Polyneuropathy
Quality Measurement Set

Approved by the Polyneuropathy Quality Measurement Work Group on February 1, 2021. Approved by the AANI Quality Measure Subcommittee on February 9, 2021. Approved by AANI Quality Committee on March 3, 2021. Approved by AANI Board of Directors on March 23, 2021.

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Importance and Prevalence

Defining Polyneuropathy Outcomes and Measures

In 2019, the American Academy of Neurology Institute (AANI), formed a pilot initiative to simultaneously update an existing guideline and develop appropriate quality measures. The AANI has developed quality measures since 2008 based on the belief that specialists should play a major role in selecting and creating measures that will drive performance improvement and possibly be used in accountability programs in the future. This measurement set will be updated iteratively to improve measures as lessons are learned over time through use and/or testing. It is hoped risk adjustment strategies will be added over time as data collection and analysis evolves over time.

Prevalence and Impact of Polyneuropathy

Peripheral neuropathy affects 2-7% of the population, and has an even higher prevalence in those over the age of 40.[1-3] Diabetes is the most common cause accounting for 32-53% of cases.[4-7] The prevalence of neuropathy is 8-34% in those with type 1 and type 2 diabetes.[8]

In an assessment of costs for patients with painful diabetic peripheral neuropathy, it was found that median costs of outpatient medications and hospital service charges for those patients (~$16,795) approached almost $8,000 above costs associated for patients with diabetic mellitus or nonpainful diabetic peripheral neuropathy in the first year of diagnosis.[9]

References

1. Price R, Smith D, Franklin G, et al. Oral and topical treatment of painful diabetic polyneuropathy: Practice guideline update. *Neurology*. 2021;98:31-43.
2. Sandrini G, Friberg L, Coppola G, et al. Neurophysiological tests and neuroimaging procedures in non-acute headache (2nd edition). Eur J Neurol 2011;18:373-381.
3. Savettieri G, Rocca WA, Salemi G, et al. Prevalence of diabetic neuropathy with somatic symptoms: a door-to-door survey in two Sicilian municipalities. Sicilian Neuro-Epidemiologic Study (SNES) Group. Neurology 1993;43:1115-1120.
4. Callaghan BC, Kerber KA, Lisabeth LL, et al. Role of neurologists and diagnostic tests on the management of distal symmetric polyneuropathy. JAMA neurology 2014;71:1143-1149.
5. Johannsen L, Smith T, Havsager AM, et al. Evaluation of patients with symptoms suggestive of chronic polyneuropathy. Journal of clinical neuromuscular disease 2001;3:47-52.
6. Kanji JN, Anglin RE, Hunt DL, Panju A. Does this patient with diabetes have large-fiber peripheral neuropathy? Jama 2010;303:1526-1532.
7. Lubec D, Mullbacher W, Finsterer J, Mamoli B. Diagnostic work-up in peripheral neuropathy: an analysis of 171 cases. Postgraduate medical journal 1999;75:723-727.
8. Callaghan BC, Price RS, Feldman EL. Distal Symmetric Polyneuropathy: A Review. Jama 2015;314:2172-2181.
9. Kiyani M, Yang Z, Charalambous LT, et al. Painful diabetic peripheral neuropathy Health care costs and complications from 2010 to 2015. Neurology Clinical Practice. 2020; 10(1): 47-57.

Measure Development Process

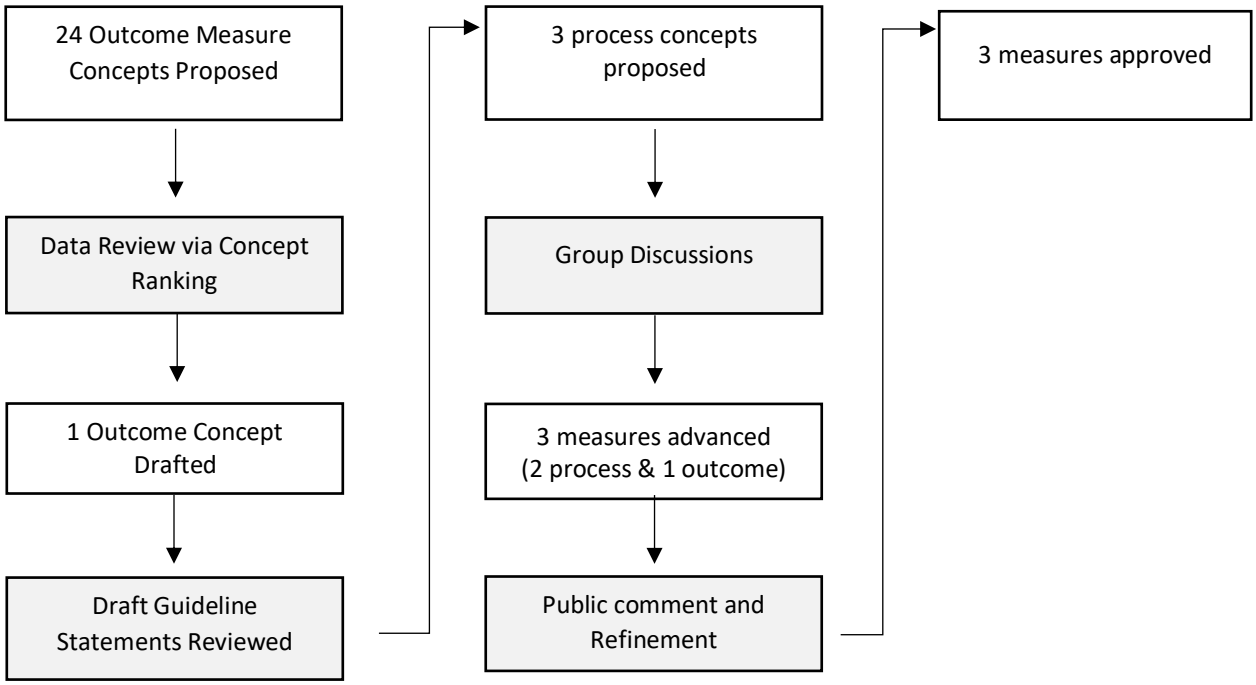
The American Academy of Neurology Institute (AANI) charged this work group with developing appropriate outcome measures that may apply to patients with polyneuropathy and developing appropriate process measures from the updated painful diabetic polyneuropathy guideline statements. The AANI identified a non-voting facilitator from the Quality Measurement Subcommittee to serve as methodological support and guide the work group to consensus decisions.

A call for work group volunteers was made from the existing guideline update work group as well as patient and care partner organizations. Work group members were selected based on review of disclosure statements, subject matter expertise, and measure development experience. All work group members are required to disclose relationships with industry and other entities to avoid actual, potential, or perceived conflicts of interest. Seated work group members were instructed to abstain from voting on individual measure concepts if a conflict was present. See Appendix B.

The AANI measure development process involves a modified Delphi review by the work group to reach consensus on measures to be developed prior to a 21-day public comment and following public comment further refinement. (Quality Measurement Subcommittee. American Academy of Neurology Quality Measurement Manual 2019 Update. 24 p. Available at: https://www.aan.com/policy-and-guidelines/quality/quality-measures2/how-measures-are-developed/)

The measures in this set are being made available without any prior testing. The AAN encourages testing of this measurement set for feasibility and reliability by organizations or individuals positioned to do so. **Select measures will be beta tested once the set has been released, prior to submission to CMS for consideration in Quality Payment Program's (QPP) Merit-based Incentive Payment System (MIPS) and the National Quality Forum for possible endorsement.** The measurement set will be reviewed for updates triennially.

Below is an illustration of the measure development process from proposals, discussion, research, evaluation, to approval.



These concepts were developed after a discussion on feasibility of locating pain location information in the electronic medical record. The AANI outreached LOINC which stands for, Logical Observation Identifiers Names and Codes to collaborate on creation of standardized language. This was the first collaboration of this nature, and the AANI hopes that additional collaborations will occur to create or standardize codes for neurology thereby reducing the burden on physician and clinician documentation to meet quality measure specifications.

LOINC is a common language to identify health measurements, observations, and documents and move that data across platforms from electronic health records to payers, researchers, government agencies, and more. LOINC codes exist to capture common laboratory tests (e.g., SARS-2/COVID-19 tests), clinical documents (e.g., discharge summary), and survey instruments (e.g., Patient Health Questionnaire-9 Item (PHQ-9)). LOINC code 80316-3 "Pain scale [type]" has been updated to incorporate the NRS and VRS as a possible scale. LOINC code 38204-4 "Pain primary location – Reported" and 39111-0 "Body site" can be used to capture the location of assessment, in this case lower extremity, depending on how the data is reported. Capturing data using this standardized coding reduces physician and treatment team burden when implementing the measure. If LOINC codes are used, measure data can be gathered without-chart reviews or changes to documentation style to capture performance via specific key phrases in clinical notes.

2021 Polyneuropathy Measurement Set

The work group approved 3 measures listed in the table below. The Pain Assessment and Follow-up for Patients with Diabetic Neuropathy is a paired measure with two denominators and two numerators. Clinicians and treatment teams are encouraged to identify the one or two measures that would be most meaningful to your patient population and implement those measures to drive performance improvement in practice. There is no requirement measures be used in practice. Data

should be collected for an initial benchmark period, and results used to drive meaningful changes to improve performance and overall care.

Avoidance of Opioid Medications for Patients with Painful Diabetic Neuropathy
Pain Assessment and Follow-up for Patients with Diabetic Neuropathy *(Paired measures)*
Reduction of Pain for Patients with Polyneuropathy

Other Potential Measures

The AANI encourages work groups to avoid duplication of measures that already exist in the field. The work group declined to create a polyneuropathy specific falls measure given the existence of cross-cutting falls measure that incorporates patients with a diagnosis of polyneuropathy.

The work group encourages clinicians to consider use of the below measures for patients diagnosed with polyneuropathy and notes both AANI-developed measures are available for use and reporting in the Axon Registry®:

- Patient reported falls and plan of care. This AANI-developed measure is available at: https://www.aan.com/policy-and-guidelines/quality/quality-measures2/quality-measures/other/
- Quality of life for patients with neurologic conditions. This AANI-developed measure is available at: https://www.aan.com/policy-and-guidelines/quality/quality-measures2/quality-measures/other/
- Patients screened and/or treated for depression. The work group believes depression screening and treatment is of value and notes the following measures are currently approved for use in the 2021 Performance Year by Centers for Medicare & Medicaid Services (CMS) in their Merit-based Incentive Payment System. Available at: https://qpp.cms.gov/mips/explore-measures?tab=qualityMeasures&py=2021This list is updated annually by CMS:
    - Preventive care and screening: Screening for depression and follow-up plan (CMS ID: QPP134 and CMS eCQM ID: CMS 2v10). This CMS measure assesses patients aged 12 years and older screened for depression on the date of the encounter or up to 14 days prior to the date of the encounter using an age-appropriate standardized depression screening tool AND if positive, a follow-up plan is documented. The measure allows for a variety of screening tools to be used for the screening.
    - Anti-depressant medication management (CMS eCQM ID: CMS 128v9). This National Committee for Quality Assurance measure assess the percentage of patients 18 years of age and older who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on an antidepressant medication treatment.
    - Depression remission at twelve months (CMS eCQM ID: CMS 159v9). This Minnesota Community Measurement outcome measure captures the percentage of adolescent patients 12 to 17 years of age and adult patients 18 years of age or older with major depression or dysthymia who reached remission 12 months utilizing the PHQ-9 (Patient Health Questionnaire 9).

