractable with status migrainosus
346.83 with intractable migraine, so stated, with status migrainosus	G43.811 Other migraine, intractable with status migrainosus
346.9 Migraine unspecified	G43.9 Migraine, unspecified
346.90 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.91 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.92 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.93 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
784 Symptoms involving head and neck	
784.0 Headache	G44.1 Vascular headache, not elsewhere classified R51 Headache
307 Special symptoms or syndromes not elsewhere classified	
307.8 Pain disorders related to psychological factors	
307.81 Tension headache	G44.209 Tension-type headache, unspecified, not intractable
339 Other headache syndromes	
339.1 Tension type headache	
339.10 unspecified	G44.209 Tension-type headache, unspecified, not intractable
339.11 Episodic tension type headache	G44.219 Episodic tension-type headache, not intractable
339.12 Chronic tension type headache	G44.221 Chronic tension-type headache, intractable G44.229 Chronic tension-type headache, not intractable
339.4 Complicated headache syndromes	
339.42 New daily persistent headache	G44.52 New daily persistent headache (NDPH)
339.44 Other complicated headache syndrome	G44.59 Other complicated headache syndrome
339.8 Other specified headache syndromes	

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339.81 Hypnic headache	G44.81 Hypnic headache
339.85 Primary stabbing headache	G44.85 Primary stabbing headache
339.89 Other headache syndromes	G44.89 Other headache syndrome

AND

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Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);
Inpatient: 99221-99223 (Initial Hospital Care); 99231-99233 (Subsequent Hospital Care); 99238-99239 (Hospital Discharge); 99251-99255 (Initial Inpatient Consultation).

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MEASURE #8: QUALITY OF LIFE ASSESSMENT FOR PATIENTS WITH PRIMARY HEADACHE DISORDERS

Headache

Outcome Measure

Measure Description

Percentage of patients with a diagnosis of primary headache disorder whose health related quality of life (HRQoL) was assessed with a tool(s)* during at least two visits* during the 12 month measurement period AND whose health related quality of life score stayed the same or improved***.

Measure Components

Numerator Statement	Patient whose health related quality of life was assessed with a tool(s)* during at least two visits* during the 12 month measurement period AND whose health related quality of life score** stayed the same or improved***. * List quality of life (QoL) tools: Migraine Disability Assessment (MIDAS) and PedMIDAS(proprietary); Headache Impact Test-6 (HIT-6)(proprietary); Migraine Specific Quality of Life Tool (MSQ. ** Timing Between Visits: Must be separated by at least 90 days for MIDAS and at least 4 weeks for any other tool. *** See specific tools for scoring methods related to improvement or stayed the same: Each tool defines improvement differently based on their scoring methodology. For example, when using the MIDAS improvement would be indicated by reduction in MIDAS disability grade and in the HIT-6 a reduction in the number of days with disability overtime indicates improvement.
Denominator Statement	All patients with a diagnosis with a primary headache disorder*. * Primary Headache: For the purpose of this measure this includes the following types of headache: **Migraine:** Migraine without aura, migraine with aura, childhood periodic syndromes that are commonly precursors of migraine, retinal migraine, complications of migraine, probable migraine **Tension-Type Headache (TTH):** Infrequent episodic TTH, frequent episodic TTH, chronic TTH, probable TTH. **Cluster Headache (CH) and Other Trigeminal Autonomic Cephalgias:** Cluster headache, paroxysmal hemicrania, short-lasting unilateral neuralgia form headache attacks with conjunctival injection and tearing (SUNCT), probable trigeminal autonomic cephalgia **Other Primary Headaches:** Primary stabbing headache, primary cough headache, primary exertional headache, primary headache associated with sexual activity, hypnic headache, primary thunderclap headache, hemicrania continua, new daily-persistent headache.
Denominator Exceptions	Exceptions: • Medication exception for not assessing for QoL (i.e., patient has a cognitive or neuropsychiatric impairment that impairs his/her ability to complete the HRQoL survey)

