
# Parkinson's Disease

## Quality Measurement Set

## 2020 Update

Approved by the Movement Disorders Work Group on August 28, 2020. Approved by the AAN Measure Development Subcommittee on September 10, 2020. Approved by the AAN Quality Committee on September 28, 2020. Approved by the American Academy of Neurology Institute Board of Directors on November 4, 2020.

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**Improving Outcomes for People with Parkinson's Disease**

Prevalence and Impact of Parkinson's Disease

Parkinson's disease (PD) is the second most common neurodegenerative disorder[i]. Age is the most consistent risk factor for PD, which is uncommon below the age of 50 and peaks in both prevalence and incidence in the 9th decade[ii]. Globally, the overall prevalence of PD in 2016 was 6.1 million[ii]. In the United States, there were an estimated 680,000 cases of PD among individuals aged ≥45 years in 2010[iii]. This number was projected to rise to 930,000 cases in 2020 and double to 1,238,000 cases by 2030 [iii].

Clinically, PD is characterized by both motor (rest tremor, bradykinesia, rigidity) and non-motor (including but not limited to neuropsychiatric, autonomic, and sensory) symptoms. Dopaminergic neuron loss and α-synuclein-containing Lewy bodies are seen in the substantia nigra pathologically. While there are effective symptomatic treatments for the major motor symptoms of PD, there are currently no proven therapies to modify disease progression. Symptom burden increases as the disease advances, and PD is now the fastest growing source of neurological disability worldwide[ii]. Estimated direct medical expenses for the PD population were approximately $14.4 billion in 2010, $8.1 billion more than the estimate for the general population without PD[iv], with the majority of costs going towards nursing home care. The estimated indirect nonmedical cost of PD, which includes work days lost, disability payments and home health care costs, was estimated to be $6.3 billion in 2010[iv]. This economic burden will only grow in the coming years as the population ages and the number of people with PD increases.

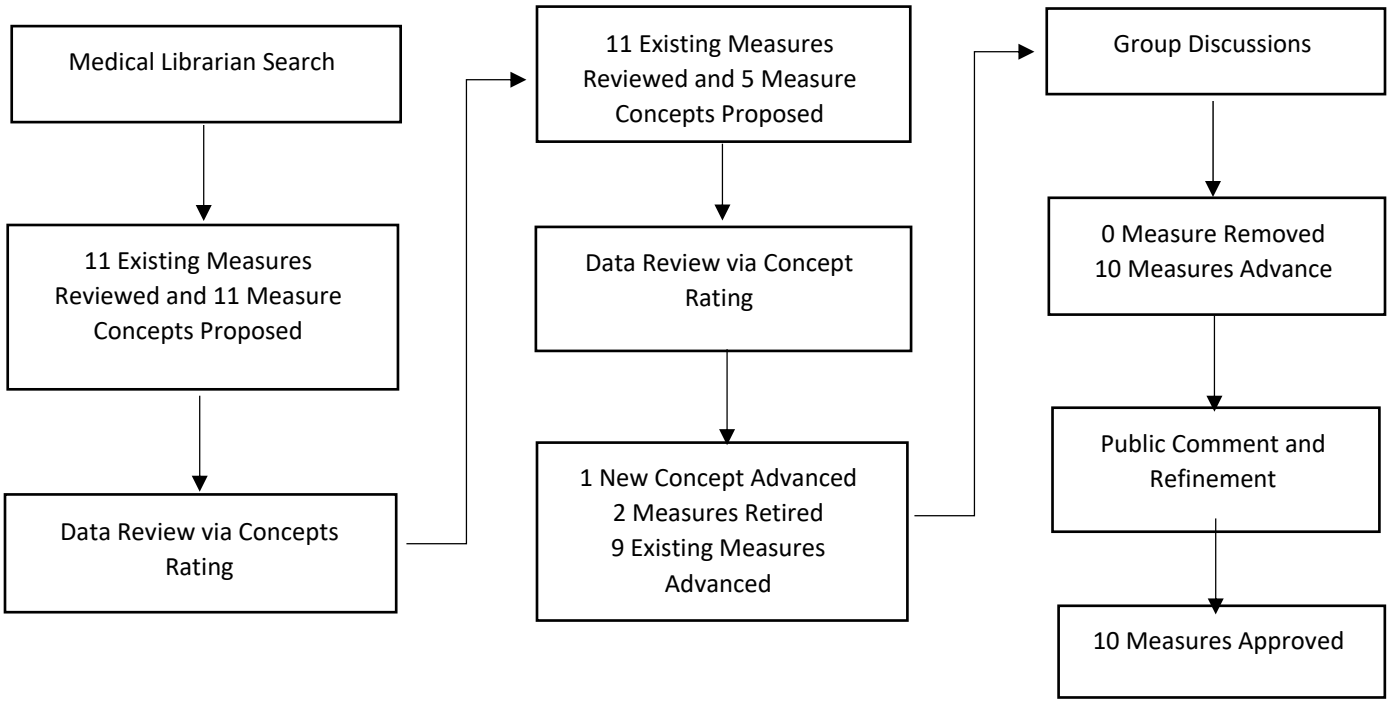
Measure Development Process

The AANI Quality Measures Subcommittee approved a Movement Disorder Standing Work Group for this update. The Work Group includes representatives from professional associations to ensure measures developed included input from all members of the healthcare team. All members are required to disclose relationships with industry and other entities to avoid actual, potential, or perceived conflicts of interest. (See Appendix A) Individuals were instructed to abstain from voting on individual measure concepts if a conflict was present.

The AANI anticipates the measure Work Group will revisit measures every six months evaluating new evidence statements, new measures released by other developers, and AANI movement disorder implementation and performance data to nimbly respond to developments in these areas. The Work Group is charged with updating measures as needed over the two-year period and developing supporting materials and implementation guides as appropriate.

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 30-day public comment period and further refinement. During the refinement process, input was specifically sought and obtained from patient advocacy organizations.

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




2020 Parkinson's Disease Measurement Set

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|---|
| Annual Parkinson's Disease Diagnosis Review |
| Contraindicated Dopamine-blocking Medications |
| Assessment of Parkinson's Disease Medication-related Motor Complications |
| Parkinson's Disease Rehabilitative Therapy Referral |
| Exercise or Physical Activity Counseling |
| Assessment of Mood Disorders and Psychosis |
| Assessment of Impulse Control Disorders for Patients Prescribed PD Medications |
| Assessment of Sleep Disturbances |
| Assessment of Cognitive Impairment or Dysfunction |
| Assessment of Autonomic Dysfunction |

Other Potential Measures

Movement Disorder Standing Work Group members submitted several new measure concepts for the entire group to consider. At this time, the Work Group felt the following concepts were not ready for development. Reasons included lack of strong evidence, difficulty locating data elements needed for measurement, redundancy with approved measures, or lack of known gaps in treatment. These concepts may be revisited at the time of the next measurement set update.

- Caregivers asked about and counseled on caregiver burden
- Discussion of cholinesterase inhibitors
- Counseling on complementary physical therapy modalities
- PD symptoms not adequately controlled by medications that had surgical/device therapies discussed
- Ability to manage medications
- PD patients engaging in exercise
- Caregiver quality of life

- Palliative care consult or referral
- Ability to carry out ADL/IADL

2015 Measures

| **2015 Parkinson's Disease Quality Measurement Set Update** |
|---|
| Annual Parkinson's Disease Diagnosis Review ***Updated*** |
| Avoidance of Dopamine Blocking Medications in Patients with Parkinson's Disease ***Updated*** |
| Psychiatric Symptoms Assessment for Patients with Parkinson's Disease ***Updated*** |
| Cognitive Impairment or Dysfunction Assessment for Patients with Parkinson's Disease ***Updated*** |
| Querying About Symptoms of Autonomic Dysfunction for Patients with Parkinson's Disease ***Updated*** |
| Querying About Sleep Disturbances for Patients with Parkinson's Disease ***Updated*** |
| Fall Rate for Patients with Parkinson's Disease *Retired* |
| Parkinson's Rehabilitative Therapy Options ***Updated*** |
| Counseling Patients with Parkinson's Disease About Regular Exercise Regimen ***Updated*** |
| Querying About Parkinson's Disease Medication-Related Motor Complications ***Updated*** |
| Advanced Care Planning for Patients with Parkinson's Disease *Retired* |

Measure Harmonization

The Work Group voted to retire two measures from the 2015 measurement set (Fall Rate for Patients with Parkinson's Disease and Advanced Care Planning for Patients with Parkinson's Disease), as there was overlap with the Universal Neurology Quality Measurement Set. The AAN advocates for reducing duplicative measures when possible. Retiring these two measures helps harmonization efforts between different AANI Quality Measurement Sets and reduces the number of disease-specific measures.

The Work Group recommends the use of the following measures from the Universal Neurology Quality Measurement Set in place of the retired measures:

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| Falls Outcome and Plan of Care<br>https://www.aan.com/siteassets/home-page/policy-and-guidelines/quality/quality-measures/other-neurologic-conditions/2018universalneurologymeasurementset.pdf |
| Advance Care Planning<br>https://www.aan.com/siteassets/home-page/policy-and-guidelines/quality/quality-measures/other-neurologic-conditions/2018universalneurologymeasurementset.pdf |

The measurement set includes measures that require the use of validated screening tools. The work group discussed and determined that multiple tools should be offered to allow providers to determine which tool best meets their individual practice needs. Tools may be subject to copyright and require licensing fees. The work group notes that effective September 2020 that Montreal Cognitive Assessment use requires completion of a proprietary examination and fee

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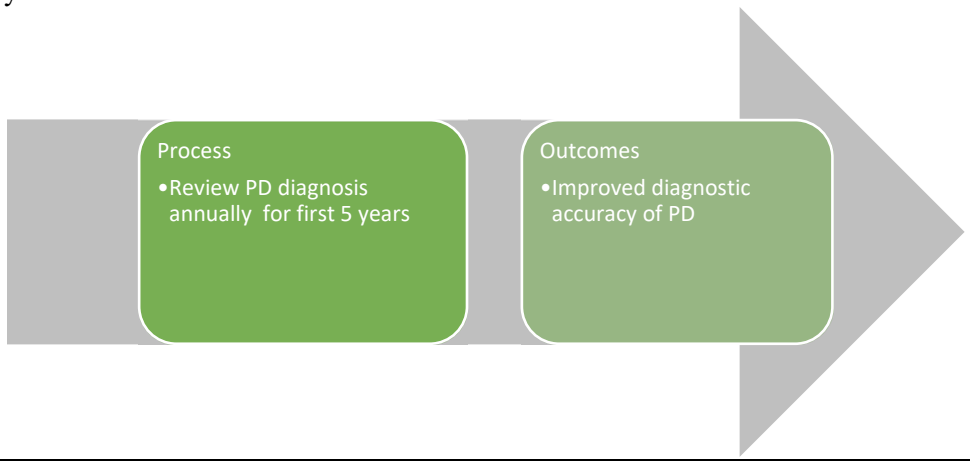
| **Measure Title** | Annual Parkinson's Disease Diagnosis Review | |
| **Description** | Percentage of all patients with a diagnosis of PD who had their diagnosis reviewed annually for the first 5 years after diagnosis of PD | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN) |
| | **Care Setting(s)** | Outpatient, skilled nursing home, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, telehealth visit |
| | **Diagnosis** | Parkinson's Disease |
| **Denominator** | All patients with a diagnosis of PD | |
| **Numerator** | Patients who had their diagnosis reviewed^ annually for the first 5 years after initial diagnosis of PD<br><br>^Reviewed is defined as an evaluation using the UK Parkinson's Disease Society Brain Bank Clinical Diagnostic Criteria, MDS-Clinical Diagnostic Criteria for PD or discussion of differential diagnosis. | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | None | |
| **Exclusion Rationale** | N/A | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | By reviewing the PD diagnosis annually, we anticipate improved clinical diagnostic accuracy, allowing clinicians to provide appropriate prognostic information and better therapeutic approaches. Since diagnostic accuracy of PD improves with longer term follow-up, limiting this measure to only the first 5 years after diagnosis should improve compliance without sacrificing quality of care.<br>  <br> | |

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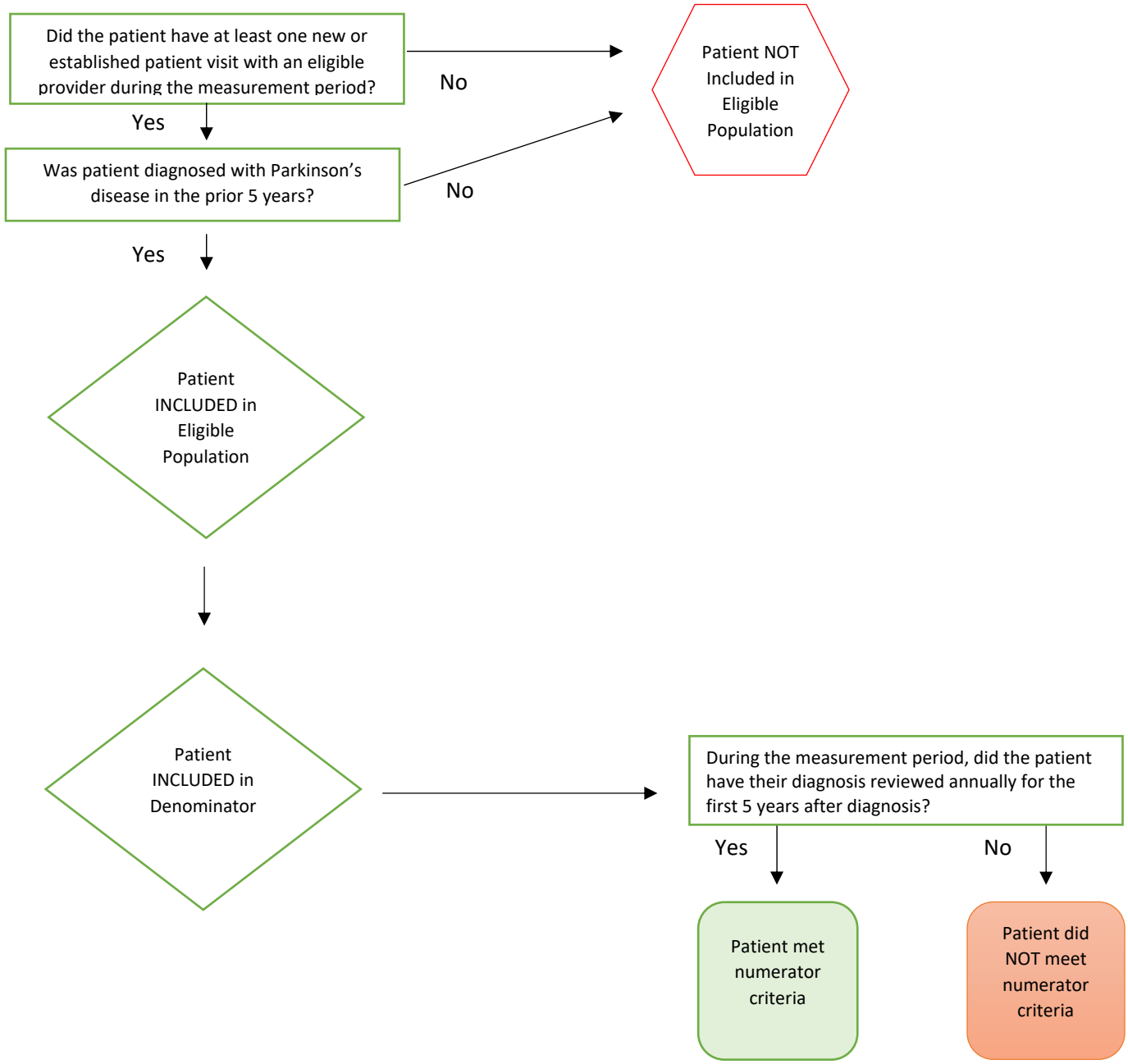
| **Opportunity to Improve Gap in Care** | The diagnosis of PD in vivo remains a clinical one. An accurate clinical diagnosis is critical in order to provide appropriate prognostic information and therapeutic approaches. Diagnostic accuracy of PD improves with longer term follow-up or the use of diagnostic criteria.<br><br>In the original 2010 AAN PD quality measure recommendations, measure 1(Annual Parkinson's Disease Diagnosis Review) included both "a review of current medications (e.g., medications that can produce Parkinson-like signs or symptoms) and a review for the presence of atypical features (e.g., falls at presentation and early in the disease course, poor response to levodopa, symmetry at onset, rapid progression [to Hoehn and Yahr stage 3 in 3 years], lack of tremor or dysautonomia." In a 2013 study by Baek et al., provider compliance rate for annual review of Parkinson's medications was 97.2% while the annual review of atypical features was 14.3%. Martello et al. reported that documentation of the Annual Parkinson's Disease Diagnosis Review measure in a Movement Disorders Center had the lowest compliance of all measures in the 2010 PD Quality Measurement Set, with a frequency of 29%. |
| **Harmonization with Existing Measures** | No existing measures known. |
| **References** | 1. Baek WS, Swenseid SS, Poon KT. Quality Care Assessment of Parkinson's Disease at a Tertiary Medical Center. International Journal of Neuroscience 2013; 123(4): 221-225.<br>2. EFNS/MDS-ES recommendations for the diagnosis of Parkinson's disease. European Journal of Neurology 2013; 20:16-34.<br>3. Hughes AJ, Daniel SE, Kilford L, Lees AJ. Accuracy of clinical diagnosis of idiopathic Parkinson's disease: a clinico-pathological study of 100 cases. J Neurol Neurosurg Psychiatry 1992; 55:181-184.<br>4. Martello J, Shulman LM, Barr E, Gruber-Baldini A, Armstrong MJ. Assessment of Parkinson disease quality measures on 12-month patient outcomes. Neurology: Clinical Practice. 2020;10(1):58–64.<br>5. National Institute for Health and Care Excellence (NICE) Parkinson's disease in adults. (NICE guideline 71), July 2017. Available at: https://www.nice.org.uk/guidance/ng71<br>6. Postuma RB, Berg D, Stern M, et al. MDS clinical diagnostic criteria for Parkinson's disease. Mov Disord 2015; 30:1591-1599.<br>7. Rizzo G, Copetti M, Arcuti S, Martino D, Fontana A, Logroscino G. Accuracy of clinical diagnosis of Parkinson disease: A systematic review and meta-analysis. Neurology. 2016 Feb;86(6):566-76. Epub 2016 Jan 13.<br>8. Scottish Intercollegiate Guidelines Network. Diagnosis of pharmacological management of Parkinson's disease. 2010. |

| 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 | 99304-99310 | Nursing home consultation |
| CPT | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |

