

Health Benchmarks[®] Program

Clinical Quality Indicator Specification 2011

Measure Title	ANNUAL MONITORING FOR PATIENTS ON PERSISTENT MEDICATIONS: ANTICONVULSANTS		
Disease State	Epilepsy	Indicator Classification¹	Medication Monitoring
Strength of Recommendation²	B		
Organizations Providing Recommendation	International League Against Epilepsy United States Food and Drug Administration		
Clinical Intent	To ensure that members taking anticonvulsant medications receive at least one drug serum concentration monitoring test for the prescribed drug during the measurement year.		
Background	<p>Disease Burden</p> <ul style="list-style-type: none"> • Epilepsy and seizures affect 2.9 million Americans of all ages [1], at an estimated annual cost of \$12.5 billion in direct and indirect costs.[2] • Approximately 200,000 new cases of seizures and epilepsy occur each year.[1] <p>Reason for Indicated Intervention or Treatment</p> <ul style="list-style-type: none"> • The dose of anticonvulsant alone cannot be relied on to predict the concentration of drug in the brain, because of large inter-patient variation in drug metabolism.[3] • Drug concentrations may vary by ten-fold or greater when identical doses are given to different patients. [4-7] • Plasma concentrations are closely correlated with brain concentrations, and much more so than with actual drug dose, making therapeutic drug monitoring the most important tool for dose adjustment.[8-10] • Additionally, anticonvulsant drugs such as phenobarbital, carbamazepine, phenytoin, and valproic acid are all associated with liver toxicity.[11] 		
Clinical Recommendations	<ul style="list-style-type: none"> • The International League Against Epilepsy supports measuring serum concentrations of old and new antiepileptic drugs for indications including guiding dose adjustment for antiepileptic drugs with dose-dependent pharmacokinetics, particularly phenytoin.[12] • The FDA labeling for phenytoin states that serum blood level measurements may be necessary for optimal dosage adjustments.[13] • The valproic acid FDA labeling recommends obtaining periodic plasma concentrations of valproic acid during the early course of therapy due to the tendency of valproic acid to interact with concurrently administered drugs.[14] • The FDA label for carbamazepine states, “the monitoring of blood levels has increased the efficacy and safety of anticonvulsants,” and suggests that 		

dosage be adjusted to the needs of the individual patient.[15]

Source Healthcare Effectiveness Data and Information Set (HEDIS®) 2011 Technical Specification for Physician Measurement

Denominator

Denominator Definition Continuously enrolled members 18 years and older as of the end of the measurement year who received at least 180 treatment days for any anticonvulsant during the measurement year.

Note: Patients who are on multiple anticonvulsant drugs count toward the denominator multiple times if they meet the persistent medications criteria for each drug taken during the measurement year (e.g., a patient who received at least 180 days of phenytoin and 180 days of valproic acid will be counted twice in the denominator, once for each drug.) (HEDIS®2011)

Denominator Index Date N/A

Denominator Encounters/Claims Criteria *Note: Patients who are on multiple anticonvulsant drugs count toward the denominator multiple times if they meet the persistent medications criteria for each drug taken during the measurement year (e.g., a patient who received at least 180 days of phenytoin and 180 days of valproic acid will be counted twice in the denominator, once for each drug.) (HEDIS®2011)*

Drug list: phenobarbital, phenytoin

Denominator Exclusion

Denominator Exclusion Definition Members who had an acute/nonacute inpatient stay during the measurement year.

Denominator Exclusion Claims Criteria CPT-4 code(s): 99221-99223, 99231-99233, 99238-99239, 99251-99255, 99261*-99263*, 99291-99300, 99356-99357, 99431*-99440*, 99460-99465, 99468-99476, 99477-99480

UB revenue code(s): 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987

*Code range was retired but is appropriate for retrospective analysis.

Numerator

Numerator Definition Members who received at least 1 drug serum concentration level monitoring test for the prescribed drug in the measurement year.

If a patient received only 1 type of anticonvulsant, the drug serum concentration level test must be for the specific drug taken as a persistent medication (i.e., a patient on phenytoin received a drug serum test for phenytoin).

If a patient persistently received multiple types of anticonvulsants, each anticonvulsant medication and drug monitoring test combination is counted as a unique event (i.e., a patient on both phenytoin and valproic acid with at least 180 treatment days for each drug in the measurement year must separately show evidence of receiving drug serum concentration tests for each drug to be considered numerator compliant for each drug).