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	• Patient exception for not assessing for QoL (i.e., patient has the inability to read and/or write in order to complete the HRQoL questionnaire • System exception for not assessing for QoL (i.e., patient does not have insurance to cover the cost of the QoL assessment)
Supporting Guideline & Other References	This is an outcome measure. There are limited specific guideline recommendations that could be cited. However, this is a strong consensus by the expert Work Group that HRQoL needs to be monitored as a PRO measure. **The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • Discuss the benefits and risks of prophylactic treatment for migraine with the person, taking into account the person's preference, comorbidities, risk of adverse events and the impact of the headache on their QoL. (No level of evidence)[1] • Compared with people without headache and to people with other chronic conditions, people with headache report compromised physical, mental, and social functioning, particularly those with a high frequency of attack. People with headache reported diminished functioning and well-being on all eight domains as compared with people without headache .[2] [1] NICE Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150 [2]Terwindt GM, Ferrari MD, Tihuis M et al. The impact of migraine on quality of life in the general population: The GEM study *Neurology* 2000 55:624-629
	Rationale for the Measure This measure establishes an initial or baseline QoL score from which the patient should use the same QoL tool/questionnaire at least one additional time during the measurement period. The two assessments must be separated by at least 90 days for MIDAS and at least 4 weeks for any other tool.[3] It is expected that the QoL score or ranking will stay the same or improve in order for this measure to be successfully completed. **Gap in Care** Migraine impacts a person's function sin different activity domains during attacks. HRQoL is affected both during and after attacks.[1] Migraine reduces HRQoL more than osteoarthritis or diabetes.[2] In the US and UK, subjects with migraine had lower scores ($p < 0.001$) on both the Mental Component Score (MCS-12) and Physical Component Score (PCS-12) than their non-migraine counterparts. Significant differences were maintained after controlling for gender, age, and education. Migraine and depression were highly correlated (adjusted prevalence ratio 2.7, 95% CI 2.1 to 3.5). Further, migraine and depression are highly associated with attack frequency (for MCS-12 and PCS-12) and disability (MCS-12). Subjects with migraine selected from the general population have lower HRQoL as measured by the Short Form (SF-morbid) and each exerts a significant and independent influence on HRQoL.[3] **Opportunity for Improvement**

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	This is the first clinician level patient reported outcome measure (PROM) focused on maintaining or improving the QoL of patients with primary headache disorders. The Work Group felt that even though the majority evidence is focused on migraine that patients with other primary headache disorders could greatly benefit from the utilization of this measure. The use of PROMs to investigate levels of disability and HRQoL are increasingly being used in headache services research. HRQoL and disability are positively impacted by treatment interventions.[4] Health care professionals often do not recognize the degree and the scope of functional impairment imposed by migraines. There is a missed opportunity for clinicians to effectively communicate with the patient to understand their headache-related disability and appropriately prescribe acute, prophylactic, or biobehavioral treatments. This measure has the potential to reduce personal and societal costs of headache disorders offering a continuity of care. [1]Buse Dc, Rupnow MF, Lipton Rb. Assessing and managing all aspects of migraine: migraine attacks, migraine related functional impairment, common comorbidities, and quality of life. Mayo Clin Proc 2009; 84: 422-435 [2]Buse DC, Manack AN, Fanning KM, et al. Chronic Migraine Prevalence, Disability, and Sociodemographic Factors: Results From the American Migraine Prevalence and Prevention Study. *Headache*. 2012 Jun 22. doi: 10.1111/j.1526-4610.2012.02223.x. [Epub ahead of print] [3]Lipton RB, Hamelsky SW Kolodner KB et al. Migraine, quality of life, and depression A population-based case–control study *Neurology*, 2000 vol. 55 no. 5 629-635 [4]D'Amico D, Grazzi L, Usai S, Leonardi M. Disability and quality of life in headache: where are we not and where we are heading. Neurol Sci 2013 34(S1):S1-S5

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Outcome
Level of Measurement	• Individual practitioner
Care setting	• Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:

ICD-9 Code	ICD-10 Code
346 Migraine	G43 Migraine

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346.0 Migraine with aura	G43.1 Migraine with aura
346.00 without mention of intractable migraine without mention of status migrainosus	G43.109 Migraine with aura, not intractable, without status migrainosus
346.01 with intractable migraine, so stated, without mention of status migrainosus	G43.119 Migraine with aura, intractable, without status migrainosus
346.02 without mention of intractable migraine with status migrainosus	G43.101 Migraine with aura, not intractable with status migrainosus
346.03 with intractable migraine, so stated, with status migrainosus	G43.111 Migraine with aura, intractable with status migrainosus
346.1 Migraine without aura	G43.0 Migraine without aura
346.10 without mention of intractable migraine without mention of status migrainosus	G43.009 Migraine without aura, not intractable without status migrainosus
346.11 with intractable migraine, so stated, without mention of status migrainosus	G43.019 Migraine without aura, intractable without status migrainosus
346.12 without mention of intractable migraine with status migrainosus	G43.001 Migraine without aura, not intractable with status migrainosus
346.13 with intractable migraine, so stated, with status migrainosus	G43.011 Migraine without aura, intractable with status migrainosus
346.2 Variants of migraine, not elsewhere classified	G43.9 Migraine, unspecified
346.20 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.21 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.22 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.23 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
346.3 Hemiplegic migraine	G43.4Hemiplegic migraine
346.30 without mention of intractable migraine without mention of status migrainosus	G43.409 Hemiplegic migraine, not intractable without status migrainosus
346.31 with intractable migraine, so stated, without mention of status migrainosus	G43.419 Hemiplegic migraine, intractable without status migrainosus
346.32 without mention of intractable migraine with status migrainosus	G43.401 Hemiplegic migraine, not intractable with status migrainosus
346.33 with intractable migraine, so stated, with status migrainosus	G43.411 Hemiplegic migraine, intractable with status migrainosus
346.4 Menstrual migraine	G43.8 Other migraine
346.40 without mention of intractable migraine without mention of status migrainosus	G43.829 Menstrual migraine, not intractable without status migrainosus
346.41 with intractable migraine, so stated, without mention of status migrainosus	G43.839 Menstrual migraine, intractable without status migrainosus