Further details on measure harmonization for measures developed is included in individual measure specifications below. The AANI has developed additional measures that may be of interest to clinicians and teams treating patients with neurologic conditions, such as the process measures for co-morbid psychiatric concerns noted above. All AANI measures are available for free at: https://www.aan.com/policy-and-guidelines/quality/quality-measures2/quality-measures/

2021 Polyneuropathy Measure Specifications

Avoidance of Opioid Medications for Patients with Diabetic Neuropathy

This is an inverse measure. A lower score is desirable.

Measure Title	Avoidance of Opioid Medications for Patients with Diabetic Neuropathy	
Description	Percentage of patients with Diabetic Neuropathy who were taking opioid medications in the measurement period.	
Measurement Period	January 1, 20xx to December 31, 20xx	
Eligible Population	Eligible Clinicians	Medical Doctor (MD), Doctor of Osteopathy (DO), Pharmacist (PharmD), Nurse Practitioners (NP), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN)
	Care Setting(s)	Outpatient Care via in-person or telehealth visits
	Ages	Any
	Event	Office or telehealth visit
	Diagnosis	Diabetic Neuropathy (Codes included below)
Denominator	Patients with a diagnosis of diabetic neuropathy	
Numerator	Patients prescribed an opioid medication in the measurement period^. ^Measure performance is calculated on the date of the last encounter in the calendar year. This allows for clinicians and patients to adequately discuss and discontinue opioid medications as clinically appropriate.	
Required Exclusions	• Opioid prescription from a different clinician.	
Allowable Exclusions	• Patients counseled on last visit of the calendar year and agreement reached to discontinue opioid medication. • Patients receiving opioids in the setting of a controlled / monitored program in order to manage an opioid dependency (e.g., a methadone maintenance program). • Patients with active diagnosis of cancer during measurement period • Patients admitted to hospice care or patient at end-of-life.	
Allowable Exclusion Inclusion Logic	Allowable exclusions can only help measure performance. If a patient has an allowable exclusion but is found to meet the numerator that patient is included in the count to meet the measure.	
Exclusion Rationale	Exclusions have been added to limit measure performance to opioids prescribed by the visit clinician, eliminating opioids prescribed by other physicians, as part of an opioid dependency program such as methadone maintenance, cancer treatment, or hospice treatment. Additionally, it is appropriate to exclude patients who have been counseled on the discontinuation of opioids on the last visit in the measurement period.	
Measure Scoring	Percentage	
Interpretation of Score	Lower Score Indicates Better Quality	
Measure Type	Intermediate Outcome	
Level of Measurement	Clinician	
Risk Adjustment	Not Applicable	
Opportunity to Improve Gap in Care	Opioids are not indicated as a treatment for pain for patients with painful diabetic neuropathy (PDN).(Price) This measure is meant to limit new and existing opioid medications to neuropathy patients from neurologists and encourages neurologists to discontinue and move away from opioid treatments which have not been demonstrated to be effective and have potentially harmful effects for patients.	

	An inverse measure is one where you improve your performance by reducing your performance rate. Zero percent is not the goal, and the intent is to establish an internal benchmark using that data to drive internal improvement over time. The work group appreciates there may be rare circumstances and patients who may benefit from opioids, however there is insufficient evidence available to define these cases for exclusion. Research indicates patients with DPN are being prescribed opioids. Patil, et al. utilized a large health plan claims data set to determine opioids were frequently used as first line agents for DPN 33.33% compared to pregabalin 5.56%. (Patil) A prior assessment of Medicare data found 62% of patients were prescribed a short-acting opioid. (Pesa) A nationally representative study of healthcare claims found the most common prescription for peripheral neuropathy was opioids; out of 14,426 patients with peripheral neuropathy 65.9% received at least one opioid prescription. (Callaghan)
For Process Measures Relationship to Desired Outcome	This is an intermediate outcome measure intended to drive the reduction of opioid prescriptions for patients with DPN. The following guideline statements are quoted verbatim and serve as the evidence base to support reduction of opioid prescriptions: • "Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be combined with nonpharmacologic therapy and nonopioid pharmacologic therapy, as appropriate (recommendation category: A, evidence type: 3)." (Dowell) • "Clinicians should not use opioids for the treatment of PDN (Level B)." (Price) • "In patients with PDN, clinicians should offer TCAs, SNRIs, gabapentinoids, and/or sodium channel blockers to reduce pain (Level B)." (Price) • "If patients are currently on opioids for the treatment of PDN, clinicians may offer the option of a safe taper off these medications and discuss alternative nonopioid treatment strategies (Level C)." (Price) • "Clinicians should not use tramadol and tapentadol (opioids/SNRI dual mechanism agents) for the treatment of PDN (Level C)." (Price) • "If patients are currently on tramadol and tapentadol (opioids/SNRI dual mechanism agents) for the treatment of PDN, clinicians may offer the option of a safe taper off these medications and discuss alternative nonopioid treatment strategies (Level C)." (Price) • "Given similar efficacy, clinicians should consider factors other than efficacy, including potential adverse effects, patient comorbidities, cost, and patient preferences, when recommending treatment for PDN (Level B)." (Price) • "Clinicians should counsel patients that a series of medications may need to be tried to identify the treatment that most benefits patients with PDN (Level B)." (Price) 

Harmonization with Existing Measures	No known similar concepts
References	• Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain – United States, 2016. MMWR Recomm Rep 2016;65(No. RR-1):1-49. • Price R, Smith D, Franklin G, et al. Oral and topical treatment of painful diabetic polyneuropathy: Practice guideline update. *Neurology*. 2021;98:31-43. • Patil PR, Wolfe J, Said Q, et al. Opioid Use in the Management of Diabetic Peripheral Neuropathy (DPN) in a Large Commercially Insured Population. Clin J Pain. 2015; 31(5): 414-424. • Pesa J, Meyer R, Quock TP, et al. Opioid Utilization Patterns Among Medicare Patients with Diabetic Peripheral Neuropathy. Am Health Drug Benefits. 2013; 6(4):188-196. • Callaghan BC, Reynolds E, Banerjee M, et al. Longitudinal pattern of pain medication utilization in peripheral neuropathy patients. Pain 2019;160:592-599.

Code System	Code	Code Description
Initial Population		
CPT	99201-99205	Office or other outpatient visit, new patient
CPT	99211-99215	Office or other outpatient visit, established patient
CPT	99241-99245	Office or other outpatient consultation, new or established patient
CPT	99421-99423	Digital evaluation and management services
CPT	99441-99443	Telephone evaluation and management services
HCPCS	G-2010	Remote evaluation of recorded video and/or images submitted by an established patient (e.g., store and forward), including interpretation with follow-up with the patient within 24 business hours, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment
HCPCS	G-2012	Brief communication technology-based service, e.g. virtual check-in, by a physician or other qualified health care professional who can report evaluation and management services, provided to an established patient, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment; 5-10 minutes of medical discussion
Denominator		
SNOMEDCT	193183000	Acute painful diabetic neuropathy
SNOMEDCT	193184006	Chronic painful diabetic neuropathy (disorder)
OR		
One of the below ICD10CM or SNOMEDCT code AND one of the below LOINC codes		
ICD10CM	E08.40	Diabetes mellitus due to underlying condition with diabetic neuropathy, unspecified
ICD10CM	E08.42	Diabetes mellitus due to underlying condition with diabetic polyneuropathy
ICD10CM	E09.40	Drug or chemical induced diabetes mellitus with neurological complications, with diabetic neuropathy, unspecified
ICD10CM	E09.42	Drug or chemical induced diabetes mellitus with neurological complications with diabetic polyneuropathy
ICD10CM	E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy
ICD10CM	E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy
SNOMEDCT	126534007	Diabetic mixed sensory-motor polyneuropathy
SNOMEDCT	126535008	Diabetic motor polyneuropathy
SNOMEDCT	127011001	Diabetic sensory polyneuropathy
SNOMEDCT	193183000	Acute painful diabetic neuropathy
SNOMEDCT	193184006	Chronic painful diabetic neuropathy (disorder)
SNOMEDCT	193185007	Asymptomatic diabetic neuropathy
SNOMEDCT	230572002	Diabetic neuropathy (disorder)
SNOMEDCT	230573007	Diabetic distal sensorimotor polyneuropathy
SNOMEDCT	230574001	Diabetic acute painful polyneuropathy
SNOMEDCT	230575000	Diabetic chronic painful polyneuropathy
SNOMEDCT	230576004	Diabetic asymmetric polyneuropathy
SNOMEDCT	424736006	Diabetic peripheral neuropathy (disorder)
SNOMEDCT	49455004	Diabetic polyneuropathy (disorder)
AND		
LOINC	80316-3	Pain scale [type]