Numerator Claims Criteria CPT-4 code(s): 80156, 80157, 80164, 80184, 80185, 80186

LOINC code(s): 3432-2, 3433-0, 3948-7, 3951-1, 3968-5, 3969-3, 4086-5, 4087-3, 4088-1, 9415-1, 10547-8, 14056-6, 14639-9, 14874-2, 14877-5, 14946-8, 18270-9, 18489-5, 21590-5, 29147-6, 29148-4, 32058-0, 32109-1, 32119-0, 32283-4, 32852-6, 34365-7, 40460-8, 47097-1 (if available)

Physician Attribution

Physician Attribution Description **If client data contains prescribing provider:**
 Score the physician(s) who prescribed the member a denominator medication.
If client data does not contain prescribing provider:
 Score all physicians who saw the member during the measurement year

References

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¹ **Indicator Classification** (Adapted from HEDIS® technical specifications)

Diagnosis	Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)
Effectiveness of Care	
Prevention	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).
Screening	Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).
Disease Management	Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
Medication Monitoring	Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)
Medication Adherence	Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).
Utilization	Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).

² Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

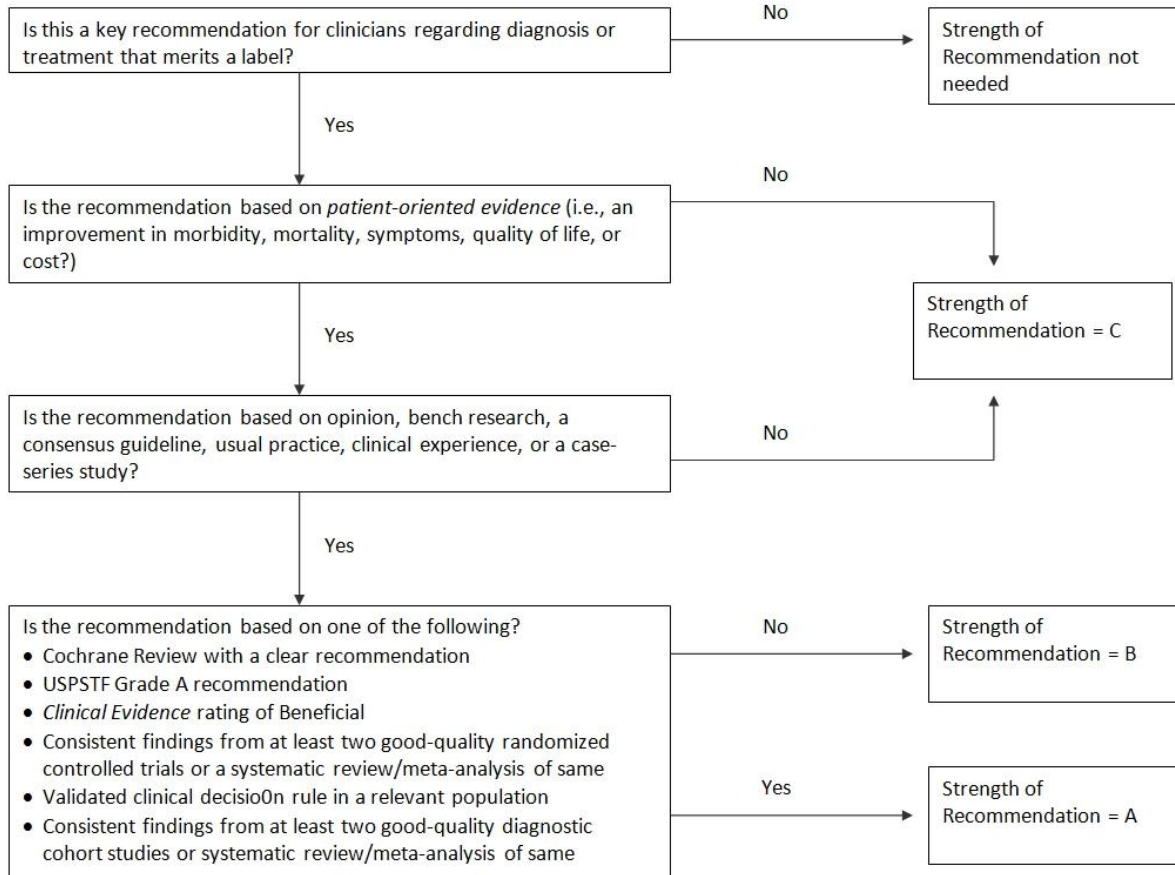


FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)