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346.42 without mention of intractable migraine with status migrainosus	G43.821 Menstrual migraine, not intractable with status migrainosus
346.43 with intractable migraine, so stated, with status migrainosus	G43.831 Menstrual migraine, intractable with status migrainosus
346.5 Persistent migraine aura without cerebral infarction	G43.5 Persistent migraine aura without cerebral infarction
346.50 without mention of intractable migraine without mention of status migrainosus	G43.509 Persistent migraine aura without cerebral infarction, not intractable without status migrainosus
346.51 with intractable migraine, so stated, without mention of status migrainosus	G43.519 Persistent migraine aura without cerebral infarction, intractable without status migrainosus
346.52 without mention of intractable migraine with status migrainosus	G43.501 Persistent migraine aura without cerebral infarction, not intractable with status migrainosus
346.53 with intractable migraine, so stated, with status migrainosus	G43.511 Persistent migraine aura without cerebral infarction, intractable with status migrainosus
346.6 Persistent migraine aura with cerebral infarction	G43.6 Persistent migraine aura with cerebral infarction
346.60 without mention of intractable migraine without mention of status migrainosus	G43.609 Persistent migraine aura with cerebral infarction, not intractable without status migrainosus
346.61 with intractable migraine, so stated, without mention of status migrainosus	G43.619 Persistent migraine aura with cerebral infarction, intractable without status migrainosus
346.62 without mention of intractable migraine with status migrainosus	G43.601 Persistent migraine aura with cerebral infarction, not intractable with status migrainosus
346.63 with intractable migraine, so stated, with status migrainosus	G43.611 Persistent migraine aura with cerebral infarction, intractable with status migrainosus
346.7 Chronic migraine without aura	G43.7 Chronic migraine without aura
346.70 without mention of intractable migraine without mention of status migrainosus	G43.709 Chronic migraine without aura, not intractable without status migrainosus
346.71 with intractable migraine, so stated, without mention of status migrainosus	G43.719 Chronic migraine without aura, intractable without status migrainosus
346.72 without mention of intractable migraine with status migrainosus	G43.701 Chronic migraine without aura, not intractable with status migrainosus
346.73 with intractable migraine, so stated, with status migrainosus	G43.711 Chronic migraine without aura, intractable with status migrainosus
346.8 Other forms of migraine	G43.8 Other migraine
346.80 without mention of intractable migraine without mention of status migrainosus	G43.809 Other migraine, not intractable without status migrainosus
346.81 with intractable migraine, so stated, without mention of status migrainosus	G43.819 Other migraine, intractable without status migrainosus
346.82 without mention of intractable migraine with status migrainosus	G43.801 Other migraine, not intractable with status migrainosus
346.83 with intractable migraine, so stated, with status migrainosus	G43.811 Other migraine, intractable with status migrainosus

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346.9 Migraine unspecified	G43.9 Migraine, unspecified
346.90 without mention of intractable migraine without mention of status migrainosus	G43.909 Migraine, unspecified, not intractable without status migrainosus
346.91 with intractable migraine, so stated, without mention of status migrainosus	G43.919 Migraine, unspecified, intractable without status migrainosus
346.92 without mention of intractable migraine with status migrainosus	G43.901 Migraine, unspecified, not intractable with status migrainosus
346.93 with intractable migraine, so stated, with status migrainosus	G43.911 Migraine, unspecified, intractable with status migrainosus
784 Symptoms involving head and neck	
784.0 Headache	G44.1 Vascular headache, not elsewhere classified R51 Headache
307 Special symptoms or syndromes not elsewhere classified	
307.8 Pain disorders related to psychological factors	
307.81 Tension headache	G44.209 Tension-type headache, unspecified, not intractable
339 Other headache syndromes	
339.0 Cluster headaches and other trigeminal autonomic cephalgias	
339.00 Cluster headache syndrome, unspecified	G44.009 Cluster headache syndrome, unspecified, not intractable
339.01 Episodic cluster headache	G44.019 Episodic cluster headache, not intractable
339.02 Chronic cluster headache	G44.029 Chronic cluster headache, not intractable
339.03 Episodic paroxysmal hemicranias	G44.039 Episodic paroxysmal hemicrania, not intractable
339.04 Chronic paroxysmal hemicranias	G44.049 Chronic paroxysmal hemicrania, not intractable
339.05 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing	G44.059 Short lasting unilateral neuralgiform headache with conjunctival injection and tearing (SUNCT), not intractable
339.09 Other trigeminal autonomic cephalgias	G44.099 Other trigeminal autonomic cephalgias (TAC), not intractable
339.1 Tension type headache	
339.10 unspecified	G44.209 Tension-type headache, unspecified, not intractable
339.11 Episodic tension type headache	G44.219 Episodic tension-type headache, not intractable
339.12 Chronic tension type headache	G44.221 Chronic tension-type headache, intractable G44.229 Chronic tension-type headache, not intractable
339.4 Complicated headache syndromes	
339.41 Hemicrania continua	G44.51 Hemicrania continua
339.42 New daily persistent headache	G44.52 New daily persistent headache (NDPH)
339.43 Primary thunderclap headache	G44.53 Primary thunderclap headache