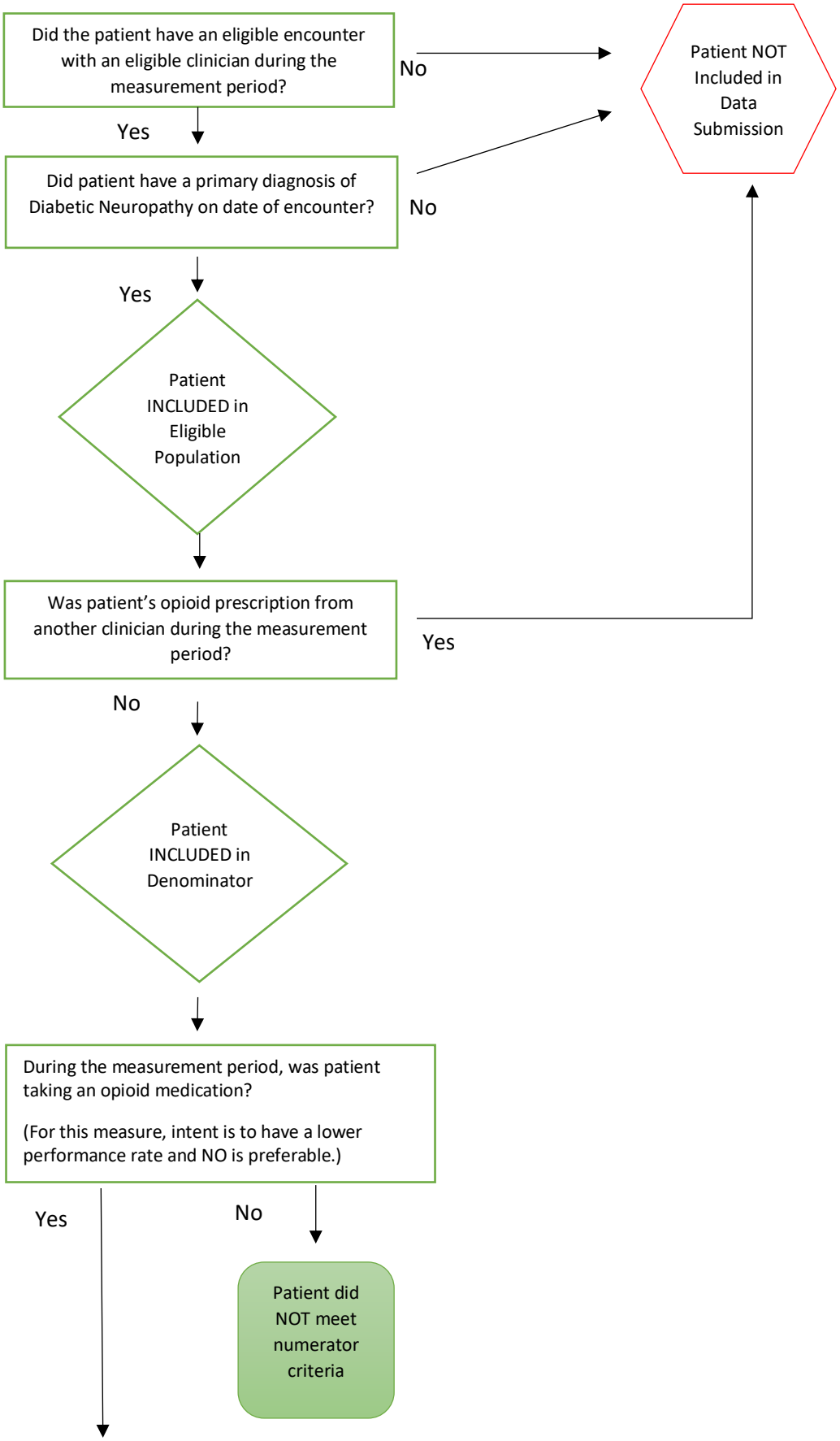
LOINC	38204-4	Pain primary location – Reported
LOINC	39111-0	Body site
Numerator –		
VSAC OID	2.16.840.1.113883.3.3157.1004.12	Butorphanol
VSAC OID	2.16.840.1.113883.3.3157.1002.77	Codeine
VSAC OID	2.16.840.1.113883.3.3157.1004.13	Dihydrocodeine
VSAC OID	2.16.840.1.113883.3.3157.1002.76	Fentanyl
VSAC OID	2.16.840.1.113883.3.3157.1002.75	Hydrocodone
VSAC OID	2.16.840.1.113883.3.3157.1002.74	Hydromorphone
VSAC OID	2.16.840.1.113883.3.3157.1002.73	Levorphanol
VSAC OID	2.16.840.1.113883.3.3157.1002.72	Meperidine
VSAC OID	2.16.840.1.113883.3.3157.1002.71	Methadone
VSAC OID	2.16.840.1.113883.3.3157.1002.70	Morphine
VSAC OID	2.16.840.1.113883.3.3157.1004.14	Nalbuphine
VSAC OID	2.16.840.1.113883.3.3157.1004.15	Opium Combinations
VSAC OID	2.16.840.1.113883.3.3157.1002.11	Oxycodone
VSAC OID	2.16.840.1.113883.3.3157.1002.12	Oxymorphone
VSAC OID	2.16.840.1.113883.3.3157.1004.16	Pentazocine
VSAC OID	2.16.840.1.113883.3.3157.1004.17	Tapentadol
VSAC OID	2.16.840.1.113883.3.3157.1004.18	Tramadol
Required Exclusions		
Presence of key phrases in clinical note may meet required exclusion component for Axon Registry. Suggested key phrases to locate exclusions via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry: • "Patient has been prescribed opiate by primary care physician" • "Patient has been prescribed opiate by specialist"		
Allowable Exclusions		
VSAC OID	2.16.840.1.113883.3.464.1003.108.12.1011	All cancer
VSAC OID	2.16.840.1.113883.3.3157.1004.23	Hospice care

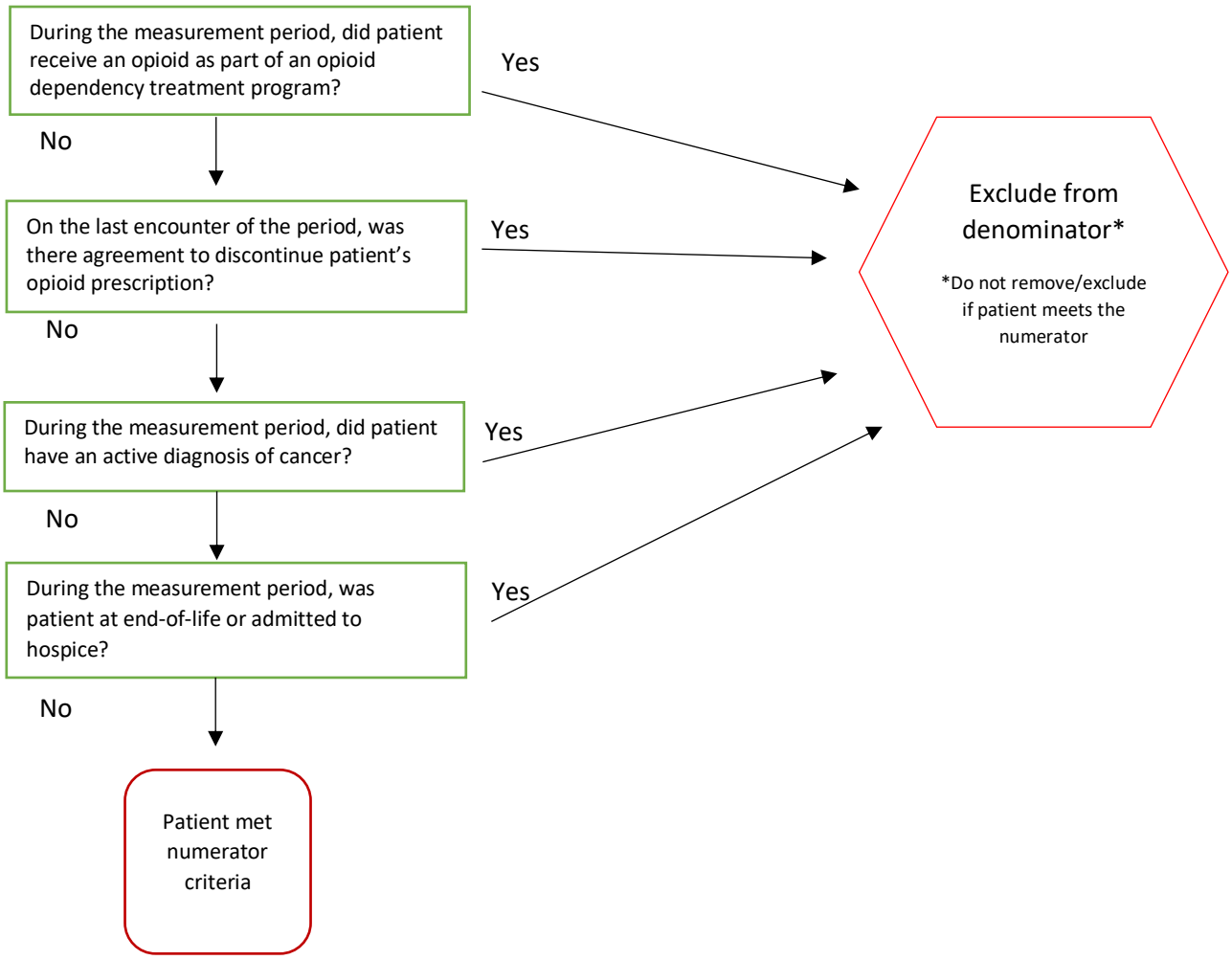
Presence of key phrases in clinical note may meet allowable exclusion component for Axon Registry.

Suggested key phrases to locate exclusions via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry:

- "Patient has agreed to discontinue opioid"
- "Opioid Rx will be discontinued"
- "Opioid Rx being d/c"
- "Patient currently receiving methadone maintenance"
- "Patient currently receiving MMP"
- "Patient admitted to hospice"
- "Patient receiving hospice care"
- "Patient receiving palliative care"

Flow Chart Diagram: Avoidance of Opioid Medications for Patients with PDN



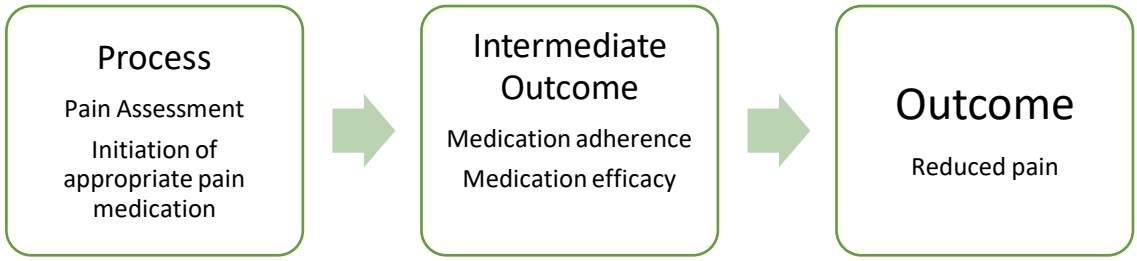


Pain Assessment and Follow-up for Patients with Diabetic Neuropathy

This is a paired measure concept. The numerator from measure 1 is used to define the denominator for measure 2. There is a likelihood that only performance scores for numerator 2 would be reported if incorporated into an accountability program.