Flow Chart Diagram: Annual Parkinson's Disease Diagnosis Review



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|---|---|---|
| **Measure Title** | Contraindicated Dopamine-blocking Medications | |
| **Description** | Percentage of patients with a diagnosis of PD who are currently prescribed a contraindicated dopamine-blocking agent<br><br>*Note: this is an inverse measure where a lower score is more desirable. | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx<br>*Performance is based on a 12-month look back period | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN) |
| | **Care Setting(s)** | Outpatient, inpatient, skilled nursing home, ED, urgent care, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, E/M services performed or supervised by an eligible provider, admitted to an inpatient or residential facility, seen for consultation in the ED or urgent care, telehealth visit |
| | **Diagnosis** | Parkinson's Disease |
| **Denominator** | All patients with a diagnosis of PD | |
| **Numerator** | Patients currently prescribed a contraindicated dopamine blocking agent* (i.e., anti-psychotic, anti-nausea, anti-GERD) in the previous 12 months<br><br>*Dopamine blocking agents include:<br>Acepromazine, amisulpride, amoxapine, asenapine, azaperone, aripiprazole, benperidol, brexpiprazole, bromopride, butaclamol, cariprazine, chlorpromazine, chloprothixene, clomipramine, clopenthixol, deutratetrabenazine, droperidol, eticlopride, flupenthixol, fluphenazine, haloperidol, iodobenzamide, levomepromazine, loxapine, lurasidone, mesoridazine, metoclopramide, nafadotride, nemonapride, olanzapine, paliperidone, penfluridol, perazine, perphenazine, pimozide, prochlorperazine, promazine, promethazine, remoxipride, reserpine, risperidone, spipersone, spiroxatrine, stepholidine, sulpride, sultopride, tetrabenazine, tetrahydropalmatine, thiethylperazine, thioridazine, thiothixene, tiapride, trifluoperazine, trifluperidol, triflupromazine, trimipramine, valbenazine, ziprasidone | |
| **Required Exclusions** | Patients taking clozapine or quetiapine or domperidone | |
| **Allowable Exclusions** | None | |
| **Exclusion Rationale** | Clozapine and quetiapine have dopamine blocking properties, but have been demonstrated to not worsen PD motor symptoms significantly. Domperidone is a peripheral dopamine antagonist that does not easily cross the blood-brain barrier; so, the risk of worsening PD motor symptoms is low. | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Lower score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | Dopamine blocking agents are often given to people with PD who have psychotic, gastrointestinal, or sleep problems. We anticipate that measuring how many people with PD were prescribed these medications will reduce inappropriate prescriptions, prevent worsening of motor features of PD, avoid medical errors, and shorten the length of inpatient admissions. | |

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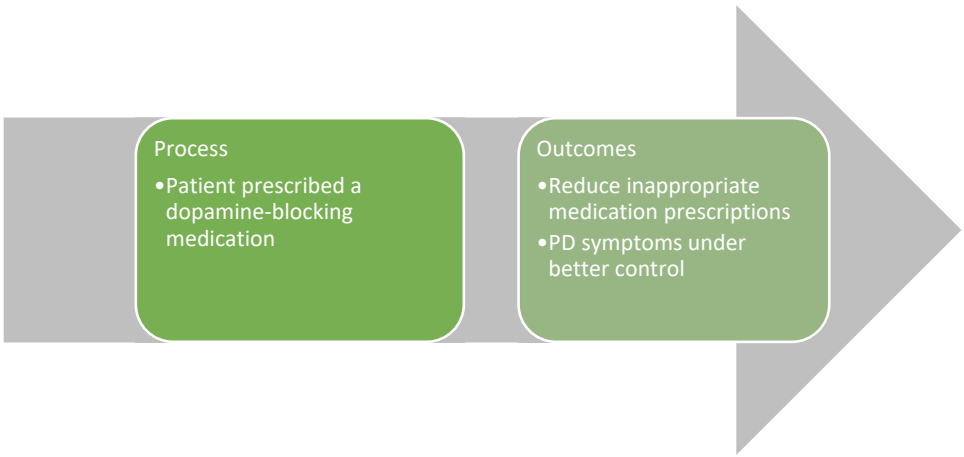
| |  |
| **Opportunity to Improve Gap in Care** | Psychosis, commonly manifesting as visual hallucinations, occur in approximately 1/3 of people with PD treated chronically with dopaminergic drugs. Dopamine blocking agents, such as antipsychotics are commonly prescribed to treat psychosis in people with PD despite potential to worsen motor symptoms. Clozapine and quetiapine are the only dopamine blocking agents that have been demonstrated not to significantly worsen motor symptoms. Anti-emetics may also block dopamine. Domperidone is a mainly peripheral acting dopamine antagonist commonly used to treat GI symptoms in PD.<br><br>Using VA data, Weintraub found 50% of people with PD having a diagnosis of psychosis were prescribed an antipsychotic. Quetiapine was most frequently prescribed, though approximately 30% received a high potency antipsychotic (fluphenazine, haloperidol, perphenazine, trifluperazine, thiothixene). Using 2014 Medicare administrative data, Abraham et al. found that 8.7% of beneficiaries with PD filled a prescription for a medication that could worsen their motor symptoms. |
| **Harmonization with Existing Measures** | No existing measures known. |
| **References** | 1. Abraham DS, Pham Nguyen TP, Hennessy S, et al. Frequency of and risk factors for potentially inappropriate medication use in Parkinson's disease. Age Ageing. 2020 Apr 7. pii: afaa033. doi: 10.1093/ageing/afaa033.<br>2. Aminoff MJ, Christine CW, Friedman JH, et. al., Management of the hospitalized patient with Parkinson's disease: Current state of the field and need for guidelines. Parkin Rel Disord. 2011. 139-145.<br>3. Goetz CG, Blasucci LM, Leurgans S, et al. Olanzapine and clozapine: comparative effects on motor function in hallucinating PD patients. Neurology 2000 Sep 26;55(6):789e94.<br>4. Lertxundi U, Ruiz AI, Aspiazu MA, et al. Adverse reactions to antipsychotics in Parkinson disease: an analysis of the Spanish pharmacovigilance database. Clinical Neuropharmacology 2015; 38(3):69-84.<br>5. Seppi K, Weintraub D, Coelho M, et al. The Movement Disorder Society Evidence-Based Medicine Review Update: Treatments for the Non-Motor Symptoms of Parkinson's Disease. Mov Disord. 2011;26(0 3): S42–S80.<br>6. Weintraub D, Chen P, Ignacio RV, et al. Patterns and Trends in Antipsychotic Prescribing for Parkinson Disease Psychosis. Arch Neurol. 2011;68(7):899-904. |

| 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 | 99304-99310 | Nursing home consultation |
| CPT | 99221-99223 | Initial hospital care |
| CPT | 99231-99233 | Subsequent hospital care |
| CPT | 99238-99239 | Hospital discharge |
| CPT | 99251-99255 | Initial inpatient consultation |
| CPT | 99281-99285 | Emergency department |
| CPT | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| Presence of the dopamine blocking agent in clinical note or presence of the dopamine blocking agent in the med list (captured by SNOMED and RxNorm codes). | | |
| Exclusions | | |
| SNOMED | 723948002 | Clozapine therapy (procedure) |
| SNOMED | 321573006 | Clozapine 25mg oral tablet (clinical drug) |
| SNOMED | 418754000 | Clozapine 50mg oral tablet (clinical drug) |
| SNOMED | 321574000 | Clozapine 100mg oral tablet (clinical drug) |
| SNOMED | 409167008 | Clozapine 12.5mg oral tablet (clinical drug) |
| SNOMED | 441607005 | Quetiapine fumarate 50mg oral tablet (clinical drug) |
| SNOMED | 429826005 | Quetiapine fumarate 400mg oral tablet (clinical drug) |
| SNOMED | 321625005 | Quetiapine fumarate 100mg oral tablet (clinical drug) |
| SNOMED | 429830008 | Quetiapine fumarate 300mg oral tablet (clinical drug) |
| SNOMED | 321626006 | Quetiapine fumarate 200mg oral tablet (clinical drug) |
| SNOMED | 783585006 | Quetiapine fumarate 150mg oral tablet (clinical drug) |
| SNOMED | 321624009 | Quetiapine fumarate 25mg oral tablet (clinical drug) |
| SNOMED | 780334003 | Quetiapine only product in oral dose form (medicinal product form) |
| SNOMED | 767770006 | Quetiapine-containing product in oral dose form (medicinal product form) |
| SNOMED | 108443001 | Product containing quetiapine (medicinal product) |
| RxNorm | 104776 | Clozapine 100mg Oral Tablet (Clozaril) |
| RxNorm | 2269079 | Clozapine 200mg Oral Tablet (Clozaril) |
| RxNorm | 104775 | Clozapine 25mg Oral Tablet (Clozaril) |
| RxNorm | 2269081 | Clozapine 50mg Oral Tablet (Clozaril) |
| RxNorm | 542977 | Clozapine 100mg Disintegrating Oral Tablet (Fazaclo) |
| RxNorm | 721775 | Clozapine 12.5mg Disintegrating Oral Tablet (Fazaclo) |
| RxNorm | 1006803 | Clozapine 150mg Disintegrating Oral Tablet (Fazaclo) |
| RxNorm | 996923 | Clozapine 200mg Disintegrating Oral Tablet (Fazaclo) |
| RxNorm | 543013 | Clozapine 25mg Disintegrating Oral Tablet (Fazaclo) |

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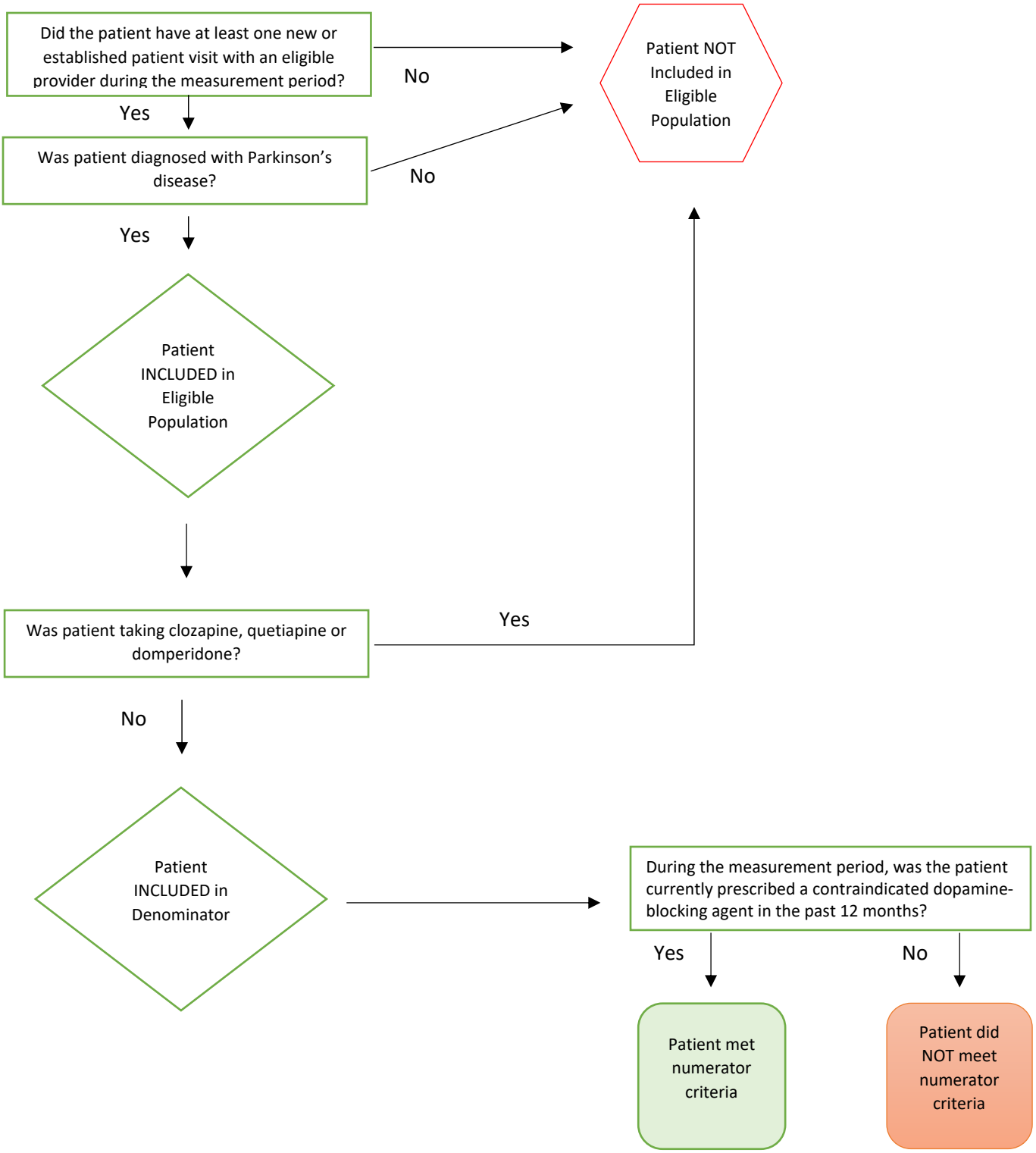
| RxNorm | 1369831 | Clozapine 50mg/ml Oral Suspension (Versacloz) |
| RxNorm | 476177 | Clozapine 100mg Disintegrating Oral Tablet |
| RxNorm | 197535 | Clozapine 100mg Oral Tablet |
| RxNorm | 721773 | Clozapine 12.5mg Disintegrating Oral Tablet |
| RxNorm | 404669 | Clozapine 12.5mg Oral Tablet |
| RxNorm | 1006801 | Clozapine 150mg Disintegrating Oral Tablet |
| RxNorm | 996921 | Clozapine 200mg Disintegrating Oral Tablet |
| RxNorm | 309374 | Clozapine 200mg Oral Tablet |
| RxNorm | 476179 | Clozapine 25mg Disintegrating Oral Tablet |
| RxNorm | 197536 | Clozapine 25mg Oral Tablet |
| RxNorm | 429212 | Clozapine 50mg Oral Tablet |
| RxNorm | 1369825 | Clozapine 50mg/ml Oral Suspension |
| RxNorm | 1013690 | Domperidone 0.11 mg/mg oral gel |
| RxNorm | 250155 | Domperidone 1 mg/mL oral suspension |
| RxNorm | 199733 | Domperidone 10mg oral tablet |
| RxNorm | 104871 | Domperidone 30mg rectal suppository |
| RxNorm | 1013694 | Domperidone 0.11mg/mg oral gel [Equidone] |

Flow Chart Diagram: Contraindicated Dopamine-blocking Medications



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|---|---|---|
| **Measure Title** | Assessment of Parkinson's Disease Medication-related Motor Complications | |
| **Description** | Percentage of all patients diagnosed with PD who were assessed for dopaminergic medication-related motor complications once during the measurement period | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN) |
| | **Care Setting(s)** | Outpatient, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of PD on a dopaminergic medication | |
| **Numerator** | Patients who were assessed* for dopaminergic medication-related motor complications^ once during the measurement period<br><br>*Assessed is defined as use of a screening tool or discussion with the patient or care partner. Examples of screening tools can be found in the Opportunities to Improve Gap in Care section.<br><br>^Motor complications include the following:<br>• Wearing off<br>• Dyskinesia<br>• Dystonia<br>• On-off phenomena<br>• Off time<br>• Motor fluctuations<br>• Motor complications<br>Note: documentation of any one of these complications is enough to satisfy the measure | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | On date of encounter, patient is not able to participate in assessment, including non-verbal patients, delirious, severely aphasic, severely developmentally delayed, severe visual or hearing impairment and for those patients, no knowledgeable informant available. | |
| **Exclusion Rationale** | Patient or informant must be able to provide information for assessment of complications to be valid. | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | All people with PD eventually develop motor complications ("off" states and dyskinesias) from the medications used to treat motor symptoms. Non-motor symptoms also often fluctuate with the motor symptoms. These complications are associated with lowered quality of life. Frequent medication adjustment may be needed to minimize the motor complications. If people with PD continue to have motor complications despite best medical therapy, they may qualify for surgical treatment or device-assisted therapies that can improve quality of life. By measuring how frequently providers assess these complications, it is anticipated that optimization of medications and referral for surgical or device-assisted therapies will occur, thereby improving quality of life. | |