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339.44 Other complicated headache syndrome	G44.59 Other complicated headache syndrome
339.8 Other specified headache syndromes	
339.81 Hypnic headache	G44.81 Hypnic headache
339.82 Headache associated with sexual activity	G44.82 Headache associated with sexual activity
339.83 Primary cough headache	G44.83 Primary cough headache
339.84 Primary exertional headache	G44.84 Primary exertional headache
339.85 Primary stabbing headache	G44.85 Primary stabbing headache
339.89 Other headache syndromes	G44.89 Other headache syndrome

AND

CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);

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MEASURE #9: MIGRAINE HEADACHE RELATED DISABILITY FUNCTIONAL STATUS

Headache

Quality Improvement Only

Measure Description

Percentage of patients age 6 years old and older who have a diagnosis of migraine headache and for whom the number of headache-related disability days during the past 3 months is documented in the medical record.

This is a system level measure that is to be used for quality improvement purposes only at this time.

Measure Components

Numerator Statement	Number of days during the past 3 months, as categorized* by patients or their caregivers, that they are unable to perform common daily activities (e.g., school, work, household chores, social activities, Independent Activities of Daily Living (IADLS), etc.) due to migraine headache. *Within the past 3 months range of days of disability due to migraine. 0 to 5 days: Little or no disability 6 to 10 days: Mild disability 11 to 20 days: Moderate disability 21+ days: Severe disability Survey tool examples: Migraine Disability Assessment (MIDAS) (proprietary tool); Disability in Strategies for Care (DISC)
Denominator Statement	All patients age 6 years old and older who have a diagnosis of migraine headache.
Denominator Exceptions	Exceptions: • Medication exception for not administering a disability tool (i.e., patient has a cognitive or neuropsychiatric impairment that impairs his/her ability to complete the survey). • Patient exception for not administering a disability tool (i.e., patient has the inability to read and/or write in order to complete the questionnaire). • System exception for not administering a disability tool (i.e., patient does not have insurance to cover the cost of the quality of life assessment).
Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • This is a system level outcome measure. There are no specific guideline recommendations available that could be cited for this measure. However, this was a strong consensus by the Work Group that headache-related disability needs to be monitored as a patient reported outcome measure (PROM) because of the peer reviewed studies showing the significant association of headache disability, including days lost to work, school, social activities and the effect of headache on IADLs.
	Rationale for the Measure

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The goal of this measure is to understand headache related disability (risk adjusted/risk stratified) on the system level to indicate where improvements in the management and treatment of patients with headache should be made.

Gap in Care

On the World Health Organization's ranking of causes of disability, this would bring headache disorders into the ten most disabling conditions for the two genders, and into the five most disabling for women.[1] 90% of people with headache have some headache-related disability, and approximately half are severely disabled or require bed rest.[2]

- Disability:
    - 9 out of 10 people with headache report they can't "function normally" during days in which a migraine headache strikes and 3 in 10 require bed rest.[3]
    - More than 25% of migraine sufferers missed at least one day of work over the past three months due to a migraine.[3]
    - Nearly 50% of sufferers report their migraines prevented them from doing household chores.[3]
    - Approximately 30% of people with headache did not participate in a family or social activity due to a migraine.[3]

In another study, the eligible sample included 6,329 persons with episodic migraine (EM) and 374 persons with chronic migraine (CM). Men with CM aged 45 to 54 years cost employers nearly $200 per week more than do their EM counterparts. Likewise, for women costs were higher for CM; with the cost differential between EM and CM being $90 per week. After comprehensive adjustment, increases in lost productive time with age were significantly higher in CM than in EM (rate ratio 1.03; 95% confidence interval 1.01-1.05). When age was recoded to a decade, metric rates of lost productive time increased 25% more per decade for CM than for EM (rate ratio 1.25; 95% confidence interval 1.004-1.5). Lost productive time is more costly and increases more rapidly for those with CM than for those with EM as age increases.[4]

Opportunity for Improvement

Clinicians are advised to base their treatment choice on degree of disability along with attack frequency and duration, non-headache symptoms, patient preference, and prior history of treatment response using a stratified approach to care. In stratified care, initial treatment is individualized based on an assessment of the patients' medical needs. One approach to stratification uses the MIDAS to stratify patients into groups with different treatment needs based on the degree of headache-related disability. Stratified care was developed as an alternative to step-care approaches, which begin patients on nonspecific medication with gradual escalation until they obtain effective relief. Results from the DISC study indicate that stratified care provides superior outcomes compared to step-care and that the approach is cost-effective, supporting the US Headache Consortium Guidelines. Stratified care may become the approach of choice for managing migraine in clinical practice. This approach increases the chances of providing appropriate therapy at the patient's initial consultation, sparing the patient a series of failed therapeutic efforts. MIDAS provides a practical tool for helping to implement the recommendations of the US Headache Consortium Guidelines.[5]