Measure Title	Pain Assessment and Follow-up for Patients with Diabetic Neuropathy	
Description	Percentage of patients diagnosed with diabetic neuropathy who were assessed for pain AND had an appropriate medication offered if the pain assessment identified pain in their feet.	
Measurement Period	January 1, 20xx to December 31, 20xx	
Eligible Population	Eligible Clinicians	Medical Doctor (MD), Doctor of Osteopathy (DO), Pharmacist (PharmD), Nurse Practitioners (NP), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN)
	Care Setting(s)	Outpatient Care via in-person or telehealth visits
	Ages	Any
	Event	Office or telehealth visit
	Diagnosis	Diabetic Neuropathy
Measure 1		
Denominator 1	Patients diagnosed with diabetic neuropathy	
Numerator 1	Assessment of pain *Pain assessment is defined as a collection of pain in feet score from a 0-10 scale (Numerical Rating Scale (NRS)) or a 0-100 scale (Visual Analog Scale (VAS))	
Required Exclusions	None	
Allowable Exclusions	• Patient declines or refuses to complete pain assessment on date of encounter • Unable to complete pain assessment on date of encounter (For example, non-verbal with no care partner present, coma, etc.)	
Measure 2		
Denominator 2	Patients diagnosed with diabetic neuropathy who had identified pain in their feet* *Identified pain in feet is defined as a score from the VAS greater than or equal to 40 or NRS greater than or equal to 4 at index visit	
Numerator 2	Patients offered appropriate pain medication *Appropriate pain medications are defined as a tricyclic antidepressant (TCAs), serotonin-norepinephrine reuptake inhibitor (SNRI), gabapentinoids, or sodium-channel blockers	
Required Exclusions	None	
Allowable Exclusions	• Patient declines or refuses to complete pain assessment on date of encounter • Unable to complete pain assessment on date of encounter (For example, non-verbal with no care partner present, coma, etc.) • Patient has contraindications to appropriate pain medications documented in their history • Patient has an allergy to appropriate pain medications documented in their history • Patient has previously failed one medication from each class of appropriate pain medications on date of encounter • Patient has other reason for pain in the feet (For example, plantar fasciitis, osteoarthritis, etc.) in their history	

	• Patient report pain is well controlled on date of encounter
Allowable Exclusion Inclusion Logic	Allowable exclusions can only help measure performance. If a patient has an allowable exclusion but is found to meet the numerator that patient is included in the count to meet the measure.
Exclusion Rationale	• Patients must be agreeable or have a valid historian available to provide data for an assessment to be completed. • It is appropriate to exclude patients that have a contraindication, allergy, or previous trials to all three drug classes currently indicated as appropriate for pain treatment, as the measure is focused on those patients that have not failed the currently efficacious drugs. Some of these patients may still benefit, but it is hard to tease the population out using an administrative measure. As a result, these patients are listed as an allowable exclusion. • Patients with alternate reason for pain in feet are appropriate to exclude as guideline indicated medications may pose a risk for the other identified reason. • Patients who have pain well controlled would not be appropriate for inclusion as the measure intent is to drive treatment plan change thereby reducing pain.
Measure Scoring	Percentage
Interpretation of Score	Higher Score Indicates Better Quality
Measure Type	Process
Level of Measurement	Clinician
Risk Adjustment	Not Applicable
Opportunity to Improve Gap in Care	Pain is a frequent concern for patients with diabetes, but physicians do not always discuss this with patients resulting in untreated pain.(Daousi) Further, it was found that 12.5% of patients with diabetes and chronic painful peripheral neuropathy never reported their painful symptoms to their treating physician and 39.3% never received any treatment for their painful symptoms. (Daousi) There is evidence that multicultural patients report differences in pain symptoms compared to Caucasians, and fewer of these patients are diagnosed with painful diabetic peripheral neuropathy. (Eichholz) Further African-American and Hispanic patients reported difficulty communicating and less comfort with their health care clinician. (Eichholz) Research indicates patients with DPN are being prescribed opioids and few are receiving indicated medications that may be effective in addressing pain associated with DPN. Patil, et al. utilized a large health plan claims data set to determine opioids were frequently used as first line agents for DPN 33.33% compared to pregabalin 5.56%. (Patil) A nationally representative study of healthcare claims found the most common prescriptions for peripheral neuropathy were as follows opioids, gabapentin, pregabalin, duloxetine, amitriptyline, and venlafaxine, and only 12.4% of patients received a prescription for more than one neuropathic pain medication other than opioids. (Callaghan) The work group notes that a clinical assessment of pain may include a verbal assessment, but a numerical rating is indicated for this numerator. The requirement of collection of pain on a numerical scale of 0-10 or 0-100 such as the VAS or NRS is needed to drive comparable outcome data over time.
For Process Measures Relationship to Desired Outcome	"Clinicians should assess patients with diabetes for peripheral neuropathic pain and its effect on these patients' function and quality of life (Level B)."(Price) "When initiating pharmacologic intervention for PDN [painful diabetic neuropathy], clinicians should counsel patients that the goal of therapy is to reduce, and not necessarily to eliminate, pain (Level B)."(Price)

	These guideline statements are quoted verbatim, and the measure intent is to identify how frequently patient care was provided as indicated in the guideline. 
Harmonization with Existing Measures	Other pain measures are available, but a measure specific to patients with painful diabetic neuropathy was warranted to address a gap in care and monitor link to appropriate medications.
References	• Price R, Smith D, Franklin G, et al. Oral and topical treatment of painful diabetic polyneuropathy: Practice guideline update. *Neurology*. 2021;98:31-43. • Daousi C, MacFarlane IA, Woodward A, et al. Chronic painful peripheral neuropathy in an urban community: a controlled comparison of people with and without diabetes. • Eichholz M, Alexander AH, Cappelleri JC, et al. Perspectives on the impact of painful diabetic peripheral neuropathy in a multicultural population. Clinical Diabetes and Endocrinology. 2017; 3:12. • Patil PR, Wolfe J, Said Q, et al. Opioid Use in the Management of Diabetic Peripheral Neuropathy (DPN) in a Large Commercially Insured Population. Clin J Pain. 2015; 31(5): 414-424. • Callaghan BC, Reynolds E, Banerjee M, et al. Longitudinal pattern of pain medication utilization in peripheral neuropathy patients. Pain 2019;160:592-599.

Code System	Code	Code Description
Initial Population		
CPT	99201-99205	Office or other outpatient visit, new patient
CPT	99211-99215	Office or other outpatient visit, established patient
CPT	99241-99245	Office or other outpatient consultation, new or established patient
CPT	99421-99423	Digital evaluation and management services
CPT	99441-99443	Telephone evaluation and management services
HCPCS	G-2010	Remote evaluation of recorded video and/or images submitted by an established patient (e.g., store and forward), including interpretation with follow-up with the patient within 24 business hours, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment
HCPCS	G-2012	Brief communication technology-based service, e.g. virtual check-in, by a physician or other qualified health care professional who can report evaluation and management services, provided to an established patient, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment; 5-10 minutes of medical discussion
Denominator 1		
ICD10CM	E08.42	Diabetes mellitus due to underlying condition with diabetic polyneuropathy
ICD10CM	E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy
ICD10CM	E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy
SNOMEDCT	126534007	Diabetic mixed sensory-motor polyneuropathy
SNOMEDCT	126535008	Diabetic motor polyneuropathy
SNOMEDCT	127011001	Diabetic sensory polyneuropathy
SNOMEDCT	193183000	Acute painful diabetic neuropathy
SNOMEDCT	193184006	Chronic painful diabetic neuropathy (disorder)
SNOMEDCT	193185007	Asymptomatic diabetic neuropathy
SNOMEDCT	230572002	Diabetic neuropathy (disorder)
SNOMEDCT	230573007	Diabetic distal sensorimotor polyneuropathy
SNOMEDCT	230574001	Diabetic acute painful polyneuropathy
SNOMEDCT	230575000	Diabetic chronic painful polyneuropathy
SNOMEDCT	230576004	Diabetic asymmetric polyneuropathy
SNOMEDCT	424736006	Diabetic peripheral neuropathy (disorder)
SNOMEDCT	49455004	Diabetic polyneuropathy (disorder)
SNOMEDCT	230572002	Diabetic neuropathy (disorder)
Numerator 1 – Assessment component		
LOINC	80316-3	Pain scale [type]
LOINC	38204-4	Pain primary location – Reported
LOINC	39111-0	Body site
Denominator 2		
ICD10CM	E08.42	Diabetes mellitus due to underlying condition with diabetic polyneuropathy
ICD10CM	E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy
ICD10CM	E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy

SNOMEDCT	126534007	Diabetic mixed sensory-motor polyneuropathy
SNOMEDCT	126535008	Diabetic motor polyneuropathy
SNOMEDCT	127011001	Diabetic sensory polyneuropathy
SNOMEDCT	193183000	Acute painful diabetic neuropathy
SNOMEDCT	193184006	Chronic painful diabetic neuropathy (disorder)
SNOMEDCT	193185007	Asymptomatic diabetic neuropathy
SNOMEDCT	230572002	Diabetic neuropathy (disorder)
SNOMEDCT	230573007	Diabetic distal sensorimotor polyneuropathy
SNOMEDCT	230574001	Diabetic acute painful polyneuropathy
SNOMEDCT	230575000	Diabetic chronic painful polyneuropathy
SNOMEDCT	230576004	Diabetic asymmetric polyneuropathy
SNOMEDCT	424736006	Diabetic peripheral neuropathy (disorder)
SNOMEDCT	49455004	Diabetic polyneuropathy (disorder)
SNOMEDCT	230572002	Diabetic neuropathy (disorder)
AND LOINC code with score of greater than 4 or greater than 40		
LOINC	80316-3	Pain scale [type]
LOINC	38204-4	Pain primary location – Reported
LOINC	39111-0	Body site
Numerator 2 – Follow-up		
VSAC OID	2.16.840.1.113883.3.464.1003.196.11.1194	Tricyclic antidepressant (TCAs),
VSAC OID	To be developed	serotonin-norepinephrine reuptake inhibitor (SNRI)
VSAC OID	To be developed	gabapentinoids
VSAC OID	To be developed	sodium-channel blockers
Presence of key phrases in clinical note may meet numerator component for Axon Registry. Suggested key phrases to locate numerator component via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry: • "Patient offered TCA" • "Patient offered SNRI" • "Patient offered gabapentinoid" • "Patient offered NA-channel blocker" • "Patient Rx TCA" • "Patient Rx SNRI" • "Patient Rx gabapentinoid" • "Patient Rx NA-channel blocker"		
Required Exclusions		
NONE		
Allowable Exclusions		
SNOMEDCT	183932001	Procedure contraindicated (situation)
SNOMEDCT	397745006	Medical contraindication (finding)
SNOMEDCT	407563006	Treatment not tolerated (situation)
SNOMEDCT	428119001	Procedure not indicated (situation)
SNOMEDCT	746791000124111	Recommendation refused by patient (situation)
SNOMEDCT	746801000124112	Recommendation refused by patient
SNOMEDCT	2608177018	Refused procedure - after thought (situation)
SNOMEDCT	284171012	Refused procedure - after thought
SNOMEDCT	183947005	Refused procedure - after thought (situation)

SNOMEDCT	2606319010	Refusal of treatment by patient (situation)
SNOMEDCT	169559019	Refusal of treatment by patient
SNOMEDCT	105480006	Refusal of treatment by patient (situation)
SNOMEDCT	2612741019	Refusal of treatment by parents (situation)
SNOMEDCT	1209841012	Refusal of treatment by parents
SNOMEDCT	2608092019	Refused procedure - parent's wish (situation)
SNOMEDCT	284172017	Refused procedure - parent's wish
SNOMEDCT	183948000	Refused procedure - parent's wish (situation)
SNOMEDCT	183944003	Procedure refused (situation)
SNOMEDCT	183945002	Procedure refused for religious reason (situation)
SNOMEDCT	413310006	Patient non-compliant - refused access to services (situation)
SNOMEDCT	413311005	Patient non-compliant - refused intervention / support (situation)
SNOMEDCT	413312003	Patient non-compliant - refused service (situation)
SNOMEDCT	183948000	Refused procedure - parent's wish (situation)
SNOMEDCT	416432009	Procedure not wanted (situation)
SNOMEDCT	443390004	Refused (qualifier value)

Presence of key phrases in clinical note may meet allowable exclusion component for Axon Registry.

