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Patient and Payer Considerations in Parkinson Disease Psychosis to Optimize Population Health Outcomes: A Multistakeholder Panel Discussion

- Approximately 50% of patients with Parkinson disease (PD) may experience hallucinations or delusions during the course of their disease.¹ Most patients with benign hallucinations will likely progress to severe symptoms with loss of insight.² Moreover, PD psychosis (PDP) is recognized by CMS guidelines as an enduring and progressive condition.³
- Therapies should not worsen or impact motor function while effectively treating symptoms of psychosis. Atypical antipsychotics that carry some degree of dopamine receptor site antagonism may worsen motor symptoms. Dopaminergic drug therapy options commonly used for the treatment of motor symptoms of PD, such as levodopa or dopamine agonists, are associated with psychosis induction or exacerbation.⁴
- Prior authorization criteria, such as step therapy requirements that are inconsistent with expert recommendations, can lead to delays in care and negative patient outcomes.⁵
- For patients with PDP, access to specialists such as neurologists and psychiatrists may be challenged by ongoing shortages among these professionals.⁶⁻⁸

INTRODUCTION

Parkinson disease (PD) is a heterogenous, progressive neurodegenerative disorder that predominately affects dopaminergic neurons in the substantia nigra of the brain.^{9,10} It is estimated that nearly 1 million people in the United States have PD; this number is expected to increase to more than 1.2 million individuals by 2030.¹¹ PD generally presents in patients at least 60 years old, and its prevalence increases steadily with age.^{12,13}

PD is recognized as a movement disorder characterized primarily by tremor, bradykinesia, rigidity, and postural instability (ie, trouble with balance or falls), which occurs later in the disease course.¹⁴ However, insight from the patient journey, especially within the past decade, has revealed that nonmotor symptoms, as a whole, may be more burdensome to both patients and their caregivers than are the classic motor symptoms of PD. Nonmotor symptoms play a major role in the disability that is associated with PD and markedly reduce patients' quality of life (QOL).¹⁵ It is important for payers to understand these nonmotor symptoms and appropriate treatment options to improve outcomes in patients with PD.¹⁵

This clinical brief is intended for only payers, formulary committees, or other similar entities.

FOUNDER

Mike Hennessy Sr | 1960-2021

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NONMOTOR SYMPTOMS OF PD

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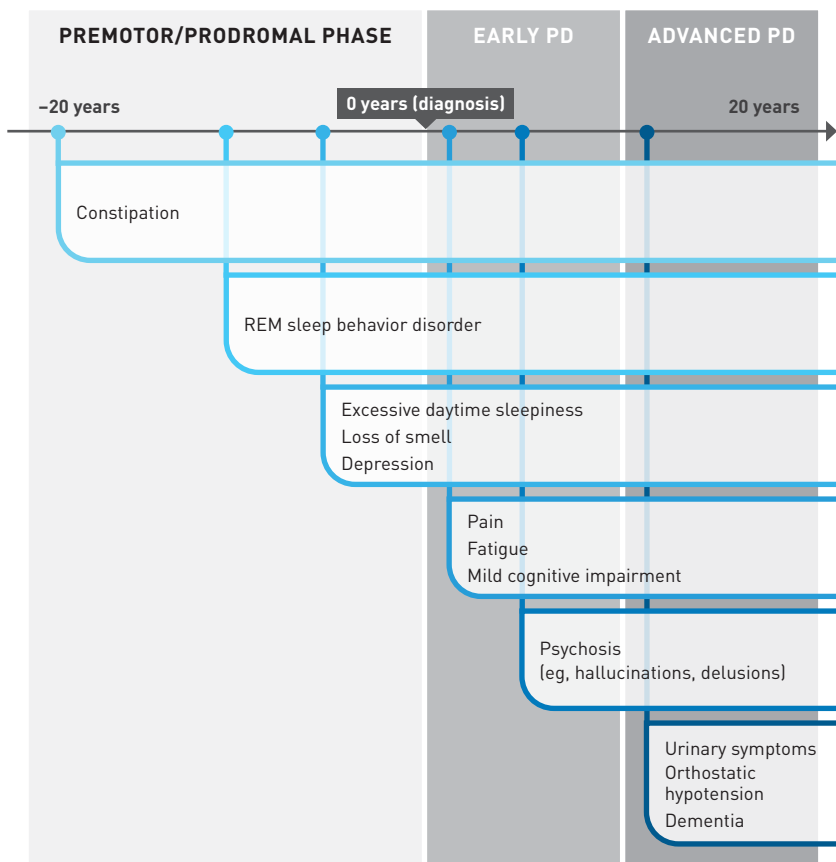
PD is associated with many nonmotor symptoms, including sleep disorders, cognitive impairment, fatigue, pain, olfactory dysfunction, and psychiatric symptoms (Figure).¹⁰ According to Fernando L. Pagan, MD, “We’ve come to learn that patients with [PD have] symptoms long before [motor] symptoms ever emerge. These nonmotor features can present anywhere from 10 [years] to 20 years before we finally diagnose the disorder based on motor symptoms, and these nonmotor symptoms continue to progress throughout the entire course of the disease.”¹⁰ Many patients do not disclose these symptoms to their health care provider, because they were unaware that they could be related to PD, were embarrassed, or were focused on motor symptoms when speaking with their health care providers.¹⁵