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	[1]World Health Organization. Headache Disorders Fact Sheet. http://www.who.int/mediacentre/factsheets/fs277/en/ Accessed. 8.22.2013 [2]International Association for the Study of Pain. Epidemiology of Headache Fact Sheet 2012. /www.iasp-pain.org/ Accessed 8.22.2013 [3]National Headache Foundation Impact of Migraine: Evaluation Patient Disability http://www.headaches.org/pdf/Monograph12.pdf Accessed. 8.20.2013 [4]Serrano D, Manack AN, Reed ML, et al. Cost and predictors of lost productive time in chronic migraine and episodic migraine: results of the American Migraine Prevalence and Prevention (AMPP) Study. *Value Health* 2013; 16 (1): 31-38. [5] Lipton RB , Silberstein SD, The role of headache-related disability in migraine management. Implications for headache treatment guidelines. *Neurology* 2001 56 (1): S35-S42

Measure Designation

Measure purpose	• Quality improvement Only
Type of measure	• Outcome
Level of Measurement	• System Level Measure
Care setting	• Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9	ICD-10
346.0 Migraine with aura **346.00** **346.01** **346.02** **346.03**	Non-specific code **G43.109**, Migraine with aura, not intractable, without status migrainosus **G43.119**, Migraine with aura, intractable, without status migrainosus **G43.101,** Migraine with aura, not intractable, with status migrainosus **G43.111**, Migraine with aura, intractable, with status migrainosus
346.1 Migraine without aura **346.10** **346.11** **346.12** **346.13**	Non-specific code **G43.009** Migraine without aura, not intractable, without status migrainosus **G43.019** Migraine without aura, intractable, without status migrainosus **G43.001**, Migraine without aura, not intractable, with status migrainosus **G43.011,** Migraine without aura,

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	intractable with status migrainosus
346.2 Variants of migraine	Non-specific code
346.20	**G43.809**, Other migraine, not intractable without status migrainosus
346.21	**G43.819** Other migraine, intractable, without status migrainosus
346.22	**G43.801**, Other migraine, not intractable, with status migrainosus
346.23	**G43.811**, Other migraine, intractable, with status migrainosus
346.4 Menstrual Migraine	Non-specific code
346.40	**G43.829** Menstrual migraine not intractable, without status migrainous
346.41	**G43.839** Menstrual migraine intractable without status migrainosus
346.42	**G43.821** Menstrual migraine not intractable with status migrainosus
346.43	**G43.831** Menstrual migraine intractable with status migrainosus
346.5 Persistent Migraine	Non-specific code
346.50	**G43.509** Persistent migraine aura without cerebral infarction, not intractable, without status migrainosus
346.51	**G43.519** Persistent migraine aura without cerebral infarction intractable without status migrainosus
346.52	**G43.501** Persistent migraine aura without cerebral infarction not intractable with status migrainosus
346.53	**G43.511** Persistent migraine aura without cerebral infarction intractable with status migrainosus
346.6 Persistent Migraine aura with cerebral infarction	Non-specific code
346.60	**G43.609** Persistent migraine aura with cerebral infarction, not intractable, without status migrainosus
346.61	**G43.619** Persistent migraine aura with cerebral infarction, intractable, without status migrainosus
346.62	**G43.601** Persistent migraine aura with cerebral infarction, not intractable with status migrainosus
346.63	**G43.611** Persistent migraine aura with cerebral infarction, intractable, with status migrainosus
346.7 Chronic migraine without aura	Non-specific code
346.70	**G43.709** Chronic migraine without aura, not intractable, without status migrainosus
346.71	**G43.719** Chronic migraine without aura, intractable, without status migrainosus
346.72	**G43.701** Chronic migraine without aura, not

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346.73	intractable, with status migrainosus **G43.711** Chronic migraine without aura, intractable, with status migrainosus
346.8 Other forms of migraine	Non-specific code
346.80	**G43.809** Other migraine, not intractable, without status migrainosus
346.81	**G43.819** Other migraine intractable without status migrainosus
346.82	**G43.801** Other migraine not intractable with status migrainosus
346.83	**G43.811** Other migraine intractable with status migrainosus
346.9 Migraine unspecified	Non-specific code
346.90	**G43.909** Migraine unspecified not intractable without status migrainosus
346.91	**G43.919** Migraine unspecified intractable without status migrainosus
346.92	**G43.901** Migraine unspecified not intractable with status migrainosus
346.93	**G43.911** Migraine unspecified intractable with status migrainosus

AND
CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);

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MEASURE #10: PLAN OF CARE FOR MIGRAINE DEVELOPED OR REVIEWED

Headache

Measure Description

All patients diagnosed with migraine headache who had a headache management plan of care developed or reviewed at least once during the 12 month measurement period.