Suggested key phrases to locate exclusions via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry:

- "Patient declines pain assessment"
- "Patient refuses pain assessment"
- "Patient unable to complete pain assessment"
- "Patient has contraindication to TCAs, SNRI, gabapentinoids, and NA channel blockers"
- "Patient has known allergy to TCAs, SNRI, gabapentinoids, and NA channel blockers"
- "Patient has completed course of TCAs, SNRI, gabapentinoids, and NA channel blockers without success"
- "Patient has plantar fasciitis"
- "Patient has osteoarthritis"
- "Patient reports pain well controlled"

Flow Chart Diagram: Assessment and Follow-up for Patients with Painful Diabetic Neuropathy (Measure 1)

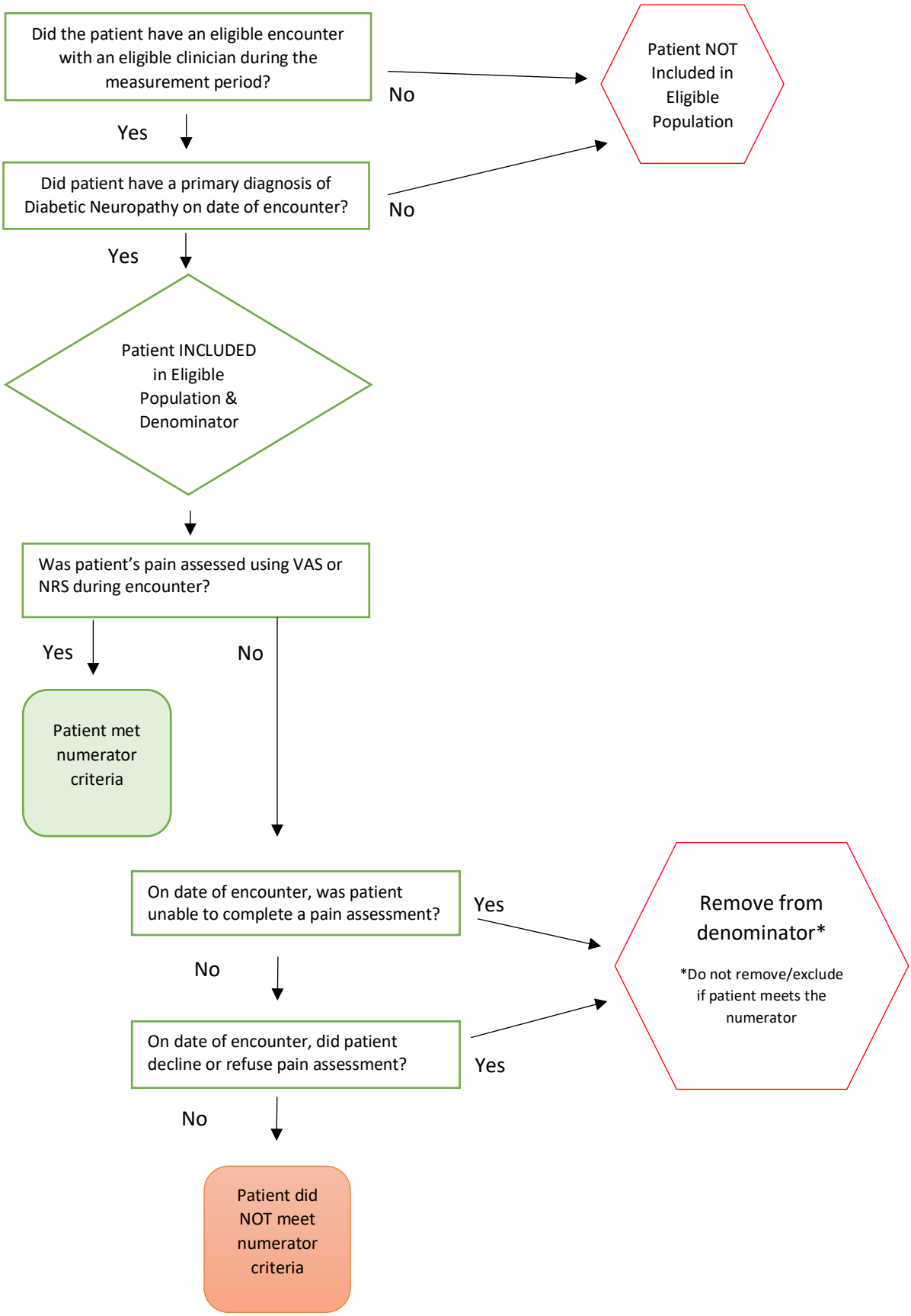
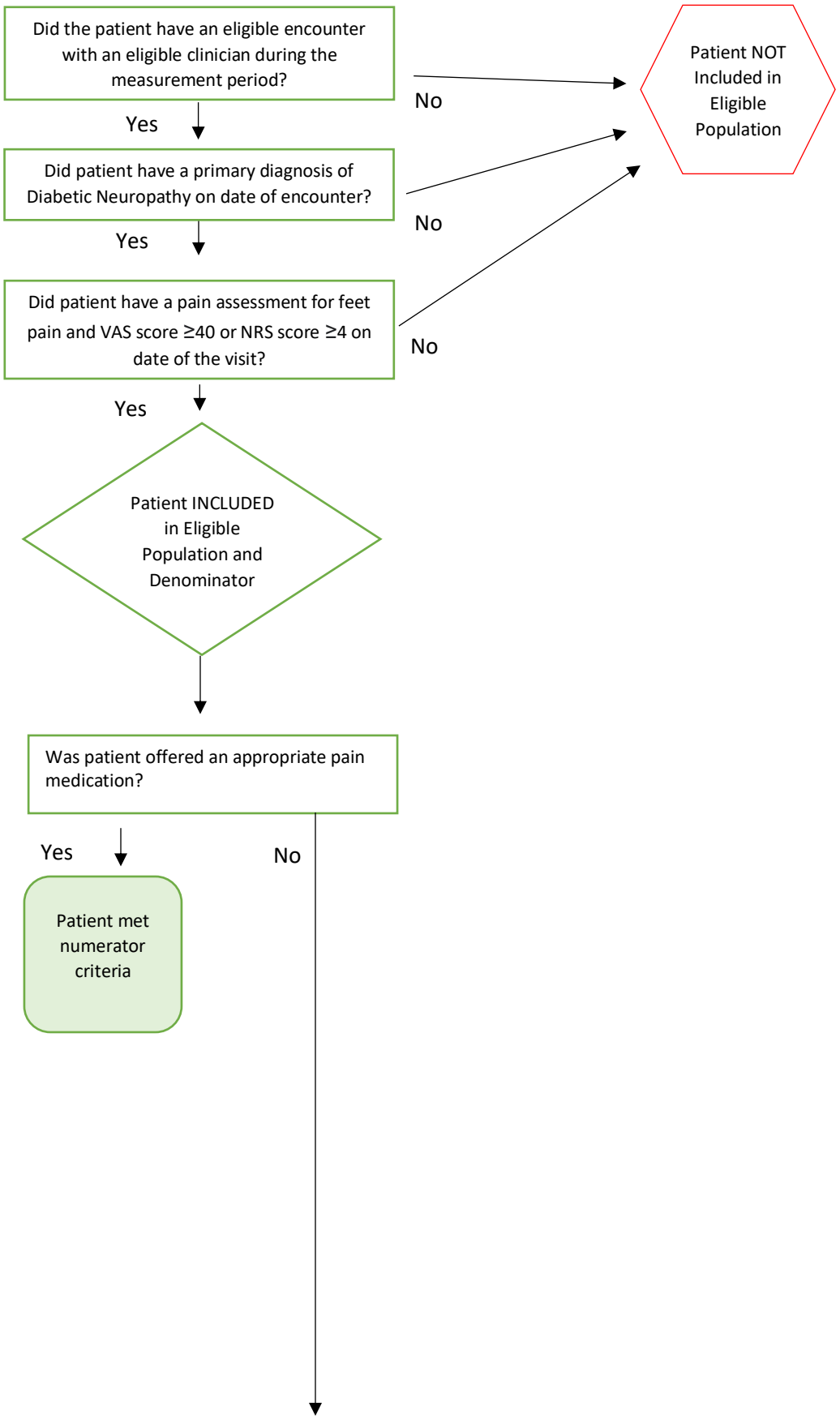
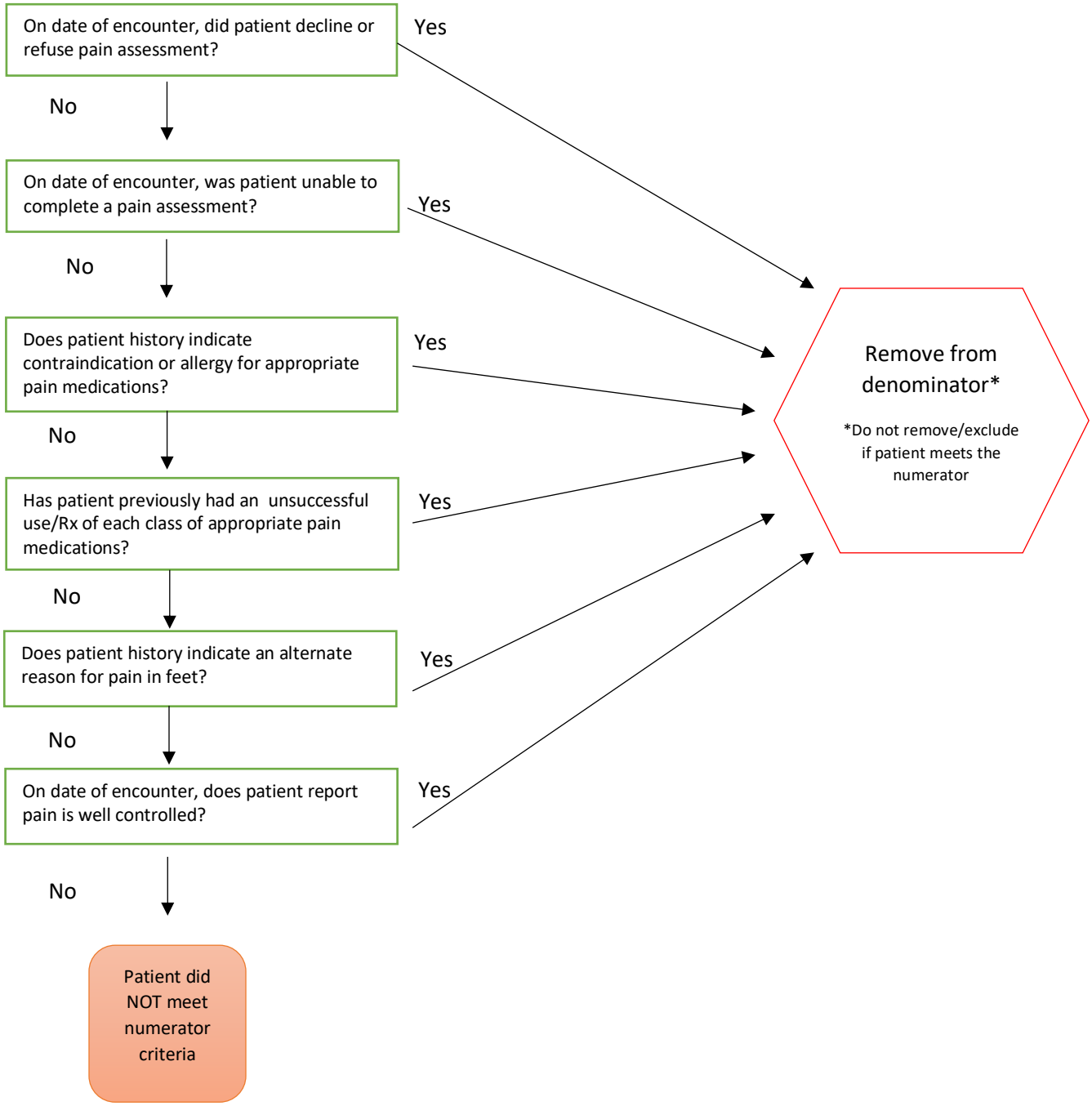