PD management is complex, and nonmotor symptoms may become more challenging than motor symptoms over time.¹⁰ As Pagan noted, at some point during the disease course, physicians start to see Parkinson disease psychosis (PDP), with approximately 50% of patients experiencing hallucinations or delusions.^{1,16} Patients may also experience cognitive problems and dementia (Figure).¹⁰ A longitudinal study determined that most patients with benign hallucinations (81%) progressed to severe symptoms with loss of insight.² Additionally, CMS guidance for residents of long-term care facilities recognizes PDP as an enduring and progressive condition.³ A multidisciplinary approach is necessary to improve overall outcomes and health-related QOL in patients with PD and psychiatric comorbidities.¹⁷

PDP

In 2007, The National Institute of Mental Health and the National Institute of Neurological Disorders and Stroke established provisional diagnostic criteria for PDP (Table 1).^{16,18} Common PDP symptoms include illusions (ie, visual distortions), hallucinations (often visual, sometimes auditory), and delusions (fixed, false beliefs).¹⁶ Delusions are a more disruptive symptom of PD; they are often composed of paranoid thoughts like spousal infidelity or the intent of harm by someone familiar.¹⁶ Hallucinations may

Figure. Development of Nonmotor Symptoms in PD¹⁰



PD, Parkinson disease; REM, rapid eye movement.
Derived from Katia LV, Lang AE. Parkinson's disease. *Lancet*. 2015;386(9996):896-912. doi:10.1016/S0140-6736(14)61393-3.

initially present as nondisruptive events that patients do not address with their physicians or caregivers.¹⁶ According to Pagan, “PDP is a progressive disease. There’s a spectrum, and it can begin very mild[ly]... If we do nothing, these hallucinations and delusions will definitely get worse to the point where the burden really goes up.” As a result, Sarah Jones, MPA, MS, expressed, “Hands down, we hear and see that the nonmotor symptoms are far more painful for the person to navigate in their life than the motor symptoms, and especially for their loved ones.” Her sentiment underscored the need for effective therapy to address PDP.

Factors Associated With PDP

Current evidence suggests that PDP involves both extrinsic (ie, drug-related) and intrinsic (ie, disease-related) factors (Table 2).^{16,19,20} PDP pathophysiology is associated with increasing deficits of monoaminergic transmitters and visuospatial processing, both of which accompany PD progression. This suggests a potential association of PDP with PD advancement and severity.¹⁸ Additional contributors to PDP may include dopaminergic medications, other treatments that can initiate a psychotic episode, advanced age, and comorbid conditions such as dementia, depression, sleep disorders, and visual disturbances.^{16,19-21} Specifically, dopaminergic drugs commonly used for the treatment of motor symptoms of PD, such as levodopa or dopamine agonists, may induce or exacerbate psychosis.⁴