Measure Components

Numerator Statement	Patients who had a headache management plan of care for migraine developed or reviewed by the clinician at least once during the 12 month measurement period. *Headache management plan of care may include: goals for headache management (e.g., reduced number of days of migraine per month, reduce severity of headache), a plan for acute migraine medications, preventive migraine medications, non-pharmacological options (e.g., trigger management, stress reduction, physical therapy), communication between providers, referral to a headache specialist or other relevant items.
Denominator Statement	All patients diagnosed with migraine headache.
Denominator Exceptions	Exceptions: • Medical exceptions for not developing or reviewing a plan of care for migraine (i.e., patient is cognitively impaired, cannot communicate and no caregiver is available)
Supporting Guideline & Other References	**The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines or evidence papers and represent the evidence base for the measure:** • Develop a written headache treatment plan for prevention and management of acute migraine to: o Decrease headache frequency (aim for fewer than 5 headache days per month). o Decrease headache severity (headaches will respond quickly to an abortive therapy). o Avoid medication/caffeine overuse headache (see treatment: medication overuse headaches). o Lifestyle modifications/Non-pharmacologic options: Provide self-management education. Teach and encourage patients to maintain a healthy lifestyle (proper nutrition, regular physical activity, adequate sleep, and stress reduction strategies). o Identify and avoid triggers (e.g., tobacco smoke, strong odors, or sprays). o Address workplace ergonomics (attention to workplace ergonomics and instruction in self-care of neck tension can have a dramatic effect on headache frequency). ◦ Pharmacologic options: The choice of acute migraine treatments should be dictated by the rapidity of onset, headache severity, associated symptoms (e.g., nausea/vomiting), and patient preference (No strength of evidence. goal).[1] • Include the following in discussions with the person with a headache disorder: a positive diagnosis, including an explanation of the diagnosis and reassurance that

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	other pathology has been excluded and the options for management and recognition that headache is a valid medical disorder that can have a significant impact on the person and their family or caregivers. (No strength of evidence; age12 years old and older)[2] • A comprehensive therapy plan should encompass the whole patient, via a patient-physician partnership where goals and strategies are mutually established. Key treatments include nondrug approaches, such as education and lifestyle modifications, to reduce the occurrence of attacks, as well as acute medications to address the immediate need for relief during an attack.[3] • A comprehensive migraine management plan involves a partnership between the patient and healthcare professional where treatment goals and strategies are established. Elements of such a plan should include preventive strategies to reduce the frequency and effects of future attacks as well as the use of acute treatments to address the immediate need for relief during an attack. Approaches to prevention include education, lifestyle modification, and, often, appropriate medication. [1] GroupHealth Migraine and Tension Headache Diagnosis and Treatment Guideline 2011 https://www.ghc.org/all-sites/guidelines/headache.pdf [2] NICE Headaches: Diagnosis and management of headaches in young people and adults. National Clinical Guideline Centre on behalf of the National Institute for Health and Clinical Excellence (NICE) September 2012; NICE clinical guideline 150 [3] Diamond ML, Wenzel RG, Nissan GR. Optimizing migraine therapy: evidence-based and patient-centered care. *Expert Rev Neurother.* 2006 Jun;6(6):911-9. [4]Diamond M, Cady R. Initiating and optimizing acute therapy for migraine: the role of patient-centered stratified care. *Am J Med.* 2005 Mar;118 Suppl 1:18S-27S
	Rationale Optimizing headache management requires a systematic assessment of symptoms, including the development of an individualized plan of care. Clinicians are advised to base their treatment choice on degree of disability along with attack frequency and duration, non-headache symptoms, patient preference, and prior history of treatment response, using a stratified approach to care.[1] This information should be included in the patient's plan of care. HRQoL and disability are positively impacted by treatment interventions and a continuity of care.[1] **Gap in Care** It is critical that patients have a successful plan of care for migraine. This plan of care may include the use of acute and/or prophylactic medications, behavior management, patient preferences, history of response to medication, and headache severity. Evidence also suggests that person and societal costs of headache disorders are likely to be reduced when headache patients receive appropriate treatment and when a continuity of care is offered.[2] **Opportunity for Improvement** There is a noteworthy need to improve care coordination and patient engagement in the management of migraine through the creation and use of a headache care plan. Creating and implementing a plan of care can increase quality of life by reducing headache severity or duration of headaches, decrease disability, improve patient satisfaction with care, and decrease costs from inappropriate medications and/or diagnostic tests.

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	[1]D'Amico D, Grazzi L, Usai S, Leonardi M. Disability and quality of life in headache: where are we not and where we are heading. *Neurol Sci* 2013; 34(S1):S1-S5 [2]Smith TR, Nicholson RA, Banks JW. Migraine education improves quality of life in primary care setting. *Headache.* 2010; 50: 600-612

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Population or System Level
Care setting	• Outpatient visits
Data source	• Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible denominator criteria. The specifications listed below are those needed for performance calculation.