Chart Diagram: Assessment and Follow-up for Patients with Painful Diabetic Neuropathy (Measure 2)





Reduction of pain for patients with polyneuropathy

Measure Title	Reduction of Pain for Patients with Polyneuropathy	
Description	Percentage of patients 18 years and older with a diagnosed with polyneuropathy with associated neuropathic pain in the feet whose Visual Analog Scale (VAS) or Numeric Pain Rating Scale (NRS) pain score for patient's feet at 12 months (+/- 60 days) was improved from the index score	
Measurement Period	January 1, 20xx to December 31, 20xx	
Eligible Population	**Eligible Clinicians**	Medical Doctor (MD), Doctor of Osteopathy (DO), Pharmacist (PharmD), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN)
	Care Setting(s)	Outpatient Care via in-person or telehealth visits
	Ages	Any
	Event	An index event date occurs when ALL of the following criteria are met during an encounter: • An active polyneuropathy diagnosis from Appendix A • A Visual Analog Scale (VAS) score of greater than or equal to 40 or Numeric Pain Rating Scale (NRS) score of greater than or equal to 4 is recorded for the first time in the denominator identification period (See denominator identification period below for example) • The patient is NOT in a prior index period
	Diagnosis	Polyneuropathy (See code list below)
Denominator Identification Period	The period in which eligible patients can have an index event. The denominator identification period occurs prior to the measurement period and is defined as 14 months to two months prior to the start of the measurement period. For example, the denominator identification period for the 2021 calendar year is from 11/1/2019 to 10/31/2020. For patients with an index event, there needs to be enough time following index for the patients to have the opportunity to reach comparison twelve months +/- 60 days after the index event date	
Denominator	Patients aged 18 years and older diagnosed with polyneuropathy with associated neuropathic pain in the feet and a VAS greater than or equal to 40 or NRS greater than or equal to 4 at index visit	
Numerator	Patients whose Visual Analog Scale (VAS) or Numeric Pain Rating Scale (NRS) pain score for patient's feet at 12 months (+/- 60 days) was improved^ from the index score. *For patients with more than 2 scores present at twelve months (+/- 60 days) the last score recorded shall be compared to the index visit score. ^ Improvement is defined as 30% reduction in scale score for the first index score in patient record. The index score does not reset annually.	
Required Exclusions	• Polyneuropathy with associated neuropathic pain with a VAS less than or equal to 39 or NRS less than or equal to 3 at index visit • Patients who died • Second VAS or NRS score not collected at twelve months (+/-60 days) • VAS or NRS pain is not linked to foot pain	
Allowable Exclusions	• Patient declines or refuses to complete pain assessment on date of encounter • Unable to complete pain assessment on date of encounter (For example, non-verbal with no care partner present, coma, etc.) • Patient has contraindications to appropriate pain medications documented in their history	

	• Patient has an allergy to appropriate pain medications documented in their history • Patient has previously failed one medication from each class of appropriate pain medications on date of encounter
Allowable Exclusion Inclusion Logic	Allowable exclusions can only help measure performance. If a patient has an allowable exclusion but is found to meet the numerator that patient is included in the count to meet the measure.
Exclusion Rationale	• Patients who have died are appropriate to exclude from a measure requiring patient report of outcomes. • Similarly, if a follow-up score was not collected performance cannot be calculated and are appropriate for exclusion. • Patients who do not have the required VAS or NRS score should not be included in the denominator as they are not the intended population. • It is appropriate to exclude patients that have a contraindication, allergy, or previous trials to all three drug classes currently indicated as appropriate for pain treatment, as the measure is focused on those patients that have not failed the currently efficacious drugs. Some of these patients may still benefit, but it is hard to tease the population out using an administrative measure. As a result these patients are listed as an allowable exclusion.
Measure Scoring	Percentage
Interpretation of Score	Higher Score Indicates Better Quality
Measure Type	Patient Reported Outcome Performance Measure
Level of Measurement	Clinician
Risk Adjustment	*See Appendix A AAN Statement on Comparing Outcomes of Patients* *This measure is being made available in advance of development of a risk adjustment strategy. The work group identified the following potential data elements that may be used in a risk adjustment methodology for this measure. If this measure is implemented into the Axon Registry the following potential data elements should be tested for possible risk adjustment:* • Co-morbidity (other neurologic or neurobehavioral/neuropsychological disorders) • Co-morbidities (medical conditions) • Pain co-morbidities (i.e., radiculopathy, back pain, knee pain, chronic fatigue syndrome, osteoarthritis, fibromyalgia, mononeuropathy or sole diagnosis of postherpetic neurologia)
Opportunity to Improve Gap in Care	Pain is a frequent concern for patients with diabetes, but physicians do not always discuss this with patients resulting in untreated pain.(Daousi) There is evidence of disparities in pain care for African American and Hispanic populations. (Eichholz) The work group discussed measuring maintenance of pain versus improvement. The work group focused the numerator on improvement, as goal is to drive neurologists to address pain. There is no expectation of 100% improvement, and the original index score is used through time to monitor improvement of 30% or greater, as evidence supports patients can expect a 30-50% improvement over time.(Wong) This measure captures pain levels at a specific point in treatment, and as a result has limitations, given patients may be lost to the numerator when they are not seen at 12 months (+/- 60 days). The work group notes that validated 10-point or 100-point pain scales are now standard in practice. As such there will not be a burden placed on clinicians to collect new data for the measure denominator or numerator.

Harmonization with Existing Measures	No known similar measures.
References	• Daousi C, MacFarlane IA, Woodward A, et al. Chronic painful peripheral neuropathy in an urban community: a controlled comparison of people with and without diabetes. Diabet Med 2004; 21(9):976-982. • Eichholz M, Alexander AH, Cappelleri JC, et al. Perspectives on the impact of painful diabetic peripheral neuropathy in a multicultural population. Clinical Diabetes and Endocrinology. 2017; 3:12. • Wong MC, Chung JW, Wong TK. Effects of treatments for symptoms of painful diabetic neuropathy: systematic review. BMJ. 2007;335(7610):87.