PDP IMPACT ON LONG-TERM HEALTH CARE UTILIZATION

Development of PDP is associated with increases in emergency department (ED) visits and hospitalization, admission to long-term care facilities, and mortality.²²⁻²⁴ A study by Wetmore et al highlighted how resource intensive the development of psychosis is in PD.²² Results from their retrospective study of Medicare claims data showed that PDP increased the risk of institutionalization 3-fold compared with PD without psychosis.²² Annualized all-cause health care resource utilization (including inpatient admissions, ED visits, outpatient appointments, skilled nursing facility use, and home health/hospice services) were almost twice as high in patients with PDP than in those without PDP.²² Moreover, PDP was associated with an approximately 34% greater risk of mortality compared with PD alone.²²

Many patients with PD who are admitted to the hospital for psychosis will end up going into a long-term care facility, according

to Pagan. The use of long-term care facilities, ED admissions and hospitalizations, and overall health care resource utilization increase substantially with psychosis.^{17,25} Appropriate management and treatment options can help to lessen the severity of PDP experienced by patients.²⁵

TREATMENT STRATEGIES FOR PD-RELATED PSYCHOSIS

Medical management of PDP aims to reduce the frequency and severity of psychotic symptoms with minimal worsening of PD motor symptoms.²⁶ Traditional management of PDP was challenging given a lack of effective and well-tolerated pharmacological treatment options.²⁷ Off-label use of some atypical antipsychotics may worsen motor symptoms by antagonizing dopaminergic receptors.²⁵ Pimavanserin, which is an atypical antipsychotic, is the only drug approved by the FDA for the treatment of hallucinations and delusions associated with PDP.^{16,28} In vitro, pimavanserin is a selective serotonin 5-hydroxytryptamine 2A inverse agonist and

Table 1. Proposed Diagnostic Criteria for PDP¹⁶

<ul style="list-style-type: none"> • Established PD diagnosis • ≥ 1 of the following¹⁸: <ul style="list-style-type: none"> » illusions; » false sense of presence (eg, an unseen person); » hallucinations (eg, visual image of people); and » delusions • Symptoms lasting ≥ 1 month¹⁸ • Symptoms (listed above) occurring after PD onset¹⁸ • Occurrence with or without dementia, insight, medications for PD¹⁸

PD, Parkinson disease; PDP, Parkinson disease psychosis.

Derived from the provisional criteria for psychosis associated with Parkinson’s disease developed by the National Institute of Mental Health (NIMH) and the National Institute of Neurological Disorders and Stroke (NINDS) in Ravina et al, 2007.

Table 2. Extrinsic and Intrinsic Risk Factors for PDP^{16,19,20}

Extrinsic	Intrinsic
<ul style="list-style-type: none"> • Dopaminergic medications • Medications that can initiate a psychotic episode (eg, anticholinergics) 	<ul style="list-style-type: none"> • Visual processing deficits • Sleep dysregulation • Neurochemical and structural abnormalities with site-specific Lewy body deposition • Genetics • Duration and severity of illness • Advanced age • Cognitive impairment and dementia • Depression

PDP, Parkinson disease psychosis.

antagonist with no affinity for dopaminergic, adrenergic, histaminergic, or muscarinic receptors.²⁸

Evidence-Based Recommendations for Atypical Antipsychotics

The atypical antipsychotic pimavanserin was incorporated into the updated evidence-based recommendations from the 2019 International Parkinson and Movement Disorder Society (MDS) Evidence-Based Medicine (EBM) Committee and the American Geriatrics Society (AGS) Beers Criteria for Potentially Inappropriate Medication Use in Older Adults for the treatment of patients with PDP based on its efficacy and safety in clinical trials.^{29,30} The MDS EBM recommended against olanzapine use due to poor efficacy and an unacceptable safety risk

(**Table 3**).²⁹ Clozapine is used off label; it is considered “clinically useful,” and its safety profile is acceptable if monitored. There is insufficient evidence for the efficacy of low-dose quetiapine in PDP; however, it is rated as “possibly useful” due to an acceptable safety profile and the lack of specialized monitoring. Quetiapine is used off label for PDP, but there have been no high-quality randomized trial results offering strong evidence suggesting its efficacy.²⁹

Pimavanserin was added as one of the preferred treatments in the AGS 2019 Beers Criteria, and aripiprazole was removed due to efficacy and safety concerns.³⁰ Quetiapine, clozapine, and pimavanserin are exceptions to the strong recommendation to avoid the use of all antipsychotics in patients with PD who are aged at least 65 years. Pimavanserin and clozapine are less likely to worsen PD motor