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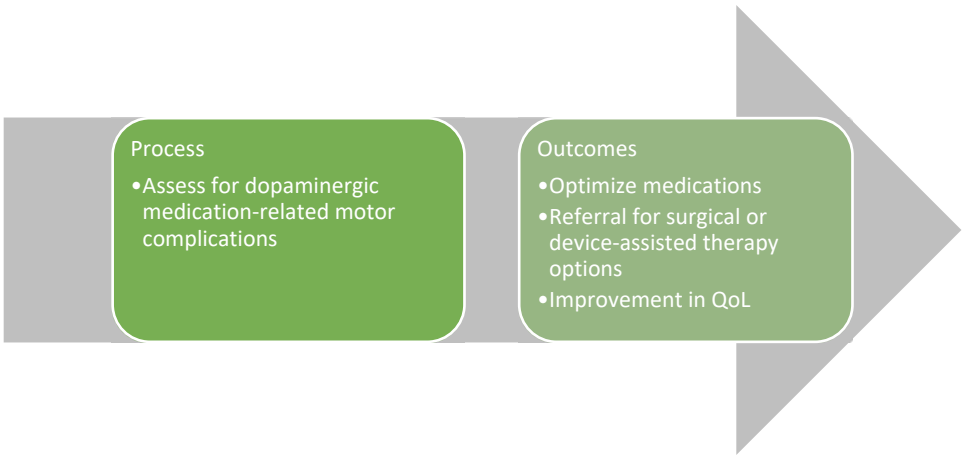
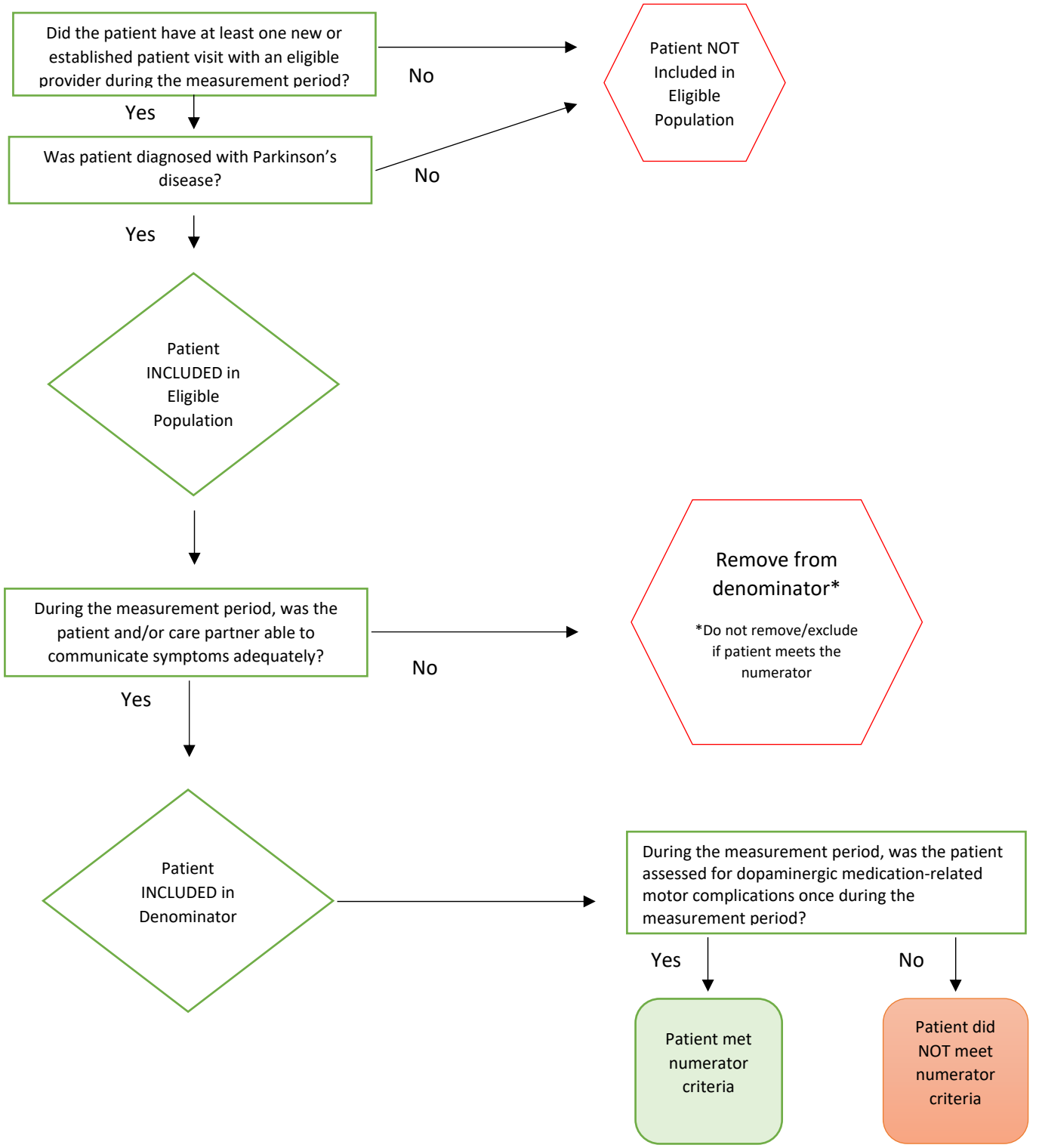
| |  |
| **Opportunity to Improve Gap in Care** | Medication-related motor complications that include wearing off, dyskinesia, off-period dystonia, on-off phenomena, or off time impact quality of life and mobility.<br><br>Clinicians often fail to identify medication related motor complications. In a 2013 study by Baek et al. reviewing compliance with quality measure recommendations, it was noted provider compliance rate for every visit for Parkinson's disease medication-related motor complications (e.g., wearing off, dyskinesia, or off-time) was 23.5%.<br><br>The following screening tools are not inclusive, but may be helpful for use in practice:<br>• Wearing-Off Questionnaire (WOQ-32, WOQ-19, WOQ-9)<br>• UPDRS part IV<br>• MDS-UPDRS part IV |
| **Harmonization with Existing Measures** | No existing measures known. |
| **References** | 1. Antonini A, Martinez-Martin P, Chaudhuri RK, et al. Wearing-off scales in Parkinson's disease:critique and recommendations. Mov Disord 2011; 26(12): 2169-2175.<br>2. Baek WS, Swenseid SS, Poon KT. Quality Care Assessment of Parkinson's Disease at a Tertiary Medical Center. International Journal of Neuroscience 2013; 123(4): 221-225.<br>3. Chou KL, Stacy M, Simuni T, Miyasaki J, Oertel WH, Sethi K, Fernandez HH, Stocchi F. The Spectrum of "Off" in Parkinson's Disease: What have we learned over 40 years? Parkinsonism Relat Disord 2018;51:9-16.<br>4. Fahn S, Elton RL, Members of the UPDRS Development Committee. Unified Parkinson's disease rating scale. In: Fahn S, Marsden CD, Calne DB, Goldstein MD, eds. Recent Developments in Parkinson's Disease, Vol. 2, Macmillan Healthcare Information, Florham Park, NJ, 1987, 153-163.<br>5. Goetz CG, Tilley BC, Shaftman SR, et al. Movement disorder society-sponsored revision of the unified Parkinson's disease rating scale (MDS-UPDRS): scale presentation and clinimetric testing results. Mov Disord 2008; 23(15): 2129-2170.<br>6. Hechtner MC, Vogt T, Zöllner Y, et al. Quality of life in Parkinson's disease patients with motor fluctuations and dyskinesias in five European countries. Parkinsonism Relat Disord 2014; 20(9):969-974.<br>7. National Institute for Health and Care Excellence (NICE) Parkinson's disease in adults. (NICE guideline 71), July 2017. Available at: https://www.nice.org.uk/guidance/ng71<br>8. Rodríguez-Violante M, Ospina-García N, Dávila-Avila NM, et al. Motor and non-motor wearing-off and its impact in the quality of life of patients with Parkinson's disease. Arq Neuropsiquiatr. 2018;76:517-521. |

9. Stacy M, Bowron A, Guttman M, et al. Identification of motor and nonmotor wearing-off in Parkinson's disease: comparison of a patient questionnaire versus a clinician assessment. Mov Disord 2005: 20(6): 726-733.
10. Worth PF. When the Going Gets Tough: How to Select Patients With Parkinson's Disease for Advanced Therapies. Pract Neurol. 2013;13(3):140-152.

| 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 | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| ICD-10 | G24.9 | Dystonia, unspecified |
| ICD-10 | G24.01 | Drug-induced subacute dyskinesia |
| SNOMED | 9748009 | Dyskinesia (finding) |
| SNOMED | 15802004 | Dystonia (disorder) |
| SNOMED | 443544006 | Freezing of gait (disorder) |
| SNOMED | 427488005 | On – off phenomenon |
| Presence of motor complication key words in clinical note or presence of motor complication in problem list. | | |
| Exclusions | | |
| SNOMED | 288576002 | Unable to communicate (finding) |
| ICD-10 | F05 | Delirium due to known physiological condition |
| SNOMED | 2776000 | Delirium (disorder) |
| ICD-10 | R47.01 | Aphasia |
| SNOMED | 87486003 | Aphasia (finding) |
| ICD-10 | F88 | Other disorders of psychological development |
| SNOMED | 248290002 | Developmental delay (disorder) |
| SNOMED | 224958001 | Global developmental delay (disorder) |
| SNOMED | 425805004 | Cognitive developmental delay (disorder) |
| SNOMED | 441719005 | Speech and language developmental delay due to hearing loss (disorder) |
| SNOMED | 397541004 | Severe visual impairment (disorder) |
| SNOMED | 433147009 | Combined visual and hearing impairment (disorder) |
| SNOMED | 765178008 | Total visual and total hearing impairment (disorder) |
| SNOMED | 276039008 | No caregiver (finding) |
| SNOMED | 414041006 | Does not have a caregiver (finding) |
| Codes for non-verbal, delirious, severely aphasic, severely developmentally delayed, severe visual or hearing impairment must be documented with the caveat that no care partner was available at the visit. | | |

Flow Chart Diagram: Assessment of Parkinson's disease medication-related motor complications



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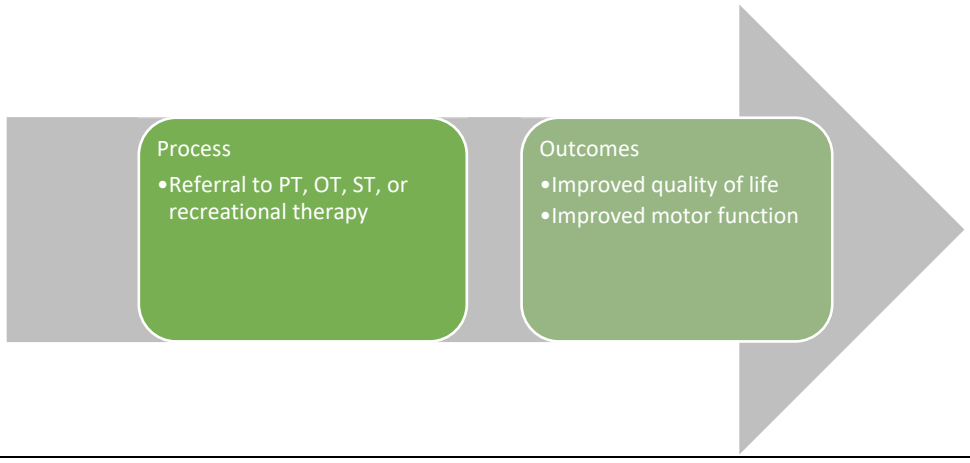
|---|---|---|
| **Measure Title** | Parkinson's Disease Rehabilitative Therapy Referral | |
| **Description** | Percentage of all patients with a diagnosis of PD who were referred to physical, occupational, speech, or recreational therapy during the measurement period | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN), Physical Therapy (PT), Occupational Therapy (OT), Speech Therapy (ST) |
| | **Care Setting(s)** | Outpatient, skilled nursing facility, inpatient, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, inpatient admission, nursing facility visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of Parkinson's disease | |
| **Numerator** | Patients who were referred to physical, occupational, speech, or recreational therapy once during the measurement period | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | • Patient and/or care partner decline referral<br>• Clinician determines patient does not require referral (key phrase suggestions: therapy not needed, referral not needed)<br>• Patient already receiving physical/occupation/speech/recreation therapy during the measurement period | |
| **Exclusion Rationale** | Patients and their care partners have the right to refuse a service. A patient may not need a referral if the clinician determines therapy isn't needed at this point in time. Patients who are already receiving therapy do not need additional referrals. | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | PD causes progressive motor impairment and non-motor impairment affecting quality of life. Rehabilitative therapy may positively influence the quality of life, ability to perform daily activities and mobility of people with Parkinson's disease.<br>  | |

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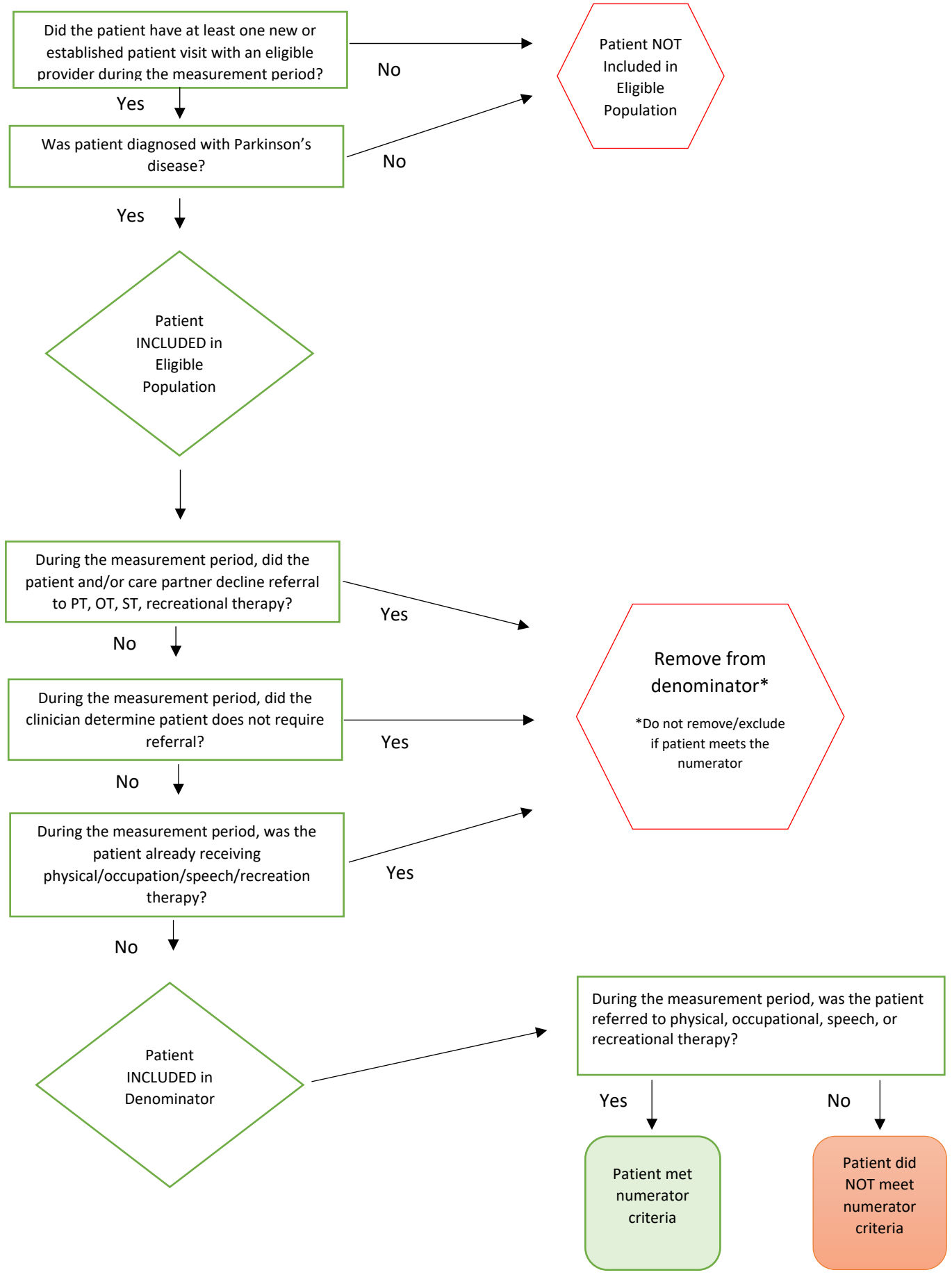
| **Opportunity to Improve Gap in Care** | There is growing evidence that rehabilitative therapies are effective in improving motor impairment, activities of daily living, and quality of life in PD throughout all stages. An evidence-based review published by the International Parkinson and Movement Disorder Society found that physiotherapy was 'likely efficacious" and "clinically useful" as an adjunct therapy in treating the motor symptoms of PD. People with PD should be referred to therapy programs specific to PD if available in their area.<br><br>As many as 89% of people with PD suffer from speech disorders, but studies suggest only 3%-4% of people receive treatment.<br><br>In a 2013 study by Baek et al. reviewing compliance with quality measure recommendations, it was noted provider compliance rate for annual review of rehabilitative therapy options was 7.5%. In a recent study by Martello et al., provider compliance rate for the rehabilitative therapy measure was 44%. Both studies indicate missed opportunities to offer potentially positive interventions to this population. This measure is currently utilized in the CMS Quality Payment Program (QPP) with an average performance rate of 86.6%. |
| **Harmonization with Existing Measures** | No existing measures known. |
| **References** | 1. Baek WS, Swenseid SS, Poon KT. Quality Care Assessment of Parkinson's Disease at a Tertiary Medical Center. International Journal of Neuroscience 2013;123(4):221-225.<br>2. Chung CL, Thilarajah S, Tan D. Effectiveness of resistance training on muscle strength and physical function in people with Parkinson's disease: A systematic review and meta-analysis. Clin Rehabil 2016 Jan;30(1):11-23.<br>3. Herd CP, Tomlinson CL, Deane KH, et al. Comparison of speech and language therapy techniques for speech problems in Parkinson's disease. Cochrane Database Syst Rev. 2012 Aug 15;8:CD002814.<br>4. Fox SH, Katzenschlager R, Lim SY, et al. International Parkinson and movement disorder society evidence-based medicine review: Update on treatments for the motor symptoms of Parkinson's disease. Mov Disord. 2018 Aug;33(8):1248-1266.<br>5. Lima LO, Scianni A, Rodrigues-de-Paula F. Progressive resistance exercise improves strength and physical performance in people with mild to moderate Parkinson's disease: a systematic review. Journal of Physiotherapy 2013; 59: 7-13.<br>6. Martello J, Shulman LM, Barr E, Gruber-Baldini A, Armstrong MJ. Assessment of Parkinson disease quality measures on 12-month patient outcomes. Neurology: Clinical Practice. 2020;10(1):58–64.<br>7. National Institute for Health and Care Excellence (NICE) Parkinson's disease in adults. (NICE guideline 71), July 2017. Available at: https://www.nice.org.uk/guidance/ng71<br>8. Ramig LO, Fox C, and Sapir S. Speech treatment for Parkinson's disease. Expert Rev Neurotherapeutics 2008;8(2):299-311.<br>9. Ransmayr G. Physical, occupational, speech and swallowing therapies and physical exercise in Parkinson's disease. J Neural Transm 2011;118:773-781.<br>10. Sturkenboom IHWM, Graff MJL, Hendriks, JCM, et al. Efficacy of occupational therapy for patients with Parkinson's disease: a randomized controlled trial. Lancet Neurol. 2014; 13(6):557-566. |

| 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 | 99304-99310 | Nursing home consultation |
| CPT | 97165-97168 | Occupational therapy evaluation, low complexity, moderate complexity, high complexity, re-evaluation |
| CPT | 97161-97164 | Physical therapy evaluation, low complexity, moderate complexity, high complexity, re-evaluation |
| CPT | 92521 | Evaluation of speech fluency |
| CPT | 92522 | Evaluation of speech sound production |
| CPT | 92523 | Evaluation of speech sound production with evaluation of language comprehension and expression |
| CPT | 92524 | Behavioral and qualitative analysis of voice and resonance |
| CPT | 92526 | Treatment of swallowing dysfunction and/or oral function for feeding |
| CPT | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| SNOMED | 444831000124102 | Referral for physical therapy (procedure) |
| SNOMED | 722052006 | Physical therapy consult note (record artifact) |
| SNOMED | 453581000124100 | Referral for occupational therapy (procedure) |
| SNOMED | 306166004 | Referral to occupational therapy service (procedure) |
| SNOMED | 5154007 | Speech therapy (regime/therapy) |
| SNOMED | 410162003 | Speech therapy education (procedure) |
| SNOMED | 699824009 | Education about recreational therapy (procedure) |
| SNOMED | 42364006 | Recreational therapy (regime/therapy) |
| Exclusions | | |
| SNOMED | 436571000124108 | Patient declines information (situation) |
| SNOMED | 41391002 | Patient declines copy of referral letter (finding) |
| SNOMED | 105480006 | Refusal of treatment by patient (situation) |
| SNOMED | 721107007 | Referral to specialist refused (situation) |
| SNOMED | 452691000124106 | Recommendation refused by patient (situation) |

Flow Chart Diagram: Parkinson's disease rehabilitative therapy referral



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|---|---|---|
| **Measure Title** | Exercise or Physical Activity Counseling | |
| **Description** | Percentage of patients with PD counseled on an exercise or physical activity regimen once during the measurement period | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN), Occupational Therapy (OT), Physical Therapy (PT) |
| | **Care Setting(s)** | Outpatient, skilled nursing facility, telehealth |
| | **Ages** | All ages |
| | **Event** | Office visit, nursing facility visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of PD | |
| **Numerator** | Patients counseled on an exercise or physical activity* regimen once during the measurement period<br><br>*Physical activities may include tai chi, dancing, boxing, yoga and other non-traditional aerobic or strength training exercises | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | • Patient and/or care partner declines counseling<br>• Co-morbid condition that deems the patient unfit to participate in physical activity<br>• On date of encounter, patient is not able to participate in counseling, including non-verbal patients, delirious, severely aphasic, severely developmentally delayed, severe visual or hearing impairment and for those patients, no knowledgeable informant available. | |
| **Exclusion Rationale** | Patients and their care partners have the right to decline counseling. Patients with certain co-morbid conditions may not be able to tolerate exercise or physical activities. Patients and/or a care partner need to be able to participate in the counseling to be effective. | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | It is anticipated that by educating individuals on the benefits of exercise regularly, the number of people exercising will increase. Exercise improves strength, motor performance, functional mobility and quality of life for people with PD. | |