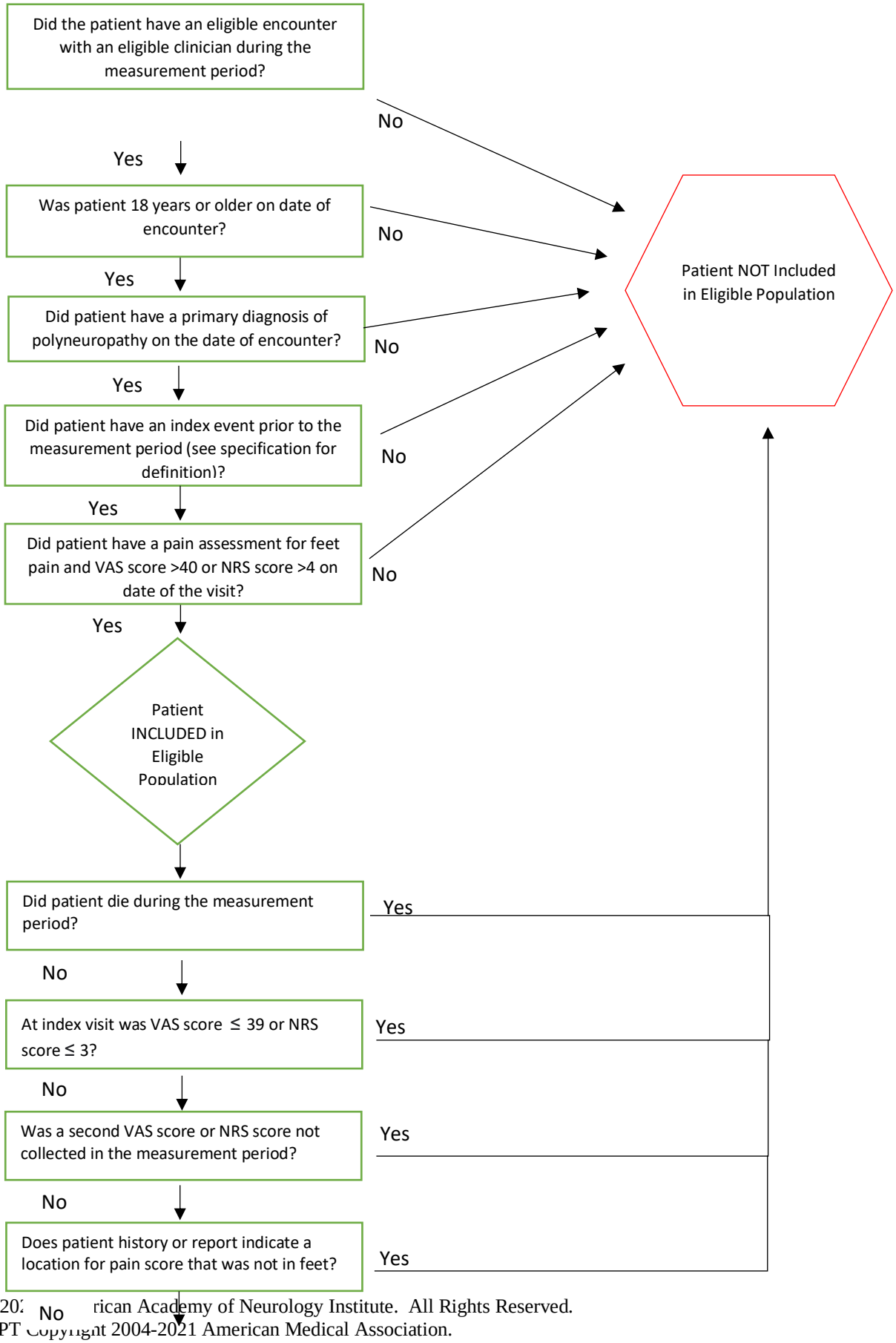
Code System	Code	Code Description
Initial Population		
CPT	99201-99205	Office or other outpatient visit, new patient
CPT	99211-99215	Office or other outpatient visit, established patient
CPT	99241-99245	Office or other outpatient consultation, new or established patient
CPT	99421-99423	Digital evaluation and management services
CPT	99441-99443	Telephone evaluation and management services
HCPCS	G-2010	Remote evaluation of recorded video and/or images submitted by an established patient (e.g., store and forward), including interpretation with follow-up with the patient within 24 business hours, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment
HCPCS	G-2012	Brief communication technology-based service, e.g. virtual check-in, by a physician or other qualified health care professional who can report evaluation and management services, provided to an established patient, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment; 5-10 minutes of medical discussion
Denominator		
ICD10CM	E08.40	Diabetes mellitus due to underlying condition with diabetic polyneuropathy, unspecified
ICD10CM	E08.42	Diabetes mellitus due to underlying condition with diabetic polyneuropathy
ICD10CM	E09.40	Drug or chemical induced diabetes mellitus with neurological complications, with diabetic neuropathy, unspecified
ICD10CM	E09.42	Drug or chemical induced diabetes mellitus with neurological complications with diabetic polyneuropathy
ICD10CM	E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy
ICD10CM	E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy
ICD10CM	E13.40	Other specified diabetes mellitus with diabetic neuropathy, unspecified
ICD10CM	E13.42	Other specified diabetes mellitus with diabetic polyneuropathy
ICD10CM	G60.0	Hereditary motor and sensory neuropath
ICD10CM	G60.2	Neuropathy in association with hereditary ataxia
ICD10CM	G60.3	Idiopathic progressive neuropathy
ICD10CM	G60.8	Other hereditary and idiopathic neuropathies
ICD10CM	G60.9	Hereditary and idiopathic neuropathy, unspecified
ICD10CM	G61.82	Multifocal motor neuropathy
ICD10CM	G61.89	Other inflammatory polyneuropathies
ICD10CM	G61.9	Inflammatory polyneuropathy, unspecified
ICD10CM	G62.0	Drug-induced polyneuropathy
ICD10CM	G62.1	Alcoholic polyneuropathy
ICD10CM	G62.2	Polyneuropathy due to other toxic agents
ICD10CM	G61.81	Chronic inflammatory demyelinating polyneuritis
ICD10CM	G62.81	Critical illness polyneuropathy
ICD10CM	G62.89	Other specified polyneuropathies
ICD10CM	G62.9	Polyneuropathy, unspecified
ICD10CM	G63	Polyneuropathy in diseases classified elsewhere
ICD10CM	G65.2	Sequelae of toxic polyneuropathy

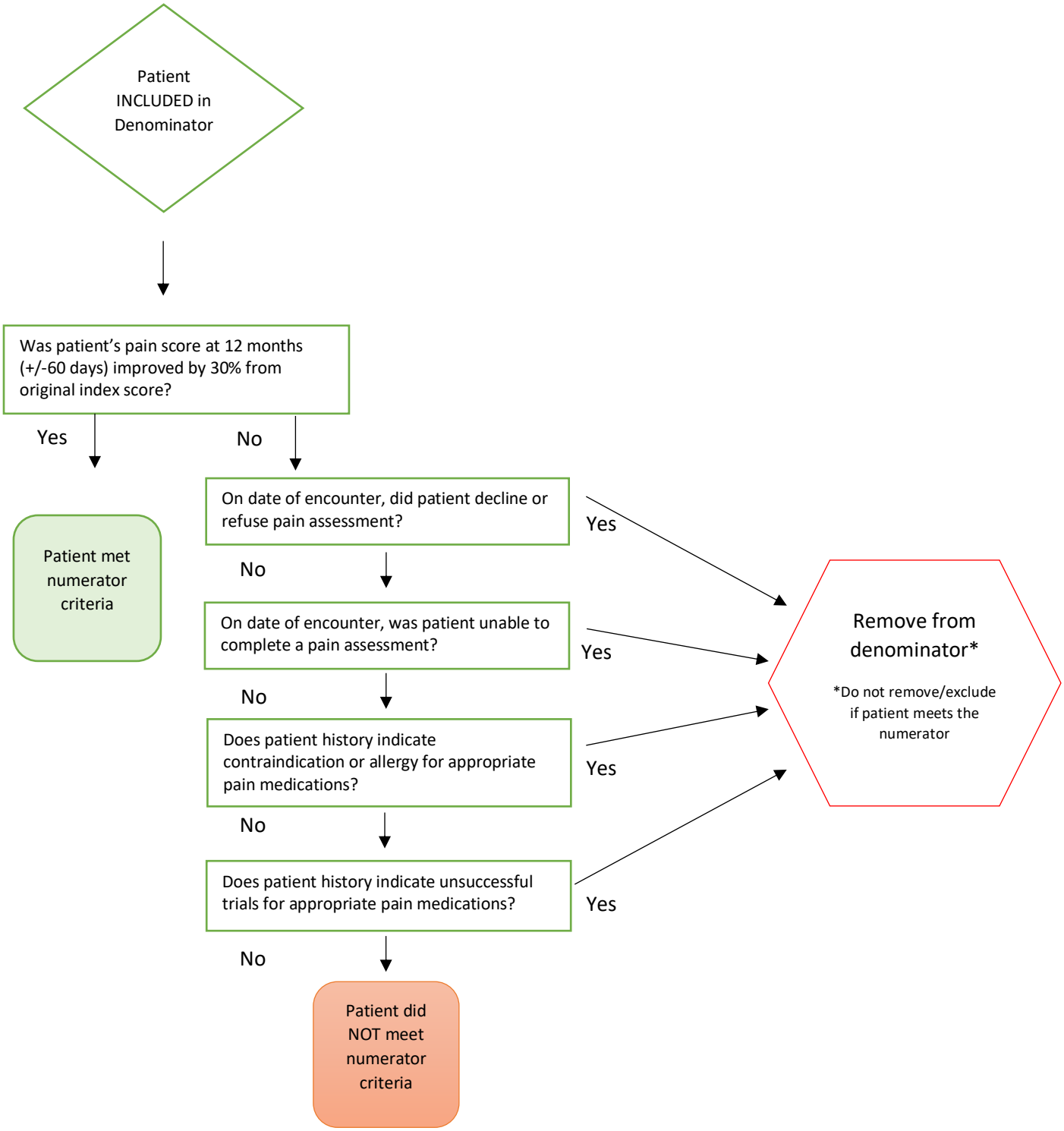
SNOMEDCT	11659006	Uremic neuropathy
SNOMEDCT	126534007	Diabetic mixed sensory-motor polyneuropathy
SNOMEDCT	126535008	Diabetic motor polyneuropathy
SNOMEDCT	127011001	Diabetic sensory polyneuropathy
SNOMEDCT	193157005	Hereditary and idiopathic peripheral neuropathy
SNOMEDCT	193177003	Polyneuropathy in collagen vascular disease
SNOMEDCT	193183000	Acute painful diabetic neuropathy
SNOMEDCT	193184006	Chronic painful diabetic neuropathy (disorder)
SNOMEDCT	193185007	Asymptomatic diabetic neuropathy
SNOMEDCT	20447006	Plasma cell dyscrasia with polyneuropathy
SNOMEDCT	230572002	Diabetic neuropathy (disorder)
SNOMEDCT	230573007	Diabetic distal sensorimotor polyneuropathy
SNOMEDCT	230574001	Diabetic acute painful polyneuropathy
SNOMEDCT	230575000	Diabetic chronic painful polyneuropathy
SNOMEDCT	230576004	Diabetic asymmetric polyneuropathy
SNOMEDCT	230586003	Neuropathy due to multiple myeloma (disorder)
SNOMEDCT	230607004	Neuropathy caused by chemical substance
SNOMEDCT	230611005	Neuropathy due to bacterial toxin
SNOMEDCT	267601009	Inflammatory and toxic neuropathy
SNOMEDCT	33209009	Idiopathic progressive polyneuropathy (disorder)
SNOMEDCT	42295001	Familial amyloid polyneuropathy
SNOMEDCT	42345000	Polyneuropathy (disorder)
SNOMEDCT	424736006	Diabetic peripheral neuropathy (disorder)
SNOMEDCT	445475001	Paraneoplastic sensorimotor neuropathy
SNOMEDCT	449305009	Paraneoplastic sensory neuropathy
SNOMEDCT	45600000	Toxic polyneuropathy
SNOMEDCT	46138007	Tropical ataxic neuropathy
SNOMEDCT	49455004	Diabetic polyneuropathy (disorder)
SNOMEDCT	7339009	Polyneuropathy due to drug (disorder)
SNOMEDCT	76886005	Inflammatory polyneuropathy
SNOMEDCT	77659000	Paraneoplastic neuropathy
SNOMEDCT	7916009	Alcoholic polyneuropathy (disorder)
AND LOINC code with score of greater than 4 or greater than 40		
LOINC	80316-3	Pain scale [type]
LOINC	38204-4	Pain primary location – Reported
LOINC	39111-0	Body site
Presence of key phrases in clinical note may meet denominator component for Axon Registry. Suggested key phrases to locate denominator component via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry: • "VAS for foot pain is …" • "NRS for foot pain is …" • "VAS for feet pain is …" • "NRS for feet pain is …" • "Foot pain VAS" • "Feet pain VAS" • "Foot pain NRS" • "Feet pain NRS"		
Numerator –		
LOINC	80316-3	Pain scale [type]