IMPORTANT SAFETY INFORMATION and INDICATION for NUPLAZID® (PIMAVANSERIN) WARNING: INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS

- **Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death.**
- **NUPLAZID is not approved for the treatment of patients with dementia-related psychosis unrelated to the hallucinations and delusions associated with Parkinson’s disease psychosis.**

- **Contraindication:** NUPLAZID is contraindicated in patients with a history of a hypersensitivity reaction to pimavanserin or any of its components. Rash, urticaria, and reactions consistent with angioedema (e.g., tongue swelling, circumoral edema, throat tightness, and dyspnea) have been reported.
- **Warnings and Precautions:** QT Interval Prolongation
 - › NUPLAZID prolongs the QT interval. The use of NUPLAZID should be avoided in patients with known QT prolongation or in combination with other drugs known to prolong QT interval including Class 1A antiarrhythmics or Class 3 antiarrhythmics, certain antipsychotic medications, and certain antibiotics.
 - › NUPLAZID should also be avoided in patients with a history of cardiac arrhythmias, as well as other circumstances that may increase the risk of the occurrence of torsade de pointes and/or sudden death, including symptomatic bradycardia, hypokalemia or hypomagnesemia, and presence of congenital prolongation of the QT interval.
- **Adverse Reactions:** The common adverse reactions ($\geq 2\%$ for NUPLAZID and greater than placebo) were peripheral edema (7% vs 2%), nausea (7% vs 4%), confusional state (6% vs 3%), hallucination (5% vs 3%), constipation (4% vs 3%), and gait disturbance (2% vs <1%).
- **Drug Interactions:**
 - › Coadministration with strong CYP3A4 inhibitors (e.g., ketoconazole) increases NUPLAZID exposure. Reduce NUPLAZID dose to 10 mg taken orally as one tablet once daily.
 - › Coadministration with strong or moderate CYP3A4 inducers reduces NUPLAZID exposure. Avoid concomitant use of strong or moderate CYP3A4 inducers with NUPLAZID.

Indication

NUPLAZID is indicated for the treatment of hallucinations and delusions associated with Parkinson’s disease psychosis.

Dosage and Administration

Recommended dose: 34 mg capsule taken orally once daily, without titration.

NUPLAZID is available as 34 mg capsules and 10 mg tablets.

Please read the accompanying full **Prescribing Information**, including **Boxed WARNING**.

4 See Important Safety Information including **Boxed WARNING** on page 4.
Please read the accompanying full Prescribing Information.

symptoms.³⁰ Quetiapine was assessed in low-quality clinical studies, and its efficacy was similar to that of placebo in 5 trials and to that of clozapine in 2 other studies. One of the biggest challenges with clozapine is that continued use requires weekly monitoring of blood counts. Pimavanserin does not require any specific monitoring.^{29,30} The AGS Beers Criteria also strongly recommend avoiding the use of antiemetics in patients with PD, as they have the potential to worsen parkinsonian symptoms.³⁰ The quality of evidence for all AGS recommendations is moderate.³⁰

Use of Atypical Antipsychotics in the Real World

Despite the availability of pimavanserin, many patients with PDP are still being prescribed off-label antipsychotics.³¹ In the real world, continuation of antipsychotic therapy varies by the agent used. A retrospective cohort study explored ongoing use of antipsychotics among US commercially insured adults with PDP aged 40 years or more who, as evidenced by pharmacy claims, had been newly prescribed either pimavanserin, quetiapine, clozapine, aripiprazole, risperidone, or olanzapine (N = 3566). The objectives included exploring 6-month continuation of overall (any) antipsychotic therapy and the initial (first prescribed) antipsychotic therapy. Clozapine use was too rare to include in the statistical analysis.³⁷

Results showed that, overall, 38.6% of patients discontinued antipsychotic therapy within 6 months after the first prescription. The rate of discontinuation was higher with use of quetiapine vs

pimavanserin (adjusted hazard ratio [AHR], 1.76; 95% CI, 1.40-2.20), aripiprazole vs pimavanserin (AHR, 2.15; 95% CI, 1.61-2.86), risperidone vs pimavanserin (AHR, 2.12; 95% CI, 1.66-2.72), and olanzapine vs pimavanserin (AHR, 2.07; 95% CI, 1.60-2.67).³⁷ A few limitations of this analysis were that the database included commercially insured individuals (versus Medicare individuals only), excluded clinical documentation of treatment response from antipsychotics and other treatments, and excluded claims within 6 months of initiating antipsychotic therapy. In addition, the sample sizes were small for in-depth comparisons.³⁷