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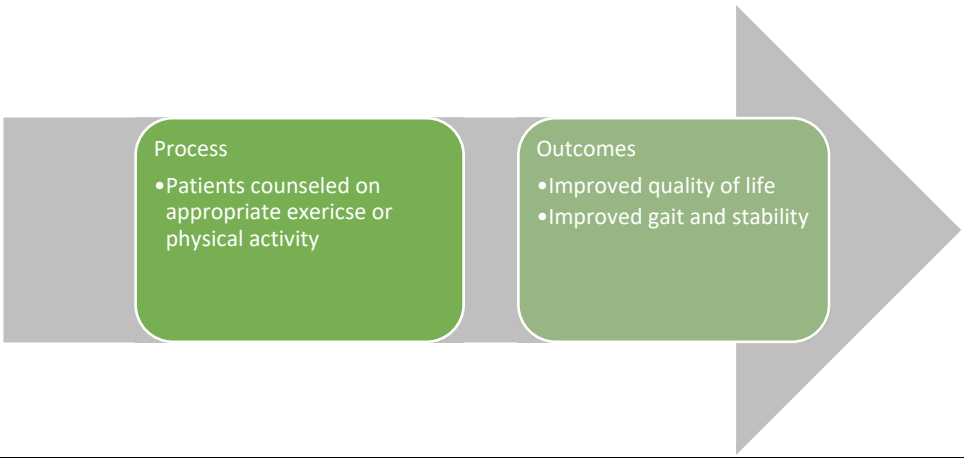
| |  |
| **Opportunity to Improve Gap in Care** | A meta-analysis of 25 RCTs found that exercise improved gait and balance and reduced fall rates in people with PD in both the short- and long-term. Exercise also preserves or even improves cognitive function in PD. In a review of issues facing people with PD at 10 years of disease, 39.8% of respondents indicated they were not exercising.<br><br>Counseling on the benefits of exercise should be provided to people with PD at all stages, though there is insufficient evidence to promote one specific type of exercise over another. People with should be engaged to perform any activity that they are willing to perform. HHS has stated, "adults with chronic conditions obtain important health benefits from regular physical activity and when adults with chronic conditions do activity according to their abilities, physical activity is safe." |
| **Harmonization with Existing Measures** | No existing measures known. |
| **References** | 1. American Heart Association. American Heart Association Recommendations for Physical Activity in Adults. March 10, 2015. Available at: http://www.heart.org/HEARTORG/GettingHealthy/PhysicalActivity/FitnessBasics/American-Heart-Association-Recommendations-for-Physical-Activity-in-Adults_UCM_307976_Article.jsp Accessed on May 12, 2015.<br>2. da Silva FC, Iop RDR, de Oliveira LC, et al. Effects of physical exercise programs on cognitive function in Parkinson's disease patients: A systematic review of randomized controlled trials of the last 10 years. *PLoS One*. 2018;13(2):e0193113Hassan A, Wu SS, Schmidt P, et al. What are the issues facing Parkinson's disease patients at ten years of disease and beyond?: Data from the NPF-QII study. Parkinsonism Relat Disord 2012;18:S10-S14.<br>3. Lima LO, Scianni A, Rodrigues-de-Paula F. Progressive resistance exercise improves strength and physical performance in people with mild to moderate Parkinson's disease: a systematic review. Journal of Physiotherapy 2013; 59: 7-13.<br>4. Oguh O, Eisenstein A, Kwasny M, et al. Back to the basics: regular exercise matters in parkinson's disease: results from the National Parkinson Foundation QII registry study. Parkinsonism Relat Disord. 2014 Nov;20(11):1221-1225.<br>5. Salgado S, Williams N, Kotian R, et al. An evidence-based exercise regimen for patients with mild to moderate Parkinson's disease. Brain sciences 2013;3:87-100.<br>6. Uhrbrand A, Stenager E, Pedersen MS, Dalgas U. Parkinson's disease and intensive exercise therapy--a systematic review and meta-analysis of randomized controlled trials. J Neurol Sci. 2015;353(1-2):9-19.<br>7. Shen X, Wong-Yu IS, Mak MK. Effects of Exercise on Falls, Balance, and Gait Ability in Parkinson's Disease: A Meta-analysis. *Neurorehabil Neural Repair*. 2016;30(6):512-527. |

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| | 8. U.S. Department of Health and Human Services. 2008 Physical Activity Guidelines for Americans. ODPHP Publication No. U0036. October 2008. 76p. Available at: http://www.surgeongeneral.gov/priorities/prevention/strategy/active-living.html |

| 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 |
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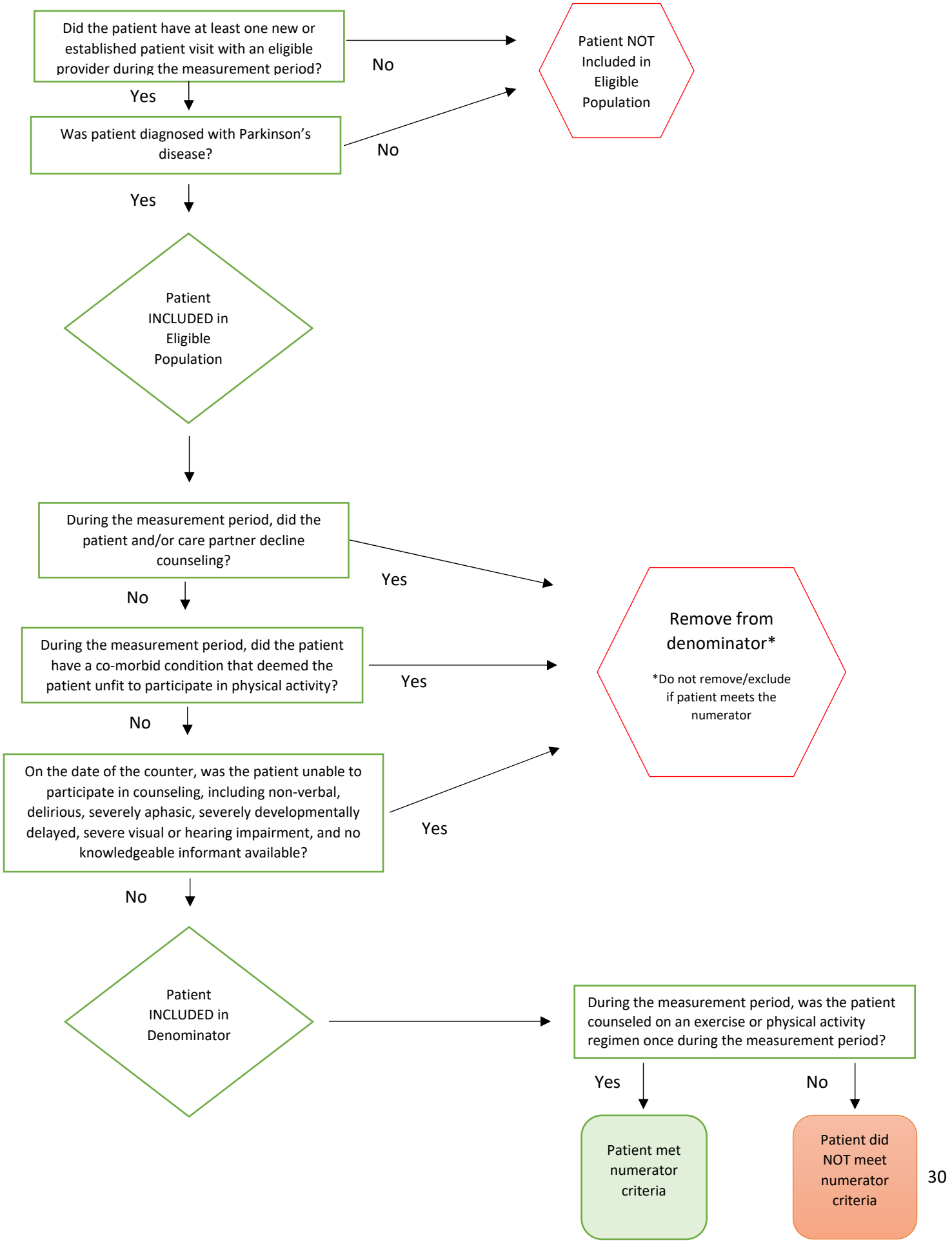
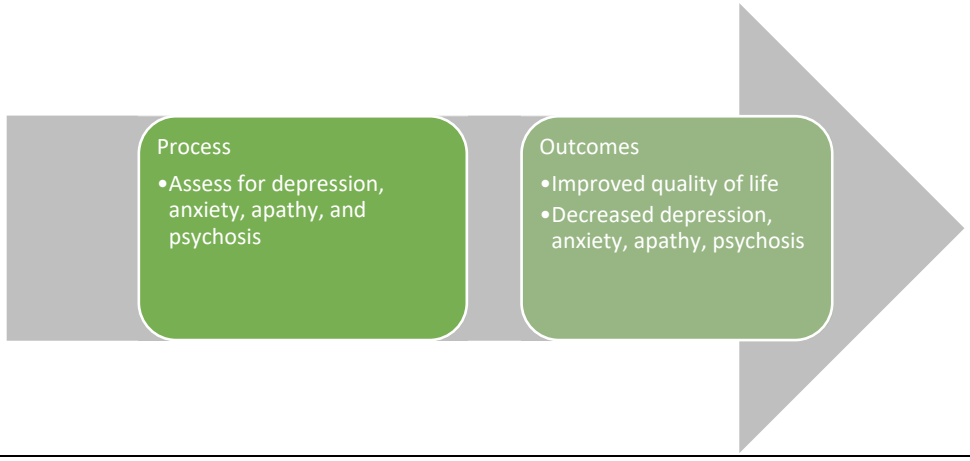
| CPT | 99304-99310 | Nursing home consultation |
| CPT | 97165-97168 | Occupational therapy evaluation, low complexity, moderate complexity, high complexity, re-evaluation |
| CPT | 97161-97164 | Physical therapy evaluation, low complexity, moderate complexity, high complexity, re-evaluation |
| CPT | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| SNOMED | 435551000124105 | Counseling about physical activity (procedure) |
| ICD-10 | Z71.89 | Exercise counseling |
| SNOMED | 229223006 | Participation in Tai Chi (regime/therapy) |
| SNOMED | 229072005 | Aerobic exercises (regime/therapy) |
| SNOMED | 386291006 | Exercise promotion: strength training (procedure) |
| SNOMED | 229224000 | Participation in yoga (regime/therapy) |
| Exclusions | | |
| SNOMED | 436571000124108 | Patient declines information (situation) |
| SNOMED | 452691000124106 | Recommendation refused by patient (situation) |
| SNOMED | 288576002 | Unable to communicate (finding) |
| ICD-10 | F05 | Delirium due to known physiological condition |
| SNOMED | 2776000 | Delirium (disorder) |
| ICD-10 | R47.01 | Aphasia |
| SNOMED | 87486003 | Aphasia (finding) |
| ICD-10 | F88 | Other disorders of psychological development |
| SNOMED | 248290002 | Developmental delay (disorder) |
| SNOMED | 224958001 | Global developmental delay (disorder) |
| SNOMED | 425805004 | Cognitive developmental delay (disorder) |
| SNOMED | 441719005 | Speech and language developmental delay due to hearing loss (disorder) |
| SNOMED | 397541004 | Severe visual impairment (disorder) |
| SNOMED | 433147009 | Combined visual and hearing impairment (disorder) |
| SNOMED | 765178008 | Total visual and total hearing impairment (disorder) |
| SNOMED | 276039008 | No caregiver (finding) |
| SNOMED | 414041006 | Does not have a caregiver (finding) |
| Codes for non-verbal, delirious, severely aphasic, severely developmentally delayed, severe visual or hearing impairment must be documented with the caveat that no care partner was available at the visit. | | |

Flow Chart Diagram: Exercise or physical activity counseling for Parkinson's disease



| | | |
|---|---|---|
| **Measure Title** | Assessment of Mood Disorders and Psychosis | |
| **Description** | Percentage of all patients with a diagnosis of PD who were assessed for depression, anxiety, apathy, AND psychosis during the measurement period | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN) |
| | **Care Setting(s)** | Outpatient, skilled nursing facility, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of PD | |
| **Numerator** | Patients who were assessed^ for depression, anxiety, apathy, AND psychosis* once during the measurement period<br><br>^Assessed is defined as use of a screening tool or discussion with the patient or care partner<br><br>*Psychosis includes hallucinations, illusions, delusions, paranoia | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | None | |
| **Exclusion Rationale** | N/A | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | Mood disorders, including depression, anxiety, apathy, and psychosis, are often under diagnosed, under treated and under reported by people with Parkinson's disease. Using appropriate measures will assure that mood disorders are properly diagnosed and treated to not interfere with functioning levels.<br><br>  | |

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| **Opportunity to Improve Gap in Care** | Major depressive disorder occurs to some degree in 40%-50% of people with PD, while anxiety syndromes are estimated to affect up to 30% of people with PD. Psychosis may occur in up to 50% of people with PD. Apathy has a prevalence of 39.8% in people with PD and is has an increased risk of co-morbid depression.<br><br>In a 2013 study by Baek et al. reviewing compliance with quality measure recommendations, it was noted that provider compliance rate for annual review of psychiatric disorders (psychosis, depression, anxiety disorder, apathy, OR impulse control disorder) was 36.9%. Martello et al. reported that documentation of this measure in a Movement Disorders Center was 90%, but documentation of only one of the psychiatric disorders counted as being compliant. This measure was first adopted into the Centers for Medicare & Medicaid Services (CMS) quality reporting system in 2012 (PQRS) as measure #290. The measure and subsequent updates have been utilized in CMS' Quality Payment Program (QPP). The previous version of this measure that includes assessment of impulse control disorder is currently utilized in the QPP with an average performance rate of 89.7%.<br><br>The Work Group has updated the measure to remove the requirement Impulse Control Disorders be assessed and created a separate measure for its assessment.<br><br>The following screening tools are not inclusive, but may be helpful for use in practice:<br>For depression:<br>• Geriatric Depression Scale (GDS)<br>• Beck Depression Inventory (BDI)<br>• Hamilton Depression Rating Scale (HADS)<br>• Patient Health Questionnaire 2 (PHQ2)<br>• Patient Health Questionnaire 9 (PHQ9)<br>• Montgomery–Asberg Depression Rating Scale (MADRS)<br>For anxiety:<br>• Beck Anxiety Inventory<br>• Hospital Anxiety and Depression Scale<br>• Self-rating Anxiety Scale<br>• Anxiety Status Inventory<br>• Strait Trait Anxiety Inventory<br>• Hamilton Anxiety Rating Scale<br>• Parkinson Anxiety Scale (PAS) |
| **Harmonization with Existing Measures** | Several depression measures are currently used in the CMS MIPS program: QPP 411 (Depression remission at six months), QPP 370 (Depression remission at twelve months), QPP371 (Depression utilization of the PHQ-9 Tool), QPP 372 (Maternal depression screening), QPP 134 (Screening for depression and follow-up plan).<br><br>There are currently no publicly reported measures for anxiety or apathy. |
| **References** | 1. American Psychiatric Association (APA). Practice guideline for the treatment of patients with major depressive disorder. 3rd ed. Arlington (VA): American Psychiatric Association (APA); 2010 Oct. 152p.<br>2. Baek WS, Swenseid SS, Poon KT. Quality Care Assessment of Parkinson's Disease at a Tertiary Medical Center. International Journal of Neuroscience 2013; 123(4): 221-225.<br>3. Fernandez HH, Aarsland D, Fenelon G, et al. Task Force Report. Scales to Assess Psychosis in Parkinson's Disease: Critique and Recommendations. Movement Disorders. 2008:23(4):484-500.<br>4. Leentjens AFG, Dujardin K, Marsh L, et al. Anxiety Rating Scales in Parkinson's Disease: Critique and Recommendations. Movement Disorders. 2008;23(14):2015-2025. |

5. Martello J, Shulman LM, Barr E, Gruber-Baldini A, Armstrong MJ. Assessment of Parkinson disease quality measures on 12-month patient outcomes. Neurology: Clinical Practice. 2020;10(1):58–64.
6. National Institute for Health and Care Excellence (NICE) Parkinson's disease in adults. (NICE guideline 71), July 2017. Available at: https://www.nice.org.uk/guidance/ng71
7. Seppi K, Ray Chaudhuri K, Coelho M, et al. Update on treatments for nonmotor symptoms of Parkinson's disease-an evidence-based medicine review [published correction appears in Mov Disord. 2019 May;34(5):765]. *Mov Disord*. 2019;34(2):180-198.
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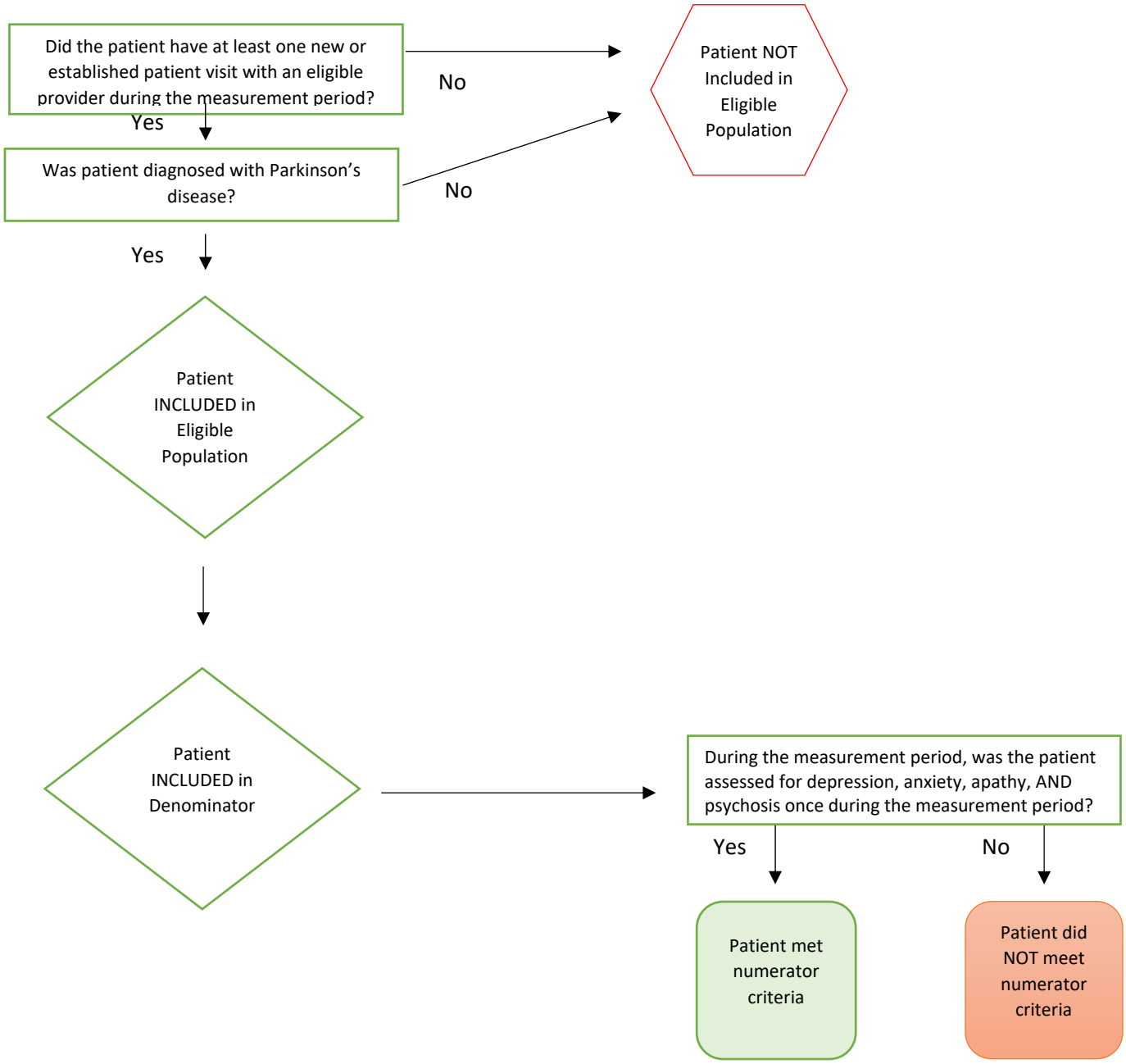
9. Den Brok M, van Dalen JW, van Gool WA, et al. Apathy in Parkinson's Disease: A Systematic Review and Meta-Analysis. Mov Disord 2015; 30:759-69.