Denominator (Eligible Population)

ICD-9 and ICD-10 Diagnosis Codes:

ICD-9	ICD-10
346.0 Migraine with aura	Non-specific code
346.00	**G43.109**, Migraine with aura, not intractable, without status migrainosus
346.01	**G43.119**, Migraine with aura, intractable, without status migrainosus
346.02	**G43.101,** Migraine with aura, not intractable, with status migrainosus
346.03	**G43.111**, Migraine with aura, intractable, with status migrainosus
346.1 Migraine without aura	Non-specific code
346.10	**G43.009** Migraine without aura, not intractable, without status migrainosus
346.11	**G43.019** Migraine without aura, intractable, without status migrainosus
346.12	**G43.001**, Migraine without aura, not intractable, with status migrainosus
346.13	**G43.011,** Migraine without aura, intractable with status migrainosus
346.2 Variants of migraine	Non-specific code
346.20	**G43.809**, Other migraine, not intractable without status migrainosus
346.21	**G43.819** Other migraine, intractable, without status migrainosus

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346.22	**G43.801**, Other migraine, not intractable, with status migrainosus
346.23	**G43.811**, Other migraine, intractable, with status migrainosus
346.4 Menstrual Migraine	Non-specific code
346.40	**G43.829** Menstrual migraine not intractable, without status migrainous
346.41	**G43.839** Menstrual migraine intractable without status migrainosus
346.42	**G43.821** Menstrual migraine not intractable with status migrainosus
346.43	**G43.831** Menstrual migraine intractable with status migrainosus
346.5 Persistent Migraine	Non-specific code
346.50	**G43.509** Persistent migraine aura without cerebral infarction, not intractable, without status migrainosus
346.51	**G43.519** Persistent migraine aura without cerebral infarction intractable without status migrainosus
346.52	**G43.501** Persistent migraine aura without cerebral infarction not intractable with status migrainosus
346.53	**G43.511** Persistent migraine aura without cerebral infarction intractable with status migrainosus
346.6 Persistent Migraine aura with cerebral infarction	Non-specific code
346.60	**G43.609** Persistent migraine aura with cerebral infarction, not intractable, without status migrainosus
346.61	**G43.619** Persistent migraine aura with cerebral infarction, intractable, without status migrainosus
346.62	**G43.601** Persistent migraine aura with cerebral infarction, not intractable with status migrainosus
346.63	**G43.611** Persistent migraine aura with cerebral infarction, intractable, with status migrainosus
346.7 Chronic migraine without aura	Non-specific code
346.70	**G43.709** Chronic migraine without aura, not intractable, without status migrainosus
346.71	**G43.719** Chronic migraine without aura, intractable, without status migrainosus
346.72	**G43.701** Chronic migraine without aura, not intractable, with status migrainosus
346.73	**G43.711** Chronic migraine without aura, intractable, with status migrainosus
346.8 Other forms of migraine	Non-specific code
346.80	**G43.809** Other migraine, not intractable, without status migrainosus

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346.81	**G43.819** Other migraine intractable without status migrainosus
346.82	**G43.801** Other migraine not intractable with status migrainosus
346.83	**G43.811** Other migraine intractable with status migrainosus
346.9 Migraine unspecified	Non-specific code
346.90	**G43.909** Migraine unspecified not intractable without status migrainosus
346.91	**G43.919** Migraine unspecified intractable without status migrainosus
346.92	**G43.901** Migraine unspecified not intractable with status migrainosus
346.93	**G43.911** Migraine unspecified intractable with status migrainosus

AND

CPT® Evaluation and Management Service Codes:
Outpatient: 99201-5, (Office or other outpatient visit-New Patient);
99211-5 (Office or other outpatient visit-Established Patient); 99241-5 (Office or Other Outpatient Consultation-New or Established Patient);

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Evidence Classification and Rating Schemes for Guidelines Utilized as the Evidence Base for the Headache Quality Measures

European Federation of Neurological Sciences (EFNS)

Class I: An adequately powered prospective, randomized, controlled clinical trial with masked outcome assessment in a representative population or an adequately powered systematic review of prospective randomized controlled clinical trials with masked outcome assessment in representative populations. The following are required:
(a) randomization concealment
(b) primary outcome(s) is/are clearly defined
(c) exclusion/inclusion criteria are clearly defined
(d) adequate accounting for dropouts and crossovers with numbers sufficiently low to have minimal potential for bias
(e) relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences
Class II: Prospective matched-group cohort study in a representative population with masked outcome assessment that meets a–e above or a randomized, controlled trial in a representative population that lacks one criteria a–e
Class III: All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome assessment is independent of patient treatment
Class IV: Evidence from uncontrolled studies, case series, case reports, or expert opinion

Rating of recommendations
Level A rating (established as effective, ineffective, or harmful) requires at least one convincing class I study or at least two consistent, convincing class II studies
Level B rating (probably effective, ineffective, or harmful) requires at least one convincing class II study or overwhelming class III evidence
Level C (possibly effective, ineffective, or harmful) rating requires at least two convincing class III studies

Scottish International Guideline Network (SIGN)

LEVELS OF EVIDENCE

1++ High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
1+ Well conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias
1 - Meta-analyses, systematic reviews, or RCTs with a high risk of bias
2++ High quality systematic reviews of case control or cohort studies
High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2+ Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
2 - Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
3 Non-analytic studies, e.g., case reports, case series
4 Expert opinion

GRADES OF RECOMMENDATION

Note: The grade of recommendation relates to the strength of the evidence on which the recommendation is based. It does not reflect the clinical importance of the recommendation.