Medication Management in PDP

Patients with PDP often have multiple comorbidities and multiple prescribers who may not always communicate with one another, according to Maria Lopes, MD, MS. She said, “We end up with multiple medications piled on top of each other with an opportunity to improve care management and pharmacy-led outreach.”

A coordinated approach to medications may reduce hospitalizations in patients with PD and improve outcomes, thereby reducing costs. Lopes stated, “If you have government programs, you have incentives to improve HEDIS [Healthcare Effectiveness Data and Information Set], and Medicare Star [Ratings, and] these are usually part of medication management. There’s usually outreach by clinical pharmacists to provide patient education and pharmacy drug reconciliation and assist patients with affordability issues.”

Table 3. Interventions to Treat Psychosis in PD²⁹

Drug	Efficacy	Safety ^a	Practice implications
Clozapine	Efficacious	Acceptable risk with specialized monitoring	Clinically useful
Olanzapine	Not efficacious	Unacceptable risk	Not useful
Quetiapine	Insufficient evidence	Acceptable risk without specialized monitoring	Possibly useful ^b
Pimavanserin	Efficacious	Acceptable risk without specialized monitoring ^c	Clinically useful

PD, Parkinson disease.

^aThe FDA mandates that antipsychotic drug manufacturers add black box warnings to labels and prescribing information because of the link found between antipsychotics and an increased mortality risk in elderly dementia patients. Moreover, antipsychotic medication may be associated with QT interval prolongation.³²

^bAlthough there is insufficient evidence for quetiapine to be rated for the treatment of psychosis in PD, the practice implication is “possibly useful.” There are no high-quality randomized controlled trials available for the treatment of quetiapine for psychosis in PD, and quetiapine was similarly efficacious to clozapine in the clozapine-controlled trials.

^cThere is a lack of safety data regarding durability beyond 6 weeks. There were more serious adverse events in the pimavanserin arm (7.9%) when compared with the placebo arm (3.5%), but without a unifying pattern; as such, it is difficult to interpret these as drug related.³³ Nevertheless, the FDA conducted an evaluation of available information about pimavanserin after the publication of reports of postmarketing adverse events.³⁴ Based on the analysis of all available data, the FDA did not identify any new or unexpected safety findings with pimavanserin. After a thorough review, the FDA’s conclusion remains unchanged that the drug’s benefits outweigh its risks for patients with hallucinations and delusions of PD psychosis.³⁵ The FDA did not identify any new or unexpected safety risks, but there should be awareness of the possible adverse effects of pimavanserin, including QT prolongation (especially with the concomitant use of other antipsychotic drugs or drugs that can cause QT prolongation) and a potential to cause a paradoxical worsening of symptoms.³⁶

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Important Considerations

- 1) This reflects the MDS commissioned review and is provided for educational purposes only. Acadia does not recommend any drug for an indication not approved by the FDA.
- 2) Comparisons of efficacy or safety between or among drugs should not be drawn or inferred in the absence of head-to-head clinical data.
- 3) Please review full Prescribing Information for specific safety monitoring required for drugs listed above.

Understanding that patients with PD have multiple comorbidities, multiple health care providers, and various medications that can impact their PD is essential to improving outcomes in this patient population, and it underscores the need for improved payer-driven coordination of care. It is also important to acknowledge the role of the caregiver, as they are most familiar with the prescription regimen and its impact on patients.

Stratification and Utilization Management Strategies for PDP Therapies

Low-cost atypical antipsychotics, such as clozapine and quetiapine, do not require prior authorization, and there are generally no step-edits associated with atypical antipsychotics.³⁸ Lopes stated that other generic atypical antipsychotics and benzodiazepines don't require prior authorization, and she noted that "from a patient safety perspective, these agents can hurt our quality scores and add to costs, including increased risk of falls and fractures." Bhavesh Shah, RPh, BCOP, echoed this sentiment, but noted that "more and more payers are recognizing that...the available agents [used off-label] have more [adverse] effects and [are] probably not friendly for patients who are elderly."