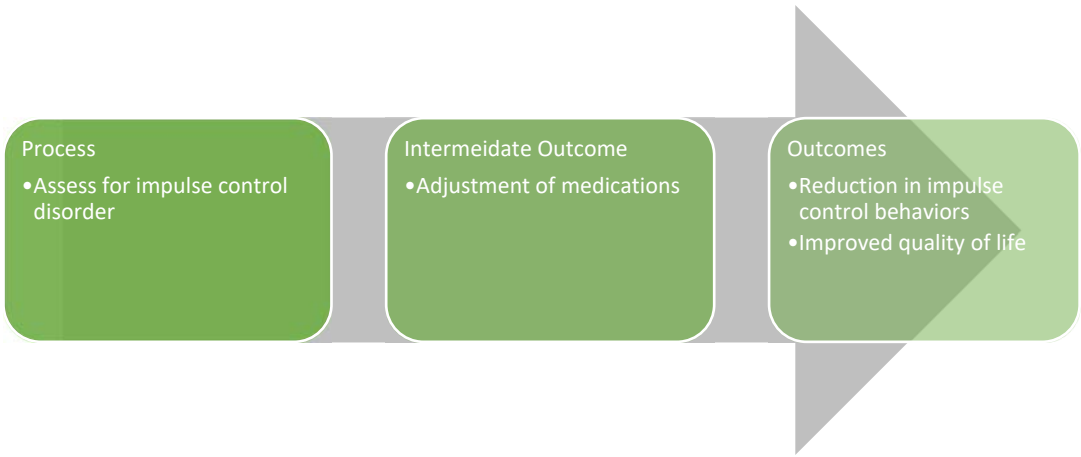
| Code System | Code | Code Description |
|---|---|---|
| Initial Population | | |
| CPT | 99201-99205 | Office or other outpatient visit, new patient |
| CPT | 99211-99215 | Office or other outpatient visit, established patient |
| CPT | 99241-99245 | Office or other outpatient consultation, new or established patient |
| CPT | 99304-99310 | Nursing home consultation |
| CPT | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| LOINC | 48542-5 | Geriatric depression scale (GDS) panel |
| LOINC | 48543-3 | Geriatric depression scale (GDS) short version panel |
| LOINC | 89211-7 | Beck Depression Inventory Fast Screen (BDI) |
| LOINC | 89210-9 | Beck Depression Inventory II (BDI) |
| SNOMED | 273481004 | Geriatric depression scale (assessment scale) |
| SNOMED | 445041007 | Geriatric depression scale short form (assessment scale) |
| SNOMED | 445587006 | Assessment using geriatric depression scale (procedure) |
| SNOMED | 445676008 | Assessment using geriatric depression scale short form (procedure) |
| SNOMED | 273306008 | Beck depression inventory (assessment scale) |
| SNOMED | 446765009 | Assessment using Beck depression inventory (procedure) |
| SNOMED | 717268000 | Assessment using Beck depression inventory II (procedure) |
| SNOMED | 273503001 | Hamilton rating scale for depression (assessment scale) |
| SNOMED | 763071002 | Assessment using Hamilton rating scale for depression (procedure) |
| SNOMED | 304711006 | Beck anxiety inventory (assessment scale) |
| SNOMED | 273307004 | Beck anxiety standardized rating scale (assessment scale) |
| SNOMED | 716598004 | Assessment using Beck anxiety inventory (procedure) |
| SNOMED | 273524006 | Hospital anxiety and depression scale (assessment scale) |
| SNOMED | 445991008 | Assessment using hospital anxiety and depression scale (procedure) |
| SNOMED | 273942006 | Zung's self-rating anxiety scale (assessment scale) |
| SNOMED | 273941004 | Zung's anxiety status inventory (assessment scale) |
| SNOMED | 20602000 | Apathy (finding) |
| ICD-10 | R45.3 | Demoralization and apathy |
| SNOMED | 2073000 | Delusions (finding) |
| ICD-10 | F22 | Delusional disorders |
| SNOMED | 7011001 | Hallucinations (finding) |
| SNOMED | 64269007 | Visual hallucinations (finding) |
| SNOMED | 45150006 | Auditory hallucinations (finding) |
| SNOMED | 247740003 | Complex hallucinations (finding) |
| ICD-10 | R44.3 | Hallucinations, unspecified |
| ICD-10 | R44.2 | Other hallucinations |
| ICD-10 | R44.0 | Auditory hallucinations |
| ICD-10 | R44.1 | Visual hallucinations |

| | | |
|---|---|---|
| SNOMED | 69322001 | Psychotic disorder (disorder) |
| ICD-10 | F29 | Unspecified psychosis not due to a substance or known physiological condition |
| SNOMED | 48694002 | Anxiety (finding) |
| SNOMED | 70997004 | Mild anxiety (finding) |
| SNOMED | 191708009 | Chronic anxiety (finding) |
| SNOMED | 61387006 | Moderate anxiety (finding) |
| SNOMED | 191709001 | Recurrent anxiety (finding) |
| SNOMED | 80583007 | Severe anxiety (finding) |
| ICD-10 | F41.9 | Anxiety disorder, unspecified |
| ICD-10 | F41.8 | Other specified anxiety disorders |
| ICD-10 | F41.1 | Generalized anxiety disorder |
| SNOMED | 35489007 | Depressive disorder (disorder) |
| SNOMED | 310495003 | Mild depression (disorder) |
| SNOMED | 370143000 | Major depressive disorder (disorder) |
| SNOMED | 712823008 | Acute depression (disorder) |
| SNOMED | 310497006 | Severe depression (disorder) |
| SNOMED | 192080009 | Chronic depression (disorder) |
| SNOMED | 231504006 | Mixed anxiety and depressive disorder (disorder) |
| ICD-10 | F33.0 | Major depressive disorder, recurrent, mild |
| ICD-10 | F33.1 | Major depressive disorder, recurrent, moderate |
| ICD-10 | F33.2 | Major depressive disorder, recurrent, severe without psychotic features |
| ICD-10 | F33.3 | Major depressive disorder, recurrent, severe with psychotic symptoms |
| ICD-10 | F33.40 | Major depressive disorder, unspecified |
| ICD-10 | F33.41 | Major depressive disorder, recurrent, in partial remission |
| ICD-10 | F33.42 | Major depressive disorder, recurrent, in full remission |
| ICD-10 | F33.8 | Other recurrent depressive disorders |
| ICD-10 | F33.9 | Major depressive disorder, recurrent, unspecified |
| ICD-10 | F32.89 | Other specified depressive episodes |
| ICD-10 | F32.0 | Major depressive disorder, single episode, mild |
| ICD-10 | F32.1 | Major depressive disorder, single episode, moderate |
| ICD-10 | F32.2 | Major depressive disorder, single episode, severe without psychotic features |
| ICD-10 | F32.3 | Major depressive disorder, single episode, severe with psychotic features |
| ICD-10 | F32.4 | Major depressive disorder, single episode, in partial remission |
| ICD-10 | F32.5 | Major depressive disorder, single episode, in full remission |
| ICD-10 | F32.89 | Other specified depressive episodes |
| ICD-10 | F32.9 | Major depressive disorder, single episode, unspecified |
| ICD-10 | F06.32 | Mood disorder due to known physiological condition with major depressive-like episode |
| ICD-10 | F34.1 | Dysthymic disorder |

Flow Chart Diagram: Assessment of Mood Disorders and Psychosis



| | | |
|---|---|---|
| **Measure Title** | Assessment of Impulse Control Disorders | |
| **Description** | Percentage of all patients with a diagnosis of PD currently taking dopaminergic medications who were assessed for impulse control disorder once during the measurement period | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN) |
| | **Care Setting(s)** | Outpatient, skilled nursing facility, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of PD currently taking medications for Parkinson's disease#<br><br>#Parkinson's disease medications include any preparation containing levodopa, dopamine agonists, amantadine, MAOB inhibitors | |
| **Numerator** | Patients who were assessed* for impulse control disorder^ (ICD) once during the measurement period<br><br>*Assessed is defined as use of a screening tool or discussion with the patient or care partner<br><br>^Impulse control disorder includes gambling, hypersexual activity, binge eating, increased spending, dopamine dysregulation, repetitive behaviors, punding | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | None | |
| **Exclusion Rationale** | N/A | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | Impulse control disorders may be under recognized. Appropriate measures should improve assessment of impulse control disorders so that they are promptly treated so as to not interfere with functioning levels. | |

| | |
|---|---|
| |  |
| **Opportunity to Improve Gap in Care** | Impulse control disorders (ICDs), including pathological gambling, compulsive shopping, compulsive sexual behaviors, and binge eating occur in approximately 14-17% of people with PD. ICDs occur mainly with dopaminergic medications, especially the dopamine agonists.<br><br>In a 2013 study by Baek et al. reviewing compliance with quality measure recommendations, it was noted that provider compliance rate for annual review of psychiatric disorders (psychosis, depression, anxiety disorder, apathy, OR impulse control disorder) was 36.9%. Martello et al. reported that documentation of this measure in a Movement Disorders Center was 90%, but documentation of only one of the psychiatric disorders counted as being compliant.<br><br>The following screening tools are not inclusive, but may be helpful for use in practice:<br>• Questionnaire for Impulsive-Compulsive Disorders in Parkinson's disease (QUIP)<br>• Questionnaire for Impulsive-Compulsive Disorders in Parkinson's disease rating scale (QUIP-RS) |
| **Harmonization with Existing Measures** | No existing measures known. |
| **References** | 1. American Psychiatric Association (APA). Practice guideline for the treatment of patients with major depressive disorder. 3rd ed. Arlington (VA): American Psychiatric Association (APA); 2010 Oct. 152p.<br>2. Baek WS, Swenseid SS, Poon KT. Quality Care Assessment of Parkinson's Disease at a Tertiary Medical Center. International Journal of Neuroscience 2013; 123(4): 221-225.<br>3. de la Riva P, Smith K, Xie SX, Weintraub D. Course of psychiatric symptoms and global cognition in early Parkinson disease. Neurology 2014;83(12):1096-1103.<br>4. Evans AH, Okai D, Weintraub D, et al. Scales to assess impulsive and compulsive behaviors in Parkinson's disease: Critique and recommendations. *Mov Disord*. 2019;34(6):791-798.<br>5. Martello J, Shulman LM, Barr E, Gruber-Baldini A, Armstrong MJ. Assessment of Parkinson disease quality measures on 12-month patient outcomes. Neurology: Clinical Practice. 2020;10(1):58–64.<br>6. National Institute for Health and Care Excellence (NICE) Parkinson's disease in adults. (NICE guideline 71), July 2017. Available at: https://www.nice.org.uk/guidance/ng71<br>7. Weintraub D, Koester J, Potenza M, et al. Impulse control disorders in Parkinson disease: a cross-sectional study of 3090 patients. Arch Neurol 2010;67:589-595.<br>8. Weintraub D, Mamikonyan E, Papay K, et al. Questionnaire for Impulsive-Compulsive Disorders in Parkinson's Disease-Rating Scale. Mov Disord. 2012;27(2):242-247. |

| Code System | Code | Code Description |
|---|---|---|
| Initial Population | | |
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| CPT | 99211-99215 | Office or other outpatient visit, established patient |
| CPT | 99241-99245 | Office or other outpatient consultation, new or established patient |
| CPT | 99304-99310 | Nursing home consultation |
| CPT | | Telehealth TBD |
| Denominator | | |
| Patients will meet the denominator if they have a diagnosis of Parkinson's disease AND are currently taking medications for Parkinson's disease (including any preparation containing levodopa, dopamine agonists, amantadine, or MAOB inhibitors) | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| RxNorm | 2107616 | Levodopa 42mg inhalation powder |
| RxNorm | 197872 | Levodopa 500mg oral tablet |
| RxNorm | 199563 | Benserazide 12.5mg/ Levodopa 50mg oral capsule |
| RxNorm | 199698 | Benserazide 12.5mg/ Levodopa 50mg oral tablet |
| RxNorm | 199696 | Benserazide 25mg/ Levodopa 100mg oral capsule |
| RxNorm | 199565 | Benserazide 25mg/ Levodopa 100mg oral tablet |
| RxNorm | 199564 | Benserazide 50mg/ Levodopa 200mg oral capsule |
| RxNorm | 403850 | Carbidopa 12.5mg/ entacapone 200mg/ Levodopa 50mg oral tablet |
| RxNorm | 810090 | Carbidopa 18.75mg/ entacapone 200mg/ Levodopa 75mg oral tablet |
| RxNorm | 403851 | Carbidopa 25mg/ entacapone 200mg/ Levodopa 100mg oral tablet |
| RxNorm | 810083 | Carbidopa 31.25mg/ entacapone 200mg/ Levodopa 125mg oral tablet |
| RxNorm | 403852 | Carbidopa 37.5mg/ entacapone 200mg/ Levodopa 150mg oral tablet |
| RxNorm | 730988 | Carbidopa 50mg/ entacapone 200mg/ Levodopa 200mg oral tablet |
| RxNorm | 1600773 | 8 HR carbidopa 23.75mg/ Levodopa 95mg extended release oral capsule |
| RxNorm | 1600775 | 8 HR carbidopa 36.25mg/ Levodopa 145mg extended release oral capsule |
| RxNorm | 1600914 | 8 HR carbidopa 48.75mg/ Levodopa 195mg extended release oral capsule |
| RxNorm | 1600916 | 8 HR carbiopa 61.25mg/ Levodopa 245mg extended release oral capsule |
| RxNorm | 483090 | Carbidopa 10mg/ Levodopa 100mg disintegrating oral tablet |
| RxNorm | 197443 | Carbidopa 10mg/ Levodopa 100mg oral tablet |
| RxNorm | 250432 | Carbidopa 12.5mg/ Levodopa 50mg oral tablet |
| RxNorm | 476399 | Carbidopa 25mg/ Levodopa 100mg disintegrating oral tablet |
| RxNorm | 308988 | Carbidopa 25mg/ Levodopa 100mg extended release oral tablet |
| RxNorm | 197444 | Carbidopa 25mg/ Levodopa 100mg oral tablet |
| RxNorm | 476515 | Carbidopa 25mg/ Levodopa 250mg disintegrating oral tablet |
| RxNorm | 197445 | Carbidopa 25mg/ Levodopa 250mg oral tablet |
| RxNorm | 1599846 | Carbidopa 5.63mg/mL/ Levodopa 20mg/mL oral suspension |
| RxNorm | 308989 | Carbidopa 50mg/ Levodopa 200mg extended release oral tablet |
| RxNorm | 1599852 | Carbidopa 4.63mg/mL/ L-DOPA 20mg/mL oral suspension [Duopa] |
| RxNorm | 2107621 | Levodopa 42mg inhalation powder [Inbrija] |
| RxNorm | 809002 | Carbidopa 10mg/ Levodopa 100mg disintegrating oral tablet [Parcopa] |