LOINC	38204-4	Pain primary location – Reported
LOINC	39111-0	Body site
Presence of key phrases in clinical note may meet numerator component for Axon Registry. Suggested key phrases to locate numerator component via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry: • "Patient's pain score improved by 30% since index score" • "Pain score improved by greater than 30% compared to index score"		
Required Exclusions		
LOINC	80316-3	Pain scale [type]
LOINC	38204-4	Pain primary location – Reported
LOINC	39111-0	Body site
Presence of key phrases in clinical note may meet required exclusion component for Axon Registry. Suggested key phrases to locate exclusions via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry: • "Patient pain score 39 (or lower)" • "Patient pain score 3 (or lower)" • "Patient has died" • "Patient did not have pain score at 12 months" • "Patient's pain is not associated with feet"		
Allowable Exclusions		
SNOMEDCT	183932001	Procedure contraindicated (situation)
SNOMEDCT	397745006	Medical contraindication (finding)
SNOMEDCT	407563006	Treatment not tolerated (situation)
SNOMEDCT	428119001	Procedure not indicated (situation)
SNOMEDCT	746791000124111	Recommendation refused by patient (situation)
SNOMEDCT	746801000124112	Recommendation refused by patient
SNOMEDCT	2608177018	Refused procedure - after thought (situation)
SNOMEDCT	284171012	Refused procedure - after thought
SNOMEDCT	183947005	Refused procedure - after thought (situation)
SNOMEDCT	2606319010	Refusal of treatment by patient (situation)
SNOMEDCT	169559019	Refusal of treatment by patient
SNOMEDCT	105480006	Refusal of treatment by patient (situation)
SNOMEDCT	2612741019	Refusal of treatment by parents (situation)
SNOMEDCT	1209841012	Refusal of treatment by parents
SNOMEDCT	2608092019	Refused procedure - parent's wish (situation)
SNOMEDCT	284172017	Refused procedure - parent's wish
SNOMEDCT	183948000	Refused procedure - parent's wish (situation)
SNOMEDCT	183944003	Procedure refused (situation)
SNOMEDCT	183945002	Procedure refused for religious reason (situation)
SNOMEDCT	413310006	Patient non-compliant - refused access to services (situation)
SNOMEDCT	413311005	Patient non-compliant - refused intervention / support (situation)
SNOMEDCT	413312003	Patient non-compliant - refused service (situation)
SNOMEDCT	183948000	Refused procedure - parent's wish (situation)
SNOMEDCT	416432009	Procedure not wanted (situation)
SNOMEDCT	443390004	Refused (qualifier value)
Presence of key phrases in clinical note may meet allowable exclusion component for Axon Registry. Suggested key phrases to locate exclusions via Axon Registry® are included below. This list is not exhaustive and will be updated annually if adopted into the Axon Registry:		

- "Patient declines pain assessment"
- "Patient refuses pain assessment"
- "Patient unable to complete pain assessment"
- "Patient has contraindication to TCAs, SNRI, gabapentinoids, and NA channel blockers"
- "Patient has known allergy to TCAs, SNRI, gabapentinoids, and NA channel blockers"
- "Patient has completed course of TCAs, SNRI, gabapentinoids, and NA channel blockers without success"

Chart Diagram: Reduction of Pain for Patients with Polyneuropathy





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Appendix A AAN Statement on Comparing Outcomes of Patients

Why this statement: Characteristics of patients can vary across practices and differences in those characteristics may impact the differences in health outcomes among those patients. Some examples of these characteristics are: demographics, co-morbidities, socioeconomic status, and disease severity. Because these variables are typically not under the control of a clinician, it would be inappropriate to compare outcomes of patients managed by different clinicians and practices without accounting for those differences in characteristics among patients. There are many approaches and models to improve comparability, but this statement will focus on risk adjustment. This area continues to evolve (1), and the AAN will revisit this statement regularly to ensure accuracy, as well as address other comparability methods (2) should they become more common.

AAN quality measures are used primarily to demonstrate compliance with evidence-based and consensus-based best practices within a given practice as a component of a robust quality improvement program. The AAN includes this statement to caution against using certain measures, particularly outcome measures, for comparison to other individuals/practices/hospitals without the necessary and appropriate risk adjustment.

What is Risk Adjustment: Risk adjustment is a statistical approach that can make populations more comparable by controlling for patient characteristics (most commonly adjusted variable is a patient's age) that are associated with outcomes but are beyond the control of the clinician. By doing so, the processes of care delivered and the outcomes of care can be more strongly linked.

Comparing measure results from practice to practice: For process measures, the characteristics of the population are generally not a large factor in comparing one practice to another. Outcome measures, however, may be influenced by characteristics of a patient that are beyond the control of a clinician.(3) For example, demographic characteristics, socioeconomic status, or presence of comorbid conditions, and disease severity may impact quality of life measurements. Unfortunately, for a particular outcome, there may not be sufficient scientific literature to specify the variables that should be included in a model of risk adjustment. When efforts to risk adjust are made, for example by adjusting socioeconomic status and disease severity, values may not be documented in the medical record, leading to incomplete risk adjustment.

When using outcome measures to compare one practice to another, a methodologist, such as a health researcher, statistician, actuary or health economist, ought to ensure that the populations are comparable, apply the appropriate methodology to account for differences or state that no methodology exists or is needed.

Use of measures by other agencies for the purpose of pay-for-performance and public reporting programs: AAN measures, as they are rigorously developed, may be endorsed by the National Quality Forum or incorporated into Centers for Medicare & Medicaid Services (CMS) and private payer programs. 14

It is important when implementing outcomes measures in quality measurement programs that a method be employed to account for differences in patients beyond a clinicians' control such as risk adjustment.

References and Additional Reading for AAN Statement on Comparing Outcomes of Patients

1. Shahian DM, Wolf RE, Iezzoni LI, Kirle L, Normand SL. Variability in the measurement of hospital-wide mortality rates. N Engl J Med 2010;363(26):2530-2539. Erratum in: N Engl J Med 2011;364(14):1382.
2. Psaty BM, Siscovick DS. Minimizing bias due to confounding by indication in comparative effectiveness research: the importance of restriction. JAMA 2010;304(8):897-898.
3. National Quality Forum. Risk Adjustment for Socioeconomic Status or Other Sociodemographic Factors. August 2014. Available at: http://www.qualityforum.org/Publications/2014/08/Risk_Adjustment_for_Socioeconomic_Status_or_Other_Sociodemographic_Factors.aspx Accessed on January 8, 2015.

- Sharabiani MT, Aylin P, Bottle A. Systematic review of comorbidity indices for administrative data. Med Care. 2012;50(12):1109-1118.
- Pope GC, Kauter J, Ingber MJ, et al. for The Centers for Medicare & Medicaid Services' Office of Research, Development, and Information. Evaluation of the CMS-HCC Risk Adjustment Model. March 2011. Available at: http://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/downloads/evaluation_risk_adj_model_2011.pdf Accessed on January 8, 2015.

Appendix B: Disclosures

Work Group Member	Disclosures
Carmel Armon, MD, FAAN	Dr. Armon has received personal compensation for serving as an employee of Shamir (Assaf Harofeh) Medical Center. Dr. Armon has received personal compensation in the range of $10,000-$49,999 for serving as a Consultant for Inbal - Israeli Government Insurance Company. Dr. Armon has received personal compensation in the range of $5,000-$9,999 for serving as an Editor, Associate Editor, or Editorial Advisory Board Member for Journal of Neurological Sciences. Dr. Armon has received personal compensation in the range of $5,000-$9,999 for serving as an Expert Witness for Individual attorney offices. The institution of Dr. Armon has received research support from Eisai. Dr. Armon has received publishing royalties from a publication relating to health care.
Vera Bril, MD	Dr. Bril has received personal compensation in the range of $500-$4,999 for serving as a Consultant for UCB. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving as a Consultant for CSL. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving as a Consultant for Octapharma. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for Takeda. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for Immunovant. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for Alexion. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for UCB. Dr. Bril has received personal compensation in the range of $5,000-$9,999 for serving on a Scientific Advisory or Data Safety Monitoring board for Akcea. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for Sanofi. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for Alnylam. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for CSL. Dr. Bril has received personal compensation in the range of $500-$4,999 for serving on a Scientific Advisory or Data Safety Monitoring board for Argenx. Dr. Bril has received personal compensation in the range of $5,000-$9,999 for serving on a Speakers Bureau for CSL. The institution of Dr. Bril has received research support from CSL. The institution of Dr. Bril has received research support from UCB. The institution of Dr. Bril has received research support from Argenx. The institution of Dr. Bril has received research support from Momenta. The institution of Dr. Bril has received research support from Immunovant. The institution of Dr. Bril has received research support from Alexion. The institution of Dr. Bril has received research support from Octapharma. The institution of Dr. Bril has received research support from Takeda. Dr. Bril has received intellectual property interests from a discovery or technology relating to health care.
Brian Callaghan, MD, FAAN	Dr. Callaghan has received personal compensation for serving as an employee of University of Michigan. Dr. Callaghan has received personal compensation for serving as an employee of Ann Arbor Veterans Affairs. Dr. Callaghan has received personal compensation in the range of $500-$4,999 for serving as a Consultant for Dynamed. Dr. Callaghan has received personal compensation in the range of $500-$4,999 for serving as an Editor, Associate Editor, or Editorial Advisory Board Member for American Academy of Neurology. Dr. Callaghan has received personal compensation in the range of $10,000-$49,999 for serving as an Expert Witness for Medico-legal work. Dr. Callaghan has received personal compensation in the range of $50,000-$99,999 for serving as an Expert Witness for Vaccine Injury Compensation Program. The institution of Dr. Callaghan has

	received research support from American Academy of Neurology. The institution of Dr. Callaghan has received research support from JDRF. The institution of Dr. Callaghan has received research support from NIDDK. The institution of Dr. Callaghan has received research support from VA CSRD. Dr. Callaghan has received personal compensation in the range of $500-$4,999 for serving as a Grant Reviewer with NIH.
Lindsay Colbert, MA	Reports no disclosures.
William David, MD, PhD, FAAN	Dr. David has received personal compensation in the range of $500-$4,999 for serving as an officer or member of the Board of Directors for Dysimmune Disorders foundation. Dr. David has received publishing royalties from a publication relating to health care.
David Del Toro, MD	Dr. Del Toro has received personal compensation in the range of $500-$1000 for serving as a Consultant and Advisory Board member for Ossur Americas.
Kenny Fink, MD	Dr. Fink has received personal compensation in the range of $10,000-$49,999 for serving as a Colonel with Hawaii Air National Guard. Dr. Fink has received personal compensation in the range of $10,000-$49,999 for serving as a Expert Witness with State of Hawaii.
Lyell Jones, MD, FAAN	Dr. Jones has received intellectual property interests from a publication relating to health care. Dr. Jones has a non-compensated relationship on the Board of Directors of Mayo Clinic ACO that is relevant to AAN interests or activities.
Robert Kleemeier	Reports no disclosures.
Leslie C. MacGregor, VMD, PhD, JD	Reports no disclosures.
Anant Shenoy, MD, FAAN (non-voting member)	Reports no disclosures.