Even though pimavanserin is the only FDA-approved treatment for hallucinations and delusions associated with PDP, some plans have special requirements and necessitate confirmation of a PD diagnosis as part of prior authorization.^{28,39} Shah acknowledged that some payers may have a physician try 2 generics before allowing a branded agent. He stated that "it is definitely hard to control various criteria with the multiple medications...[but I recognize] that there is a [proven safe] option for patients." Faculty noted that with an established safety profile, pimavanserin should not involve "an onerous process for prior authorization." However, Lopes stated that there "is a differential tiering, and [it] possibly [may] be at a higher cost-share to the patient. There are also usually quantity limits, as per the package insert, usually [30 or] 60 for a 30-day supply per fill. There may be a reauthorization." She indicated that this typically occurs at 6 or 12 months, and it may be as simple as an attestation from the provider to indicate whether the drug is providing clinical benefit, perhaps even based on the caregiver experience.

Although these policies may seem simple, they are additional steps within a resource-strapped population. Pagan noted that "a lot of our primary care physicians are definitely seeing so many patients that they don't have time to prescribe some of these advanced therapies and fill out all the paperwork and pages of forms to be able to do that." For example, although the vast majority of payers require only a diagnosis confirmation, some commercial plans have step therapy requirements that can lead to delays in appropriate care.⁵

It is important for payers to take on a more active role in care coordination, as PD management can place a significant burden on providers, especially given the limited support received from movement disorder specialists and neurologists in this field. The need for neurologists is predicted to outpace the supply through 2025, thereby limiting access to care, especially for those with chronic neurologic conditions.⁶ Results from a retrospective cohort study on Medicare beneficiaries with PD indicated that those who received neurologist

care experienced a decreased risk for hip fracture (OR, 0.86; 95% CI, 0.80-0.92), a decreased risk of being placed in a skilled nursing facility within a year of diagnosis (OR, 0.79; 95% CI, 0.77-0.82), and (compared to those who saw only a primary care provider) a decreased risk for mortality within 6 years following diagnosis (HR, 0.78; 95% CI 0.77-0.79).⁴⁰ Regarding patients who are not managed by a movement disorder specialist, Pagan noted that it can be "hard to treat [them] for the first time in the hospital."

Payers should also receive education to ensure that patients with PD are receiving the appropriate medications for PD and their comorbidities and not receiving medications that could exacerbate PDP or worsen motor symptoms of PD (ie, off-label antipsychotics). Pagan stressed the need for better data that would educate payers on the role of continued, appropriate treatment in reducing hospitalizations.

Education is necessary for improved outcomes in PD, but it is also essential within an integrated care network to help identify psychosis within the PD population and ensure that patients are receiving an appropriate treatment. Pagan stated, "When I see patients who are being seen by nonmovement disorder doctors, usually, a lot of our patients have only been offered 1 medicine—that's it—throughout their whole course. I've seen patients with 17 years of PD, and some of the nonmotor issues have not been addressed. Even the therapeutics that they're on—it's like we're stuck in 1975, because those are easy to prescribe, and no prior authorizations are necessary." Such stories from those in practice clearly indicate the need for better management of patients with PD.

MULTIDISCIPLINARY APPROACH: BALANCING POPULATION DISEASE MANAGEMENT WITH PATIENT CARE

Multidisciplinary patient-centered care can improve outcomes in PD and ensure that patients and their families are the central focus during a patient's journey. Such an approach enables patients to access various members of the health care team, especially as their needs change during the course of their disease.⁴¹ According to Lopes, although we often "look to the PCP in terms of the quality metrics, [many] physicians or clinicians may be touching the patient at different points in that journey." She acknowledged that such a complex patient who probably has other comorbidities and is on numerous medications provides "a substantial opportunity to improve communication among clinicians" including that regarding medication management. Pagan shared that his "Shangri-La [for a] patient with Parkinson [disease] would be a movement disorder neurologist working together with a primary care physician." Shah recognized the need for a patient-centered behavioral health model, indicating that most of the pieces already exist, and there "just needs to be kind of a structured model that you have [at each] institution."