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|---|---|---|
| RxNorm | 809006 | Carbidopa 25mg/ Levodopa 100mg disintegrating oral tablet [Parcopa] |
| RxNorm | 809010 | Carbidopa 25mg/ Levodopa 250mg disintegrating oral tablet [Parcopa] |
| RxNorm | 1600774 | 8 HR carbidopa 23.75mg/ Levodopa 95mg extended release oral capsule [Rytary] |
| RxNorm | 1600776 | 8 HR carbidopa 36.25mg/ Levodopa 145mg extended release oral capsule [Rytary] |
| RxNorm | 1600915 | 8 HR carbidopa 48.75mg/ Levodopa 195mg extended release oral capsule [Rytary] |
| RxNorm | 1600917 | 8 HR carbidopa 61.25mg/ Levodopa 245mg extended release oral capsule [Rytary] |
| RxNorm | 724606 | Carbidopa 10mg/ Levodopa 100mg oral tablet [Sinemet] |
| RxNorm | 792381 | Carbidopa 25mg/ Levodopa 100mg extended release oral tablet [Sinemet] |
| RxNorm | 724598 | Carbidopa 25mg/ Levodopa 100mg oral tablet [Sinemet] |
| RxNorm | 724602 | Sinemet 25/250 oral tablet |
| RxNorm | 834341 | Carbidopa 50mg/ Levodopa 200mg extended release oral tablet [Sinemet] |
| RxNorm | 404552 | Carbidopa 25mg/ entacapone 200mg/ Levodopa 100mg oral tablet [Stalevo] |
| RxNorm | 810087 | Stalevo 125 oral tablet |
| RxNorm | 404553 | Carbidopa 37.5mg/ entacapone 200mg/ Levodopa 150mg oral tablet [Stalevo] |
| RxNorm | 730992 | Carbidopa 50mg/ entacapone 200mg/ Levodopa 200mg oral tablet [Stalevo] |
| RxNorm | 404551 | Carbidopa 12.5mg/ entacapone 200mg/ Levodopa 50mg oral tablet [Stalevo] |
| RxNorm | 810094 | Carbidopa 18.75mg/ entacapone 200mg/ Levodopa 75mg oral tablet [Stalevo] |
| RxNorm | 859077 | Bromocriptine 0.8mg oral tablet |
| RxNorm | 250490 | Bromocriptine 1mg oral tablet |
| RxNorm | 250491 | Bromocriptine 10mg oral capsule |
| RxNorm | 197411 | Bromocriptine 2.5mg oral tablet |
| RxNorm | 197412 | Bromocriptine 5mg oral capsule |
| RxNorm | 859081 | Bromocriptine 0.8mg oral tablet [Cycloset] |
| RxNorm | 105446 | Bromocriptine 2.5mg oral table [Parlodel] |
| RxNorm | 105050 | Bromocriptine 5mg oral capsule [Parlodel] |
| RxNorm | 199703 | Cabergoline 0.5mg oral tablet |
| RxNorm | 153331 | Cabergoline 1mg oral tablet |
| RxNorm | 153332 | Cabergoline 2mg oral tablet |
| RxNorm | 153333 | Cabergoline 4mg oral tablet |
| RxNorm | 855856 | 3mL apomorphine hydrochloride 10mg/mL cartridge |
| RxNorm | 199929 | Apomorphine 10mg/mL injectable solution |
| RxNorm | 389140 | Apomorphine 2mg sublingual tablet |
| RxNorm | 389141 | Apomorphine 3mg sublingual tablet |
| RxNorm | 855858 | 3mL apomorphine hydrochloride 10mg/mL cartridge [Apokyn] |
| RxNorm | 901541 | 24 HR pramipexole dihydrochloride 0.375mg extended release oral tablet |
| RxNorm | 901546 | 24 HR Pramipexole dihydrochloride 0.75 MG Extended Release Oral Tablet |
| RxNorm | 901550 | 24 HR Pramipexole dihydrochloride 1.5 MG Extended Release Oral Tablet |
| RxNorm | 1114479 | 24 HR Pramipexole dihydrochloride 2.25 MG Extended Release Oral Tablet |
| RxNorm | 901555 | 24 HR Pramipexole dihydrochloride 3 MG Extended Release Oral Tablet |
| RxNorm | 1114485 | 24 HR Pramipexole dihydrochloride 3.75 MG Extended Release Oral Tablet |
| RxNorm | 901534 | 24 HR Pramipexole dihydrochloride 4.5 MG Extended Release Oral Tablet |
| RxNorm | 859033 | Pramipexole dihydrochloride 0.125 MG Oral Tablet |
| RxNorm | 859040 | Pramipexole dihydrochloride 0.25 MG Oral Tablet |
| RxNorm | 859044 | Pramipexole dihydrochloride 0.5 MG Oral Tablet |
| RxNorm | 858625 | Pramipexole dihydrochloride 0.75 MG Oral Tablet |
| RxNorm | 859052 | Pramipexole dihydrochloride 1 MG Oral Tablet |
| RxNorm | 859048 | Pramipexole dihydrochloride 1.5 MG Oral Tablet |

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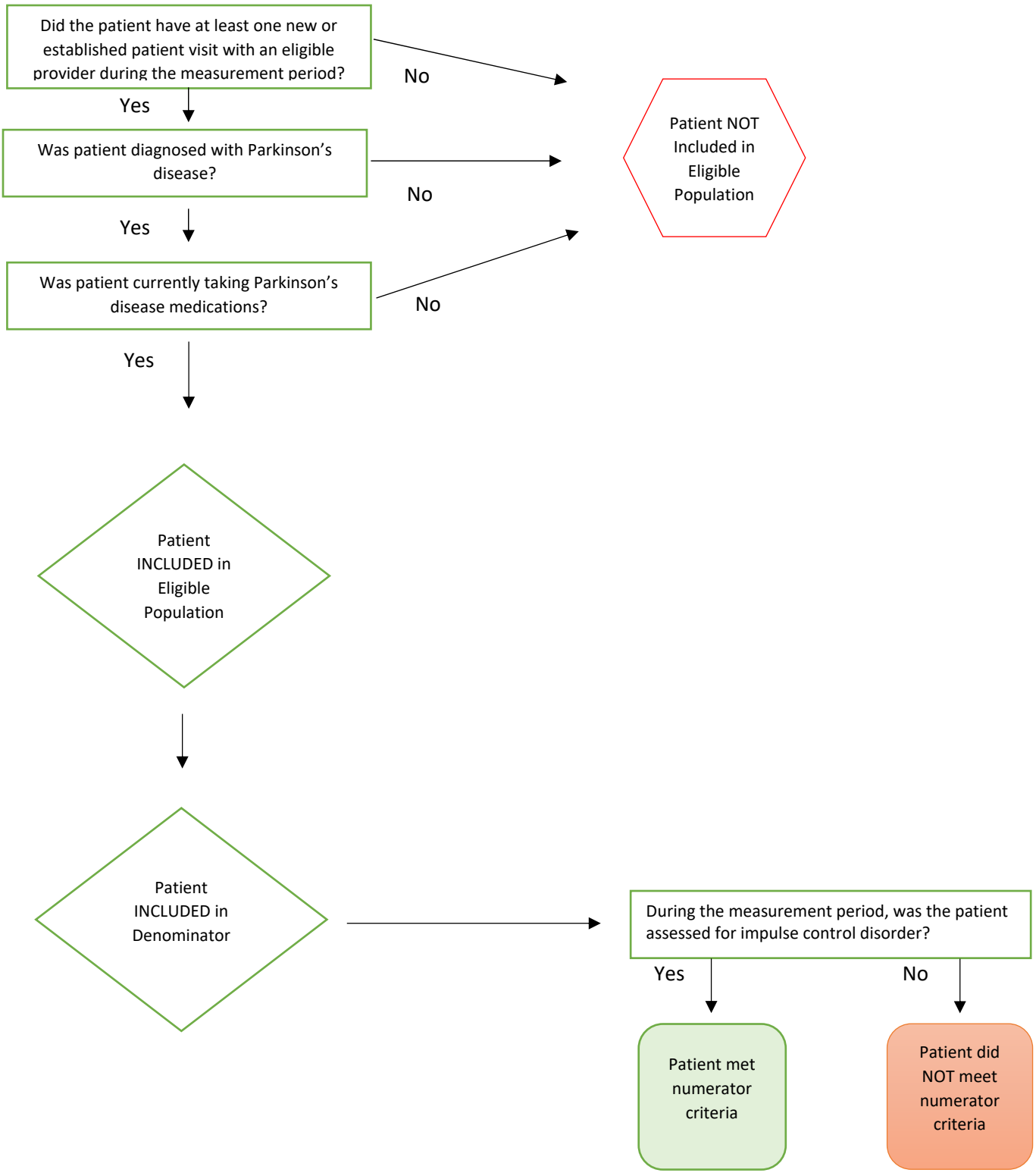
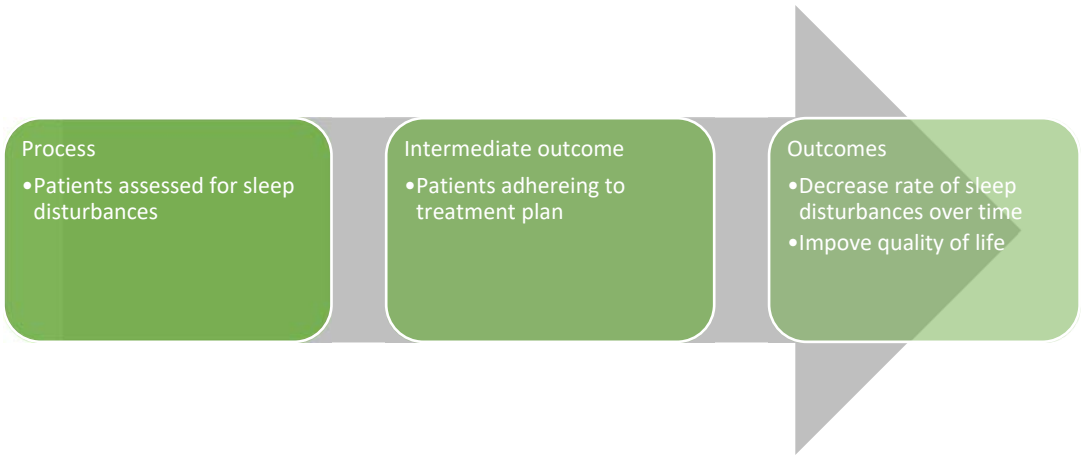
|---|---|---|
| RxNorm | 901543 | 24 HR Pramipexole dihydrochloride 0.375 MG Extended Release Oral Tablet [Mirapex] |
| RxNorm | 901547 | 24 HR Pramipexole dihydrochloride 0.75 MG Extended Release Oral Tablet [Mirapex] |
| RxNorm | 901551 | 24 HR Pramipexole dihydrochloride 1.5 MG Extended Release Oral Tablet [Mirapex] |
| RxNorm | 1114481 | 24 HR Pramipexole dihydrochloride 2.25 MG Extended Release Oral Tablet [Mirapex] |
| RxNorm | 901557 | 24 HR Pramipexole dihydrochloride 3 MG Extended Release Oral Tablet [Mirapex] |
| RxNorm | 1114487 | 24 HR Pramipexole dihydrochloride 3.75 MG Extended Release Oral Tablet [Mirapex] |
| RxNorm | 901537 | 24 HR Pramipexole dihydrochloride 4.5 MG Extended Release Oral Tablet [Mirapex] |
| RxNorm | 859035 | Pramipexole dihydrochloride 0.125 MG Oral Tablet [Mirapex] |
| RxNorm | 859042 | Pramipexole dihydrochloride 0.25 MG Oral Tablet [Mirapex] |
| RxNorm | 859046 | Pramipexole dihydrochloride 0.5 MG Oral Tablet [Mirapex] |
| RxNorm | 858627 | Pramipexole dihydrochloride 0.75 MG Oral Tablet [Mirapex] |
| RxNorm | 859054 | Pramipexole dihydrochloride 1 MG Oral Tablet [Mirapex] |
| RxNorm | 859050 | Pramipexole dihydrochloride 1.5 MG Oral Tablet [Mirapex] |
| RxNorm | 824959 | 24 HR ropinirole 12 MG Extended Release Oral Tablet |
| RxNorm | 799055 | 24 HR ropinirole 2 MG Extended Release Oral Tablet |
| RxNorm | 799056 | 24 HR ropinirole 4 MG Extended Release Oral Tablet |
| RxNorm | 848582 | 24 HR ropinirole 6 MG Extended Release Oral Tablet |
| RxNorm | 799054 | 24 HR ropinirole 8 MG Extended Release Oral Tablet |
| RxNorm | 312845 | ropinirole 0.25 MG Oral Tablet |
| RxNorm | 312846 | ropinirole 0.5 MG Oral Tablet |
| RxNorm | 314208 | ropinirole 1 MG Oral Tablet |
| RxNorm | 312847 | ropinirole 2 MG Oral Tablet |
| RxNorm | 283858 | ropinirole 3 MG Oral Tablet |
| RxNorm | 562704 | ropinirole 4 MG Oral Tablet |
| RxNorm | 312849 | ropinirole 5 MG Oral Tablet |
| RxNorm | 152952 | ropinirole 0.25 MG Oral Tablet [Requip] |
| RxNorm | 213068 | ropinirole 0.5 MG Oral Tablet [Requip] |
| RxNorm | 152953 | ropinirole 1 MG Oral Tablet [Requip] |
| RxNorm | 152954 | ropinirole 2 MG Oral Tablet [Requip] |
| RxNorm | 351991 | ropinirole 3 MG Oral Tablet [Requip] |
| RxNorm | 261309 | ropinirole 4 MG Oral Tablet [Requip] |
| RxNorm | 152955 | Requip 5 MG Oral Tablet |
| RxNorm | 824961 | 24 HR ropinirole 12 MG Extended Release Oral Tablet [Requip] |
| RxNorm | 799832 | 24 HR ropinirole 2 MG Extended Release Oral Tablet [Requip] |
| RxNorm | 800497 | 24 HR ropinirole 4 MG Extended Release Oral Tablet [Requip] |
| RxNorm | 848584 | 24 HR ropinirole 6 MG Extended Release Oral Tablet [Requip] |
| RxNorm | 800499 | 24 HR ropinirole 8 MG Extended Release Oral Tablet [Requip] |
| RxNorm | 1251912 | 24 HR Rotigotine 0.0417 MG/HR Transdermal System |
| RxNorm | 722253 | 24 HR Rotigotine 0.0833 MG/HR Transdermal System |
| RxNorm | 1251916 | 24 HR Rotigotine 0.125 MG/HR Transdermal System |
| RxNorm | 722295 | 24 HR Rotigotine 0.167 MG/HR Transdermal System |
| RxNorm | 722279 | 24 HR Rotigotine 0.25 MG/HR Transdermal System |
| RxNorm | 1251920 | 24 HR Rotigotine 0.333 MG/HR Transdermal System |
| RxNorm | 1251914 | 24 HR Rotigotine 0.0417 MG/HR Transdermal System [Neupro] |
| RxNorm | 722256 | 24 HR Rotigotine 0.0833 MG/HR Transdermal System [Neupro] |

| | | |
|---|---|---|
| RxNorm | 1251918 | 24 HR Rotigotine 0.125 MG/HR Transdermal System [Neupro] |
| RxNorm | 724142 | 24 HR Rotigotine 0.167 MG/HR Transdermal System [Neupro] |
| RxNorm | 724156 | 24 HR Rotigotine 0.25 MG/HR Transdermal System [Neupro] |
| RxNorm | 1251922 | 24 HR Rotigotine 0.333 MG/HR Transdermal System [Neupro] |
| RxNorm | 312308 | Pergolide 0.05mg oral tablet |
| RxNorm | 312309 | Pergolide 0.25 MG Oral Tablet |
| RxNorm | 312310 | Pergolide 1 MG Oral Tablet |
| RxNorm | 207479 | Pergolide 0.05 MG Oral Tablet [Permax] |
| RxNorm | 207482 | Pergolide 0.25 MG Oral Tablet [Permax] |
| RxNorm | 207483 | Pergolide 1 MG Oral Tablet [Permax] |
| RxNorm | 1191354 | Pergolide 1 MG Oral Tablet [Prascend] |
| RxNorm | 250831 | Lisuride 0.2 MG Oral Tablet |
| Numerator | | |
| SNOMED | 66347000 | Impulse control disorder (disorder) |
| ICD-10-CM | F63.9 | Impulse disorder, unspecified |
| ICD-10-CM | F63.89 | Other impulse disorders |
| SNOMED | 105523009 | Gambling (finding) |
| ICD-10-CM | Z72.6 | Gambling and betting |
| ICD-10-CM | F63.0 | Pathological gambling |
| SNOMED | 18085000 | Compulsive gambling (disorder) |
| SNOMED | 73744004 | Hypersexuality state (finding) |
| SNOMED | 248122005 | Binge eating (finding) |
| ICD-10-CM | F50.81 | Binge eating disorder |
| ICD-10-CM | Z72.4 | Inappropriate diet and eating habits |
| SNOMED | 439960005 | Binge eating disorder (disorder) |
| SNOMED | 423884000 | Repetitious behavior (finding) |
| ICD-10-CM | R46.81 | Obsessive-compulsive behavior |

Flow Chart Diagram: Assessment of Impulse Control Disorders



| | | |
|---|---|---|
| **Measure Title** | Assessment of Sleep Disturbances | |
| **Description** | Percentage of all patients with a diagnosis of PD who were assessed for sleep disturbances during the measurement period | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN) |
| | **Care Setting(s)** | Outpatient, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of PD | |
| **Numerator** | Patients who were assessed^ for sleep disturbances* once in the past 12 months<br><br>^Assessed is defined as use of a screening tool or discussion with the patient or care partner<br><br>*Sleep disturbances include at least one of the following:<br>• Excessive daytime sleepiness<br>• Restless leg syndrome<br>• REM sleep behavior disorder (RBD)<br>• Hypersomnolence<br>• Lethargy<br>• Early awakening<br>• Frequent awakening<br>• Insomnia<br>• Sleep apnea<br>• Snoring<br>• Sleep disordered breathing<br>• Circadian rhythm disorder | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | None | |
| **Exclusion Rationale** | N/A | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures Relationship to Desired Outcome** | Sleep disorders are quite common in PD and impact on quality of life. Screening for sleep disturbances increases recognition, enhance likelihood that treatment options will be discussed and offered, and ultimately decrease rates of sleep disturbance in this population. | |

<table>
<tr><td></td><td> 
</td></tr>
<tr><td>Opportunity to Improve Gap in Care</td><td>Approximately 2/3 of all people with PD report a sleep disorder. Sleep disorders are not only frequent, they negatively impact quality of life. Sleep disorders in PD include: REM sleep behavior disorder, insomnia, restless legs syndrome and periodic limb movements, sleep disordered breathing, excessive daytime sleepiness, and circadian rhythm disorders.<br><br>In a 2013 study by Baek et al., reviewing compliance with quality measure recommendations, it was noted that provider compliance rate for annual review of sleep disturbance was 29.6%. Martello et al. reported that compliance with this measure in a Movement Disorders Center was 90%, suggesting a difference in compliance between general neurologists and movement disorders specialists.<br><br>The following screening tools are not inclusive, but may be helpful for use in practice:<br>Sleep quality and daytime function:<br>• Epworth Sleepiness Scale<br>• Functional Outcomes of Sleep Questionnaire<br>• Parkinson Disease Sleep Scale (PDSS-2)<br>• Pittsburgh Sleep Quality Index<br>• PROMIS Sleep Disturbance<br>• Scales for Outcomes in Parkinson’s disease Sleep (SCOPA-Sleep)<br>Insomnia:<br>• Consensus sleep diary<br>• Insomnia severity index<br>Sleep apnea, RLS, RBD:<br>• Berlin questionnaire<br>• International Restless Legs Syndrome Scale<br>• OSA50<br>• REM Behavior Disorder Screening Questionnaire (RBDSQ)</td></tr>
<tr><td>Harmonization with Existing Measures</td><td>No similar measures known.</td></tr>
<tr><td>References</td><td>1. Baek WS, Swenseid SS, Poon KT. Quality Care Assessment of Parkinson’s Disease at a Tertiary Medical Center. International Journal of Neuroscience 2013; 123(4): 221-225. Berardelli A, Wenning GK, Antonini A, et al. EFNS/MDS-ES recommendations for the diagnosis of Parkinson’s disease. Eur J Neurol. 2013;20(1)16-34.<br>2. Chahine LM, Amara AW, Videnovic A. A systematic review of the literature on disorders of sleep and wakefulness in Parkinson's disease from 2005 to 2015. Sleep Med Rev. 2017;35:33-50.</td></tr>
</table>