At least one meta-analysis, systematic review, or RCT rated as 1++, and directly applicable to the target population; *or*

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A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results.
A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; *or*
Extrapolated evidence from studies rated as 1++ or 1+
A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; *or*
Extrapolated evidence from studies rated as 2++
D Evidence level 3 or 4; or
Extrapolated evidence from studies rated as 2+

GOOD PRACTICE POINTS
- Recommended best practice based on the clinical experience of the guideline development group.

US Headache Consortium

Level I	Independent, blind comparison with a "gold standard" of anatomy, physiology, diagnosis, or prognosis among a large number of consecutive patients suspected of having the target condition
Level II	Independent, blind comparison with a "gold standard" among a small number of consecutive patients suspected of having the target condition
Level III	Independent, blind comparison with a "gold standard" among non-consecutive patients suspected of having the target condition
Level IV	Studies that did not meet criteria for at least level III evidence

American Academy of Neurology (AAN)
Class I Prospective, randomized, controlled clinical trial with masked outcome assessment, in a representative population. Where: primary outcome(s) is/are clearly defined, exclusion/inclusion criteria are clearly defined, adequate accounting for dropouts and crossovers with numbers sufficiently low to have minimal potential for bias relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences.
Class II - Prospective matched group cohort study in a representative population with masked outcome assessment that meets criteria above OR a RCT in a representative population that lacks one of above criteria.
Class III - All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome assessment is independent of patient treatment.
Class IV - Evidence from uncontrolled studies, case series, case reports, or expert opinion.

Level A - Established as effective, ineffective or harmful for the given condition in the specified population.
Level B - Probably effective, ineffective or harmful for the given condition in the specified population.
Level C - Possibly effective, ineffective or harmful for the given condition in the specified population.
Level U - Data inadequate or conflicting. Given current knowledge, treatment is unproven.

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International Headache Society (HIS)

High - The guideline authors are confident that the true effect lies close to the estimate given by the evidence available.

Moderate - The guideline authors are moderately confident in the effect estimate, but there is a possibility it is substantially different.

Low - The confidence in the effect estimate is limited. The true effect may be substantially different.

Very Low - The guideline authors have little confidence in the effect estimate.

Strong – high quality evidence	Benefits clearly outweigh risks and burdens for most patients	Can apply to most patients in most circumstances
Strong – moderate quality evidence	Benefits clearly outweigh risks and burdens for most patients	Can apply to most patients, but there is a chance the recommendation may change with more research
Strong – low quality evidence	Benefits clearly outweigh risks and burdens for most patients	Can apply to most patients, but there is a good chance the recommendation could change with more research
Weak – high quality evidence	Benefits are more closely balanced with risks and burdens for many patients	Whether a medication is used will depend upon patient circumstances
Weak – moderate quality evidence	Benefits are more closely balanced with risks and burdens for many patients	Whether a medication is used will depend upon patient circumstances, but there is less certainty about when it should be used
Weak – low quality evidence	Benefits are more closely balanced with risks and burdens	There is considerable uncertainty about when to use this medication

National Institute of Clinical Excellence (NICE)

1++ High quality meta-analyses, systematic reviews of RCTs (including cluster RCTs), or RCTs with a very low risk of bias

1+ Well conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias

1–* Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias

2++ High quality systematic reviews of, or individual high quality non-randomised intervention studies (controlled non-randomised trial, controlled before-and-after, interrupted time series), comparative cohort and correlation studies with a very low risk of confounding, bias or chance

2+ Well conducted, non-randomised intervention studies (controlled non-randomised trial, controlled

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before-and-after, interrupted time series), comparative cohort and correlation studies with a low risk of confounding, bias or chance
2–* Non-randomised intervention studies (controlled non-randomised trial, controlled before-and-after, interrupted time series), comparative cohort and correlation studies with a high risk of confounding, bias or chance
3 Non-analytical studies (e.g., case reports, case series)
4 Expert opinion, formal consensus

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About the American Academy of Neurology

The American Academy of Neurology, founded in 1948, is an international professional association of more than 26,000 neurologists and neuroscientists. The AAN is dedicated to promoting the highest quality patient-centered neurologic care and enhancing member career satisfaction.

The AAN's vision is to be indispensable to its members by providing guidance and inspiration through education, information, policy development, and advocacy for our members and their patients, while maintaining the highest ethical and professional standards.

Contact Information

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