Patient Characteristics

There are few real-world studies examining the patient journey for those with PDP, including patient characteristics and treatment patterns for currently available antipsychotics including pimavanserin.³⁹

6 See Important Safety Information including **Boxed WARNING** on page 4. Please read the accompanying full Prescribing Information.

However, a recent retrospective analysis using medical and pharmacy claims data in over 40,000 patients with PDP sought to better describe this population and compare those given pimavanserin with those given other atypical antipsychotics.³⁹ Patients with PDP were most frequently men, and most were at least 70 years old.³⁹ The majority (70%) had a least 1 cardiometabolic comorbidity. Patients with PDP who were given pimavanserin began treatment later in their course of illness, spent more time in skilled nursing facilities, and had more PDP events prior to treatment initiation than did patients with PDP who were given other atypical antipsychotics.³⁹ Patients with PDP who received pimavanserin also had a higher prevalence of dementia-related comorbidities than did those who received other antipsychotic therapies. During the 2-year retrospective study, patients with PDP who were given pimavanserin had fewer episodes than did those given other antipsychotics (1.1 vs 1.5), indicating fewer overall treatment disruptions.³⁹ Results from any retrospective study are subject to limitations of any claims data analysis, including potential miscoding, undercoding, or other issues that are characteristic of claims data used for billing and reimbursement purposes. Confounding bias of variables may exist, since matching was not conducted for the baseline characteristics.

PREDICTIVE ANALYTICS FOR POPULATION HEALTH MANAGEMENT

Payers can implement predictive analytics and artificial intelligence to identify patients with PD and psychosis who are at risk of high health care utilization; payers can also develop strategies to minimize preventable hospitalizations, readmissions, and long-term care use. Lopes agreed that payers are aligned, at least in principle, with movement disorder specialists to avoid preventable hospitalizations or readmissions. She stated, “At the time of discharge, a careful transition in care plan to ensure appropriate follow up, patient support, and care management interventions to prevent readmission and ED visits.” Pagan stated, “At least once a year, we assess whether...the patient was referred to physical therapy or occupational therapy.” He considers whether patients are candidates for nonpharmacologic therapy or surgery (eg, deep brain stimulation) and screens for psychiatric issues and cognition. “My number 1 goal as a movement disorder specialist is to keep my patient out of the hospital,” he said. Jones reiterated the importance of the role of the care partner “because...the care partner, oftentimes can be what triggers a hospital visit. When their loved one doesn’t understand what’s going on, [they feel] unable to navigate it and deal with it, and, as a result, will take the patient with PD to the [ED].” It is important to put “[patients] on the appropriate treatments to at least try to mitigate some of the symptoms that they’re experiencing. That is one of the preventative ways to reduce hospital visits.”

Use of analytics and application of the data can enable payers to take appropriate steps for population health management. This may include integration of screening for risk factors and treatment or management care pathways into electronic medical records. One strategy that has been explored included the use of a medication-based algorithm to identify patients with advanced PD in administrative

claims data.⁴² Dahodwala et al used 2013 Medicare prescription drug claims in patients with PD at least 65 years of age to identify patients with clinical markers of greater disease severity.⁴² Knowing disease severity within a population is useful for treatment selection and patient management and enables better insight regarding the burden of disease, disease progression, patient characteristics, and treatment and adherence patterns.⁴² This information is invaluable for payers who rely on administrative claims data to identify patients for disease management or medication management programs. Such data can also facilitate population-level research in PD regarding comparative effectiveness, health care utilization, and its economic burden.⁴² Importantly, identification of patients in the early stages of PD represents a tremendous opportunity to identify patients who may benefit the most from tailored management of their disease and thereby improve outcomes.⁴²