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| 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 | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease<br>Hemiparkinsonism<br>Idiopathic parkinsonism or Parkinson's Disease<br>Paralysis agitans<br>Parkinsonisms or Parkinson's disease NOS<br>Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| SNOMED | 230489007 | Excessive daytime sleepiness – normal night sleep |
| SNOMED | 191999000 | Persistent hypersomnia |
| SNOMED | 3731000119107 | Idiopathic hypersomnia |
| SNOMED | 426451004 | Recurrent hypersomnia |
| SNOMED | 268653004 | Transient hypersomnia |
| SNOMED | 36124002 | Primary hypersomnia |
| SNOMED | 31771000119102 | Daytime hypersomnia |
| SNOMED | 77692006 | Hypersomnia |
| ICD-10 | R40.0 | Daytime somnolence |
| ICD-10 | G47.10 | Hypersomnia, unspecified |
| ICD-10 | G47.11 | Idiopathic hypersomnia with long sleep time |
| ICD-10 | G47.12 | Idiopathic hypersomnia without long sleep time |
| ICD-10 | G47.13 | Recurrent hypersomnia |
| ICD-10 | G47.14 | Hypersomnia due to medical condition |
| ICD-10 | G47.19 | Other hypersomnia (including daytime hypersomnia) |
| SNOMED | 32914008 | Restless legs syndrome |
| ICD-10 | G25.81 | Restless legs syndrome |
| ICD-10 | G47.52 | REM sleep behavior disorder |
| SNOMED | 415238003 | REM sleep behavior disorder |
| ICD-10 | G47.00 | Insomnia, unspecified |
| ICD-10 | G47.01 | Insomnia due to medical condition |
| ICD-10 | G47.09 | Other insomnia |
| SNOMED | 193462001 | Insomnia |
| SNOMED | 724748004 | Chronic insomnia |
| SNOMED | 268652009 | Transient insomnia |
| SNOMED | 3972004 | Idiopathic insomnia |
| ICD-10 | G47.30 | Sleep apnea, unspecified |
| ICD-10 | G47.39 | Other sleep apnea |
| SNOMED | 73430006 | Sleep apnea |
| ICD-10 | R06.83 | Snoring |
| SNOMED | 72863001 | Snoring |
| SNOMED | 162375000 | Snoring symptoms |
| SNOMED | 214264003 | Lethargy |

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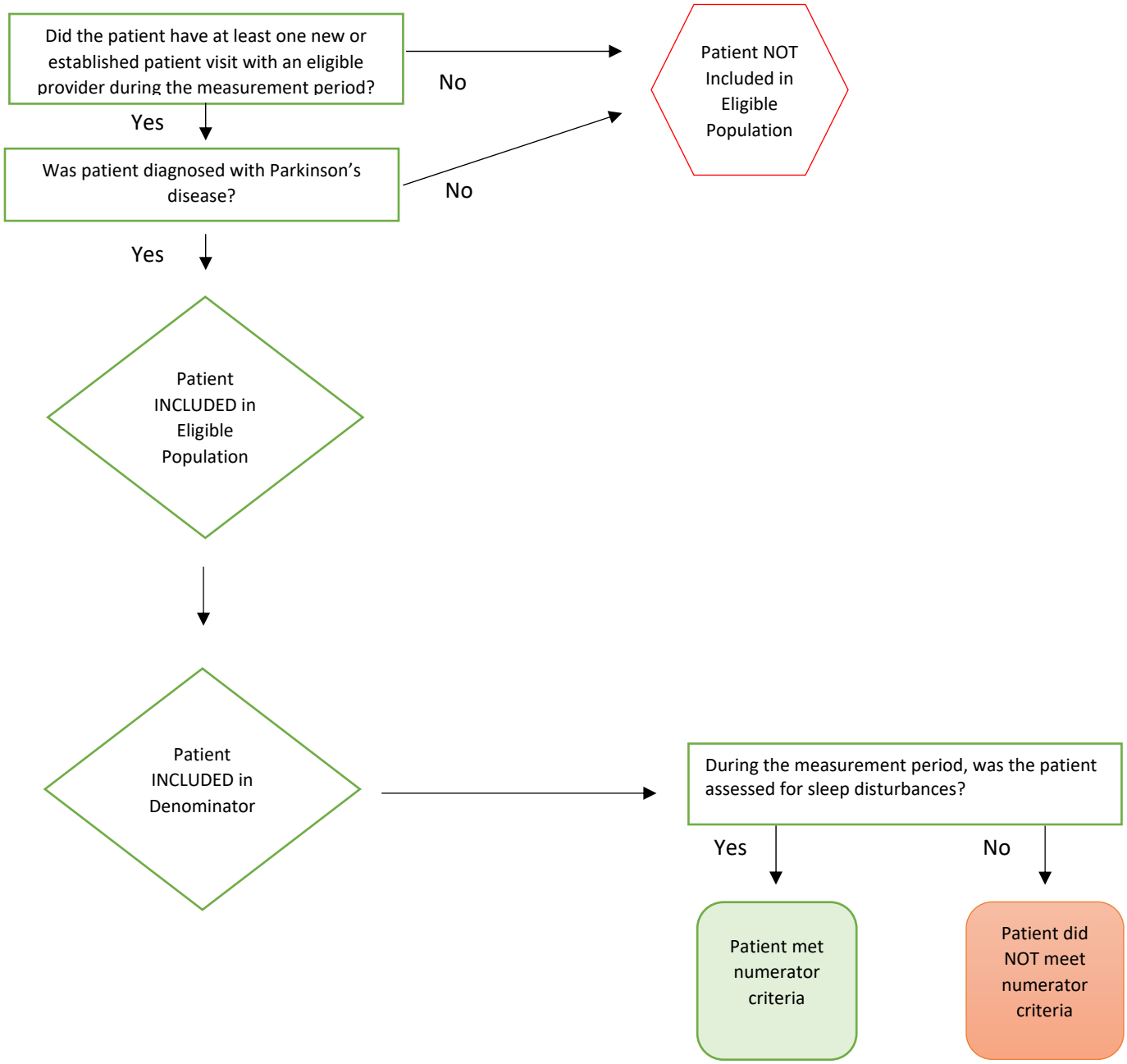
|---|---|---|
| SNOMED | 708735004 | Epworth Sleepiness Scale |
| SNOMED | 763254009 | Epworth Sleepiness Scale Score |
| SNOMED | 763227006 | Assessment using Epworth Sleepiness Scale |
| SNOMED | 699200007 | Pittsburgh sleep quality index (assessment scale) |
| SNOMED | 763105008 | Assessment using Pittsburgh sleep quality index (procedure) |
| LOINC | 61982-5 | PROMIS item bank – sleep disturbance – version 1.0 |
| LOINC | 75258-4 | PROMIS short form – sleep disturbance 4a – version 1.0 |
| LOINC | 76703-8 | PROMIS short form – sleep disturbance 6a – version 1.0 |
| LOINC | 62197-9 | PROMIS short form – sleep disturbance 8b – version 1.0 |
| SNOMED | 454481000124101 | Insomnia severity index (assessment scale) |
| SNOMED | 761885003 | Assessment using insomnia severity index (procedure) |
| SNOMED | 445483007 | Berlin questionnaire for sleep apnea (assessment scale) |
| ICD-10 | G47.20 | Circadian rhythm sleep disorder,  unspecified type |
| ICD-10 | G47.21 | Circadian rhythm sleep disorder, delayed sleep phase type |
| ICD-10 | G47.22 | Circadian rhythm sleep disorder, advanced sleep phase type |
| ICD-10 | G47.23 | Circadian rhythm sleep disorder, irregular sleep wake type |
| ICD-10 | G47.24 | Circadian rhythm sleep disorder, free running type |
| ICD-10 | G47.27 | Circadian rhythm sleep disorder in conditions classified elsewhere |
| ICD-10 | G47.29 | Other circadian rhythm sleep disorder |
| SNOMED | 271794005 | Circadian rhythm sleep-wake disorder |
| SNOMED | 91461000119108 | Drug induced circadian rhythm disorder |
| SNOMED | 230496009 | Circadian rhythm sleep disorder, free running |
| SNOMED | 80623000 | Circadian rhythm sleep disorder, delayed sleep phase |
| SNOMED | 31537005 | Circadian rhythm sleep disorder, advanced sleep  phase |

Flow Chart Diagram: Assessment of Sleep Disturbances



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|---|---|---|
| **Measure Title** | Assessment of Cognitive Impairment or Dysfunction | |
| **Description** | Percentage of all patients with a diagnosis of PD who were assessed for cognitive impairment or dysfunction during the measurement period | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN), Physical Therapist (PT), Occupational Therapist (OT), Speech Language Pathologist (SLP), Clinical Psychologist |
| | **Care Setting(s)** | Outpatient, skilled nursing facility, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of PD | |
| **Numerator** | Patients (or care partner as appropriate) who were assessed* for cognitive impairment or dysfunction once in the past 12 months<br><br>*Assessed is defined as a discussion with the patient or care partner or use of a screening tool OR referral to neuropsychologist for testing.<br><br>Discussion with the patient or care partner may include the following key words:<br>• Memory loss<br>• Cognitive impairment<br>• Dementia<br>• Forgetfulness<br>• Word finding difficulty<br>• Confusion/confused<br>• Mental status changes<br>• Poor attention or concentration<br>• Judgement<br>• Visuospatial function/dysfunction<br>• Executive function/dysfunction | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | • Patient and care partner decline assessment<br>• On date of encounter, patient is not able to participate in assessment or screening, including non-verbal patients, delirious, severely aphasic, severely developmentally delayed, severe visual or hearing impairment and for those patients, no knowledgeable informant available. | |
| **Exclusion Rationale** | N/A | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider | |
| **Risk Adjustment** | N/A | |
| **For Process Measures** | Cognitive functioning impacts life satisfaction and health-related quality of life. It is anticipated that if assessed on an ongoing basis, cognitive deficits may be identified and addressed in a | |

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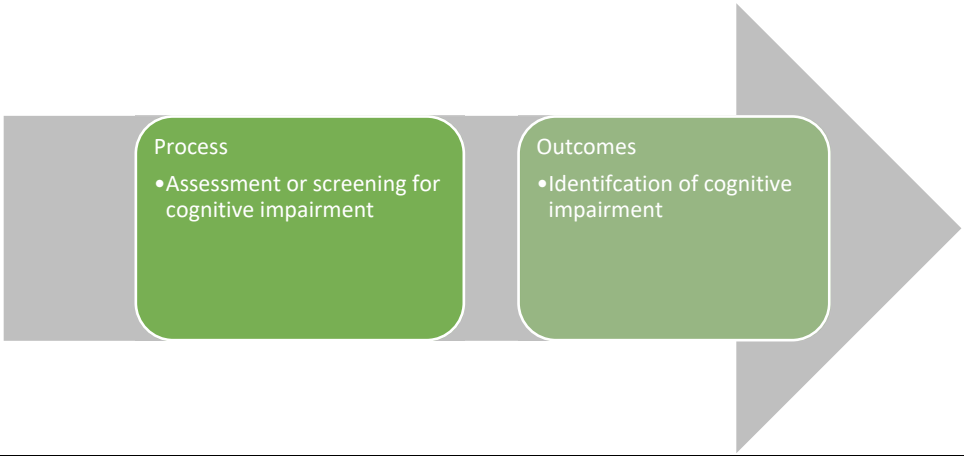
| **Relationship to Desired Outcome** | timely manner. Once identified, such deficits could be treated (or patients referred to appropriate resources) and thereby improve individuals' quality of life.<br>  <br> |
| **Opportunity to Improve Gap in Care** | Patients with PD were found to have an incidence rate of dementia that increased 4-6 times compared to age-matched controls. Dementia was found to be present in 83% of 20-year survivors of PD.<br><br>In a 2013 study by Baek et al. reviewing compliance with quality measure recommendations, it was noted provider compliance rate for annual review of cognitive dysfunction was 32%. Martello et al. reported that compliance with this measure in a Movement Disorders Center was 90%, suggesting a difference in compliance between general neurologists and movement disorders specialists. This measure was adopted into the PQRS reporting system as measure #291 in 2012. Eligible provider compliance rates for 2012 are not available. This measure is currently utilized in the CMS Quality Payment Program (QPP) with an average performance rate of 93.3%.<br><br>The following screening tools are not inclusive, but may be helpful for use in practice:<br>• Dementia Rating Scale (DRS-2)<br>• Mini-Mental State Examination (MMSE)<br>• Montreal Cognitive Assessment (MoCA)<br>• Neuro-QoL<br>• Parkinson's Disease Dementia -Short Screen (PDD-SS)<br>• Parkinson Neuropsychiatric Dementia Assessment (PANDA)<br>• Parkinson's Disease- Cognitive Rating Scale (PD-CRS)<br>• Patient-Reported Outcomes Measurement Information System (PROMIS)<br>• Scales for Outcomes of Parkinson's Disease – Cognition (SCOPA-Cog) |
| **Harmonization with Existing Measures** | No existing measures known. |
| **References** | 1. Baek WS, Swenseid SS, Poon KT. Quality Care Assessment of Parkinson's Disease at a Tertiary Medical Center. International Journal of Neuroscience 2013; 123(4): 221-225.<br>2. Berardelli A, Wenning GK, Antonini A, et al. EFNS/MDS-ES recommendations for the diagnosis of Parkinson's disease. Eur J Neurol. 2013;20(1)16-34.<br>3. Dubois B, Burn D, Goetz C, et al. Diagnostic procedures for Parkinson's disease dementia: recommendations from the movement disorder society task force. Mov Disord 2007;22:2314-2324. |

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8. Martello J, Shulman LM, Barr E, Gruber-Baldini A, Armstrong MJ. Assessment of Parkinson disease quality measures on 12-month patient outcomes. Neurology: Clinical Practice. 2020;10(1):58–64.
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| 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 | 99304-99310 | Nursing home consultation |
| CPT | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| SNOMED | 408902006 | Memory loss care assessment (procedure) |
| SNOMED | 386806002 | Impaired cognition (finding) |
| SNOMED | 386805003 | Mild cognitive disorder (disorder) |
| SNOMED | 702956004 | Severe cognitive impairment (finding) |
| SNOMED | 110352000 | Minimal cognitive impairment (finding) |
| SNOMED | 702955000 | Moderate cognitive impairment (finding) |
| ICD-10 | G31.84 | Mild cognitive impairment, so stated |
| SNOMED | 38369006 | At risk for cognitive impairment (finding) |
| SNOMED | 52448006 | Dementia (disorder) |
| SNOMED | 428051000124108 | Mild dementia (disorder) |
| SNOMED | 428351000124105 | Severe dementia (disorder) |
| SNOMED | 430771000124100 | Moderate dementia (disorder) |
| SNOMED | 312991009 | Senile dementia of the Lowy body type (disorder) |
| SNOMED | 80098002 | Diffuse Lewy body disease (disorder) |
| ICD-10 | G31.83 | Dementia with Lewy bodies |
| SNOMED | 26929004 | Alzheimer's disease (disorder) |
| SNOMED | 101421000119107 | Dementia due to Parkinson's disease (disorder) |
| SNOMED | 425390006 | Dementia associated with Parkinson's disease (disorder) |
| SNOMED | 10349009 | Multi-infarct dementia with delirium (disorder) |
| SNOMED | 12348006 | Presenile dementia (disorder) |
| SNOMED | 14070001 | Multi-infarct dementia with depression (disorder) |
| SNOMED | 142811000119104 | Dementia due to Alzheimer's disease (disorder) |
| SNOMED | 15662003 | Senile dementia (disorder) |
| SNOMED | 1581000119101 | Dementia of the Alzheimer type with behavioral disturbance (disorder) |
| SNOMED | 1591000119103 | Dementia with behavioral disturbance (disorder) |
| SNOMED | 18842008 | Corticobasal degeneration (disorder) |
| SNOMED | 191449005 | Uncomplicated senile dementia (disorder) |
| SNOMED | 191451009 | Uncomplicated presenile dementia (disorder) |
| SNOMED | 191455000 | Presenile dementia with depression (disorder) |
| SNOMED | 191459006 | Senile dementia with depression (disorder) |
| SNOMED | 191461002 | Senile dementia with delirium (disorder) |
| SNOMED | 191466007 | Arteriosclerotic dementia with depression (disorder) |

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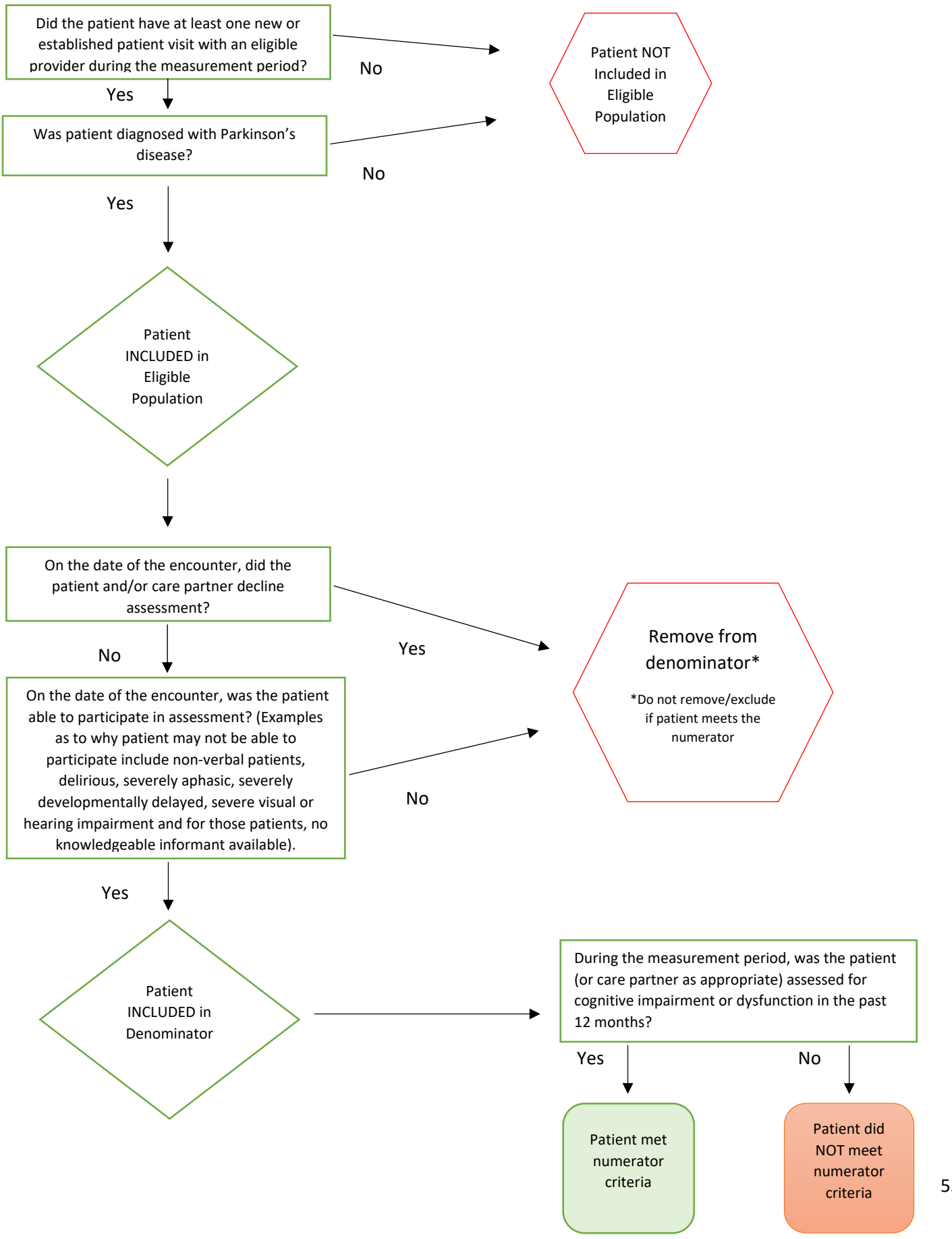
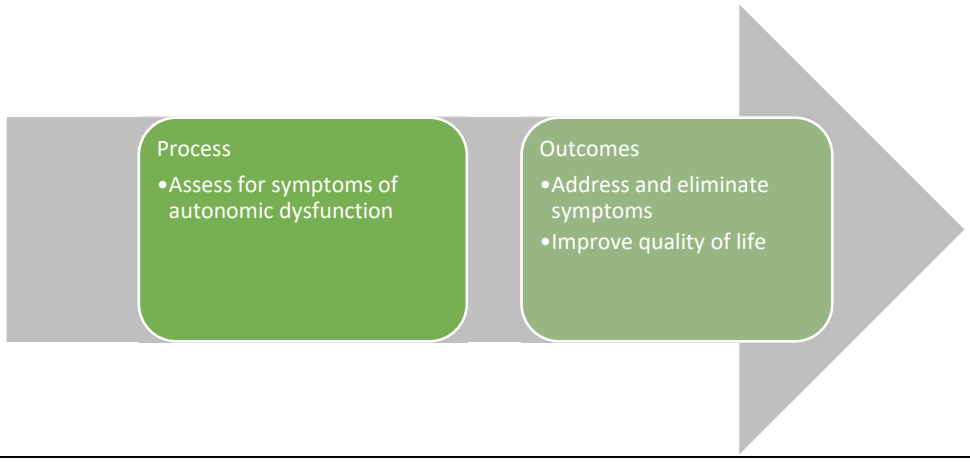
|---|---|---|
| SNOMED | 191519005 | Dementia associated with another disease (disorder) |
| SNOMED | 192794001 | Cerebral degeneration associated with another disorder (disorder) |
| SNOMED | 230270009 | Frontotemporal dementia (disorder) |
| SNOMED | 230286002 | Subcortical vascular dementia (disorder) |
| SNOMED | 25772007 | Multi-infarct dementia with delusions (disorder) |
| SNOMED | 278857002 | Dementia of frontal lobe type (disorder) |
| SNOMED | 288631000119104 | Vascular dementia with behavioral disturbance (disorder) |
| SNOMED | 31081000119101 | Presenile dementia with delusions (disorder) |
| SNOMED | 312991009 | Senile dementia of the Lewy body type (disorder) |
| SNOMED | 3424366013 | Rapidly progressive dementia (disorder) |
| SNOMED | 345088011 | Frontotemporal dementia (disorder) |
| SNOMED | 371024007 | Senile dementia with delusion (disorder) |
| SNOMED | 371026009 | Senile dementia with psychosis (disorder) |
| SNOMED | 416780008 | Primary degenerative dementia of the Alzheimer type, presenile onset (disorder) |
| SNOMED | 416975007 | Primary degenerative dementia of the Alzheimer type, senile onset (disorder) |
| SNOMED | 425390006 | Dementia associated with Parkinson's Disease (disorder) |
| SNOMED | 429998004 | Vascular dementia (disorder) |
| SNOMED | 45046017 | Alzheimer's disease (disorder) |
| SNOMED | 456813014 | Senile dementia of the Lewy body type (disorder) |
| SNOMED | 51928006 | General paresis - neurosyphilis (disorder) |
| SNOMED | 56267009 | Multi-infarct dementia (disorder) |
| SNOMED | 66108005 | Primary degenerative dementia of the Alzheimer type, senile onset, uncomplicated (disorder) |
| SNOMED | 70936005 | Multi-infarct dementia, uncomplicated (disorder) |
| ICD-10 | F01.50 | Vascular dementia without behavioral disturbance |
| ICD-10 | F01.51 | Vascular dementia with behavioral disturbance |
| ICD-10 | F02.80 | Dementia in other diseases classified elsewhere without behavioral disturbance |
| ICD-10 | F02.81 | Dementia in other diseases classified elsewhere with behavioral disturbance |
| ICD-10 | F03.90 | Unspecified dementia without behavioral disturbance |
| ICD-10 | F03.91 | Unspecified dementia with behavioral disturbance |
| ICD-10 | G30.0 | Alzheimer's disease with early onset |
| ICD-10 | G30.1 | Alzheimer's disease with late onset |
| ICD-10 | G30.8 | Other Alzheimer's disease |
| ICD-10 | G30.9 | Alzheimer's disease, unspecified |
| ICD-10 | G31.09 | Other frontotemporal dementia |
| SNOMED | 273617000 | Mini-mental state examination (assessment scale) |
| LOINC | 72107-6 | Mini-mental state examination (MMSE) |
| SNOMED | 459661000124109 | Assessment using montreal cognitive assessment (procedure) |
| SNOMED | 273367002 | Clinical dementia rating scale (assessment scale) |
| LOINC | 72133-2 | Montreal Cognitive Assessment (MoCA) |

Flow Chart Diagram: Assessment of Cognitive Impairment or Dysfunction



| | | |
|---|---|---|
| **Measure Title** | Assessment of Autonomic Dysfunction | |
| **Description** | Percentage of all patients with a diagnosis of PD (or care partner as appropriate) who were queried about symptoms of autonomic dysfunction in the past 12 months. | |
| **Measurement Period** | January 1, 20xx to December 31, 20xx | |
| **Eligible Population** | **Eligible Providers** | Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN), Physical Therapist (PT), Occupational Therapist (OT), Speech Language Pathologist (SLP) |
| | **Care Setting(s)** | Outpatient, skilled nursing facility, telehealth |
| | **Ages** | All patients |
| | **Event** | Office visit, telehealth visit |
| | **Diagnosis** | Parkinson's disease |
| **Denominator** | All patients with a diagnosis of PD | |
| **Numerator** | Patients (or care partners as appropriate) who were assessed^ for symptoms* or signs# of autonomic dysfunction once in the past 12 months<br><br>^Assessed is defined as use of a screening tool or discussion with the patient or care partner<br><br>*Symptoms of autonomic dysfunction is defined as including at least one of the following:<br>• orthostatic hypotension or intolerance,<br>• constipation,<br>• urinary urgency,<br>• incontinence or nocturia,<br>• fecal incontinence,<br>• urinary retention requiring catheterization,<br>• delayed gastric emptying,<br>• dysphagia,<br>• drooling or sialorrhea,<br>• hyperhidrosis,<br>• sexual dysfunction or erectile dysfunction,<br>• syncope, lightheadedness, or dizziness<br><br>#Signs<br>• orthostatic vital signs | |
| **Required Exclusions** | None | |
| **Allowable Exclusions** | None | |
| **Exclusion Rationale** | N/A | |
| **Measure Scoring** | Percentage | |
| **Interpretation of Score** | Higher score indicates better quality | |
| **Measure Type** | Process | |
| **Level of Measurement** | Provider, Practice, System | |
| **Risk Adjustment** | N/A | |
| **For Process Measures** | Autonomic dysfunction is directly related to the quality of life of people with PD. The desired outcome is to address and eliminate autonomic dysfunction in people with PD. This measure | |

| | |
|---|---|
| **Relationship to Desired Outcome** | will provide an incentive for providers to identify autonomic dysfunction and offer available treatments to improve quality of life.<br>  |
| **Opportunity to Improve Gap in Care** | Autonomic dysfunction was found to be the most prevalent non-motor symptoms of PD, affecting more than 70% of patients in all stages of PD. Non-motor challenges may become the chief therapeutic challenge in advanced stages of PD, and many may not have effective treatment options. In a two year study, development of symptoms in the cardiovascular, apathy, urinary, psychiatric, and fatigue domains was associated with significant worsening quality of life.<br><br>In a 2013 study by Baek at al., reviewing compliance with quality measure recommendations, it was noted that provider compliance rate for annual review of autonomic dysfunction was 22.8%. Martello et al. reported that compliance with this measure in a Movement Disorders Center was 83%, suggesting a difference in compliance between general neurologists and movement disorders specialists.<br><br>The following screening tools are not inclusive, but may be helpful for use in practice:<br>• Scales for Outcomes in Parkinson's disease – Autonomic (SCOPA-AUT) |
| **Harmonization with Existing Measures** | No existing measures known. |
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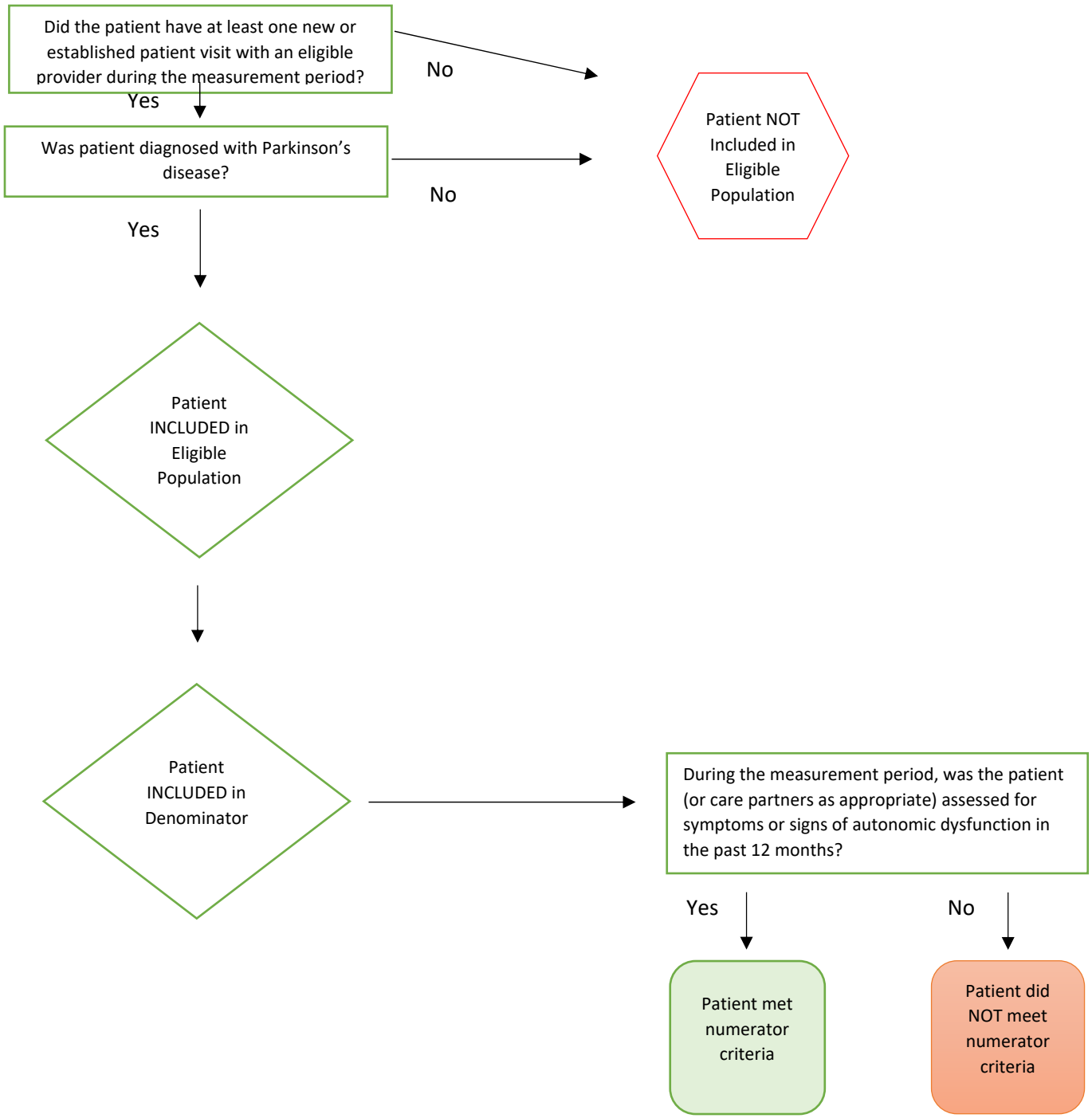
| Code System | Code | Code Description |
|---|---|---|
| Initial population | | |
| CPT | 99201-99205 | Office or other outpatient visit, new patient |
| CPT | 99211-99215 | Office or other outpatient visit, established patient |
| CPT | 99241-99245 | Office or other outpatient consultation, new or established patient |
| CPT | 99304-99310 | Nursing home consultation |
| CPT | 99221-99223 | Initial hospital care |
| CPT | 99231-99233 | Subsequent hospital care |
| CPT | 99238-99239 | Hospital discharge |
| CPT | 99251-99255 | Initial inpatient consultation |
| CPT | | Telehealth TBD |
| Denominator | | |
| ICD-10 | G20 | Parkinson's Disease |
| | | Hemiparkinsonism |
| | | Idiopathic parkinsonism or Parkinson's Disease |
| | | Paralysis agitans |
| | | Parkinsonisms or Parkinson's disease NOS |
| | | Primary Parkinsonism or Parkinson's disease |
| SNOMED | 49049000 | Parkinson's disease (disorder) |
| SNOMED | 230291001 | Juvenile Parkinson's disease (disorder) |
| SNOMED | 715345007 | Young onset Parkinson disease (disorder) |
| SNOMED | 737582007 | Hemiparkinsonism hemiatrophy syndrome (disorder) |
| SNOMED | 32798002 | Parkinsonism (disorder) |
| Numerator | | |
| SNOMED | 28651003 | Orthostatic hypotension (disorder) |
| ICD-10-CM | I95.1 | Orthostatic hypotension |
| SNOMED | 14760008 | Constipation (finding) |
| ICD-10-CM | K59.00 | Constipation, unspecified |
| ICD-10-CM | K59.09 | Other constipation |
| ICD-10-CM | R39.15 | Urgency of urination |
| SNOMED | 48340000 | Incontinence (finding) |
| SNOMED | 139394000 | Nocturia (finding) |
| ICD-10-CM | N39.498 | Other specified urinary incontinence |
| ICD-10-CM | N39.41 | Urge incontinence |
| ICD-10-CM | R35.1 | Nocturia |
| SNOMED | 460671000124103 | Frequent fecal incontinence (finding) |
| ICD-10-CM | R15.1 | Fecal smearing |
| ICD-10-CM | R15.2 | Fecal urgency |
| ICD-10-CM | R15.9 | Full incontinence of feces |
| SNOMED | 410024004 | Catheterization of urinary bladder (procedure) |
| SNOMED | 314944001 | Delayed gastric emptying (disorder) |
| SNOMED | 20301004 | Dysphasia (finding) |
| ICD-10-CM | R47.02 | Dysphasia |
| ICD-10-CM | R13.10 | Dysphasia, unspecified |
| SNOMED | 62718007 | Dribbling from mouth (finding) |
| SNOMED | 53827007 | Excessive salivation (disorder) |
| ICD-10-CM | K11.7 | Disturbances of salivary secretion |
| SNOMED | 312230002 | Hyperhidrosis (disorder) |
| ICD-10-CM | L74.519 | Primary focal hyperhidrosis, unspecified |
| SNOMED | 56925008 | Sexual dysfunction (finding) |

| | | |
|---|---|---|
| SNOMED | 397803000 | Erectile dysfunction (disorder) |
| ICD-10-CM | R37 | Sexual dysfunction, unspecified |
| ICD-10-CM | N52.9 | Male erectile dysfunction, unspecified |
| SNOMED | 271594007 | Syncope (disorder) |
| ICD-10-CM | R55 | Syncope and collapse |
| SNOMED | 386705008 | Lightheadedness (finding) |
| SNOMED | 404640003 | Dizziness (finding) |
| ICD-10-CM | R42 | Dizziness and giddiness |
| SNOMED | 425058005 | Taking orthostatic vital signs (procedure) |

Flow Chart Diagram: Assessment of Autonomic Dysfunction



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## Appendix A Disclosures

| Work Group Member | Disclosures |
|---|---|
| Juliana Atem, ACAGNP | Nothing to disclose. |
| Kelvin Chou, MD | Received funding for travel from Sunovion Pharmaceuticals and Inventram. Serves on NPJ Parkinson's disease editorial board and Parkinsonism and Related Disorders editorial board. Receives royalties from publishing from Springer Deep Brain Stimulation: A New Life for Patient's with Parkinson Disease, Essential Tremor and Dystonia, Essential Tremor in Clinical Practice and UpToDate. Received honoraria from Sunovion Pharmaceuticals and Inventram. Receives research support from Eli Lilly, Cavion, Sunovion Pharmaeuticals, and NIH. |
| Matt Elrod, DPT | Nothing to disclose. |
| Erin Foster, PhD, OTD, MSCI, OTR/L | Receives research support from NIH. |
| Karen Freshwater, PA-C | Nothing to disclose. |
| Steven Gunzler, MD | Receives research support from NIH, Impax, Biogen, and the Parkinson Study Group. |
| Hojoong Kim, MD | Received funding for travel and honoraria from Cleveland Clinic. |
| Abhimanyu Mahajan, MD, MHS | Nothing to disclose. |
| Justin Martello, MD | Received personal compensation for consulting on a scientific advisory speaking board, speaking, or other activities with Neurocrine, Medtronic, Teva, Abbvie, and Lundbeck. |
| Harini Sarva, MD | Clinical trial support from Biogen, Lundbeck, Intec, Insightec, Covance; Research support from Michael J. Fox Foundation. Honoraria from Edmund J. Saffra Foundation. Consulting work for Amneal, Merz, and Accordia. |
| Glenn Stebbins, PhD | Serves on a scientific advisory board for Acadia Pharmaceuticals, Adamas Pharmaceuticals Inc, Biogen, Ceregene, CHDI Management, Cleveland Clinic Foundation, Ingenix Pharmaceutical Services, MedGenesis Therapeutix, Neurocrine Biosciences, Pfizer, Tools-4 Patients, Ultragenyx, Sunshine Care Foundation. Received funding for travel from NIH, Michael J Fox Foundation, Dystonia Coalition, CHDI, International Parkinson and Movement Disorder Society, Alzheimer's Association. Received honoraria from International Parkinson and Movement Disorder Society, American Academy of Neurology, Michael J Fox Foundation, FDA, NIH, Alzheimer's Association. Receives research support from NIH, Department of Defense, Michael J Fox Foundation, Dystonia Coalition, Cleveland Clinic Foundation, International Parkinson and Movement Disorder Society, and CBD Solutions. |
| Laurice Yang, MD | Serves on a scientific advisory board for Acacia Pharmaceuticals. Receives research funding from Biogen, Alzheimer's Disease Research Center, Udall, and the Michael J Fox Foundation. Holds stock or stock options with Teva and Nvidia. |

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