THE ROLE OF THE AMERICAN ACADEMY OF NEUROLOGY AND THE MERIT-BASED INCENTIVE PAYMENT SYSTEM IN QUALITY CARE METRICS

The American Academy of Neurology (AAN) issued the 2020 Parkinson Disease Quality Measure Set, which complements other neurology AAN quality measure sets and includes an annual assessment of psychiatric disorders in patients with PD.⁴³ The 10 quality measures for PD included in the set are listed in [Table 4](#).⁴³ Pagan spoke of these measures, stating that it is important “to take a look at any psychiatric disorders or any disturbances, so here’s where PDP would definitely fall into this, assessing that at least on an annual basis. [We look at cognitive impairment or dysfunction] on an annual basis. Querying about autonomic dysfunction, a nonmotor symptom that gets overlooked quite frequently, querying about sleep disturbances—this is something that we pretty much do at every visit. We have a lot of sleep disorders in PD; [this should be investigated at the least] on an annual basis.” In addition to the AAN PD Quality Measure Set, annual assessment of psychiatric symptoms in patients with PD is part of the 2021 CMS Merit-based Incentive Payment System (MIPS) clinical quality measures.⁴⁴

As Lopes discussed, “Quality measures definitely drive the focus in terms [of], and align incentives with providers with pay for, performance and value-based agreements. Quality also is important for accreditation ([from the] National Committee for Quality Assurance or the Utilization Review Accreditation Commission or [according to performance on] Medicare Stars) [and for] short term return on investment if we can improve our performance measures as well as total costs.” She also stressed, “The importance of standardization, the importance of having a measure that is part of HEDIS or Stars, [this is] a catalyst to drive quality improvement and a more proactive approach.” Shah pointed out, “There’s a lot of coordination that will need to happen if we’re going to aggressively measure quality for this disease. However, we’ll probably have more efforts towards measuring quality around PD, because, as you see that population growing, it’s definitely going to become more of an impact on your total cost of care.”

LOOKING AHEAD

Discussions from the roundtable meeting demonstrated that there are opportunities to improve patient-centered care among patients with PDP. As Pagan stated, “We have a saying in PD: if you’ve met 1 [patient with PD], you’ve met 1 [patient with PD]. It’s [true that] every single person is different. There’s no typical presentation.”

Appropriate management of PD and PDP may reduce health care system costs and improve the QOL of patients and their caregivers.^{15,25} More data are needed to educate payers on the role of appropriate therapy in reducing hospitalizations and minimizing costs. It is clear that better strategies need to be in place to screen for PDP.^{17,39}

A variety of efforts can help to ensure optimal outcomes in patients with PD, including improved care coordination and the incorporation of specialty health care.^{17,45} Step therapy requirements that contribute to delayed care among certain commercial plans could be avoided. Payer-driven education for providers is essential to communicate the safety and efficacy of atypical antipsychotics in PDP and new treatment options. Additionally, analytics and application of the data can enable payers to take appropriate steps for population health management.⁴²

Pagan believes that “we still need a lot more research in how to properly treat these patients. Treatment of [patients with] PDP is

relatively new in the whole spectrum of the whole disorder. We’re basically at 50 years of treatment, just for the motor symptoms. For PDP, now it’s less than 5 years.” However, new initiatives aimed to improve patient-centered care in PD make the future look bright. ●

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Table 4. 2020 AAN PD Measurement Set⁴³

Quality measure	Exceptions
1 Annual PD diagnosis review	—
2 Contraindicated dopamine-blocking medications	Patients who are taking clozapine, quetiapine, or domperidone
3 Assessment of PD medication-related motor complications	Patient is not able to participate in assessment or there is no person with such knowledge.
4 PD rehabilitative therapy referral	Patient or care provider declines referral; clinician determines patient does not require referral; or patient is already receiving physical, occupational, speech, or recreational therapy during the measurement period.
5 Exercise or physical activity counseling	Patient or care provider declines counseling; a comorbid condition makes the patient unfit to participate in physical activity; patient is not able to participate in counseling; or there is no person to provide relevant information.
6 Assessment of mood disorders and psychosis	—
7 Assessment of impulse control disorders	—
8 Assessment of sleep disturbances	—
9 Assessment of cognitive impairment or dysfunction	Patient or care provider declines assessment; patient is not able to participate in assessment; or there is no person to provide relevant information.
10 Assessment of autonomic dysfunction	—

AAN, American Academy of Neurology; PD, Parkinson disease.

Derived from Chou KL, Martello J, Atem J, et al. Quality improvement in neurology: 2020 Parkinson disease quality measurement set update. *Neurology*. 2021;97(5):239-245. doi:10.1212/WNL.0000000000001298

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