



Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

Brief Measure Information

NQF #: 1879

Corresponding Measures:

De.2. Measure Title: [Adherence to Antipsychotic Medications for Individuals with Schizophrenia](#)

Co.1.1. Measure Steward: [Centers for Medicare & Medicaid Services](#)

De.3. Brief Description of Measure: Percentage of individuals at least 18 years of age as of the beginning of the measurement period with schizophrenia or schizoaffective disorder who had at least two prescription drug claims for antipsychotic medications and had a Proportion of Days Covered (PDC) of at least 0.8 for antipsychotic medications during the measurement period (12 consecutive months).

1b.1. Developer Rationale: We envision several important benefits related to quality improvement with the implementation of this measure. Specifically, the measure will help providers to identify patients who are not adherent (at a critical threshold of 0.8 or greater) to treatment with antipsychotic medications. Guidelines from the American Psychiatric Association (APA) and the National Institute for Clinical Excellence (NICE) emphasize the importance of treatment adherence and uninterrupted antipsychotic regimens to prevent symptoms and relapse. Furthermore, this measure will encourage providers to develop interventions to improve adherence for this high-risk population. The APA guidelines recommend the reasons for nonadherence be considered in the patient's treatment plan. Improved medication adherence would be expected to result in improved symptom control for individuals and a reduction in hospitalizations. Such changes have the potential to improve the quality of care for individuals with schizophrenia and, therefore, advance the quality of care in the area of mental health, a priority area identified by the National Priorities Partnership.

S.4. Numerator Statement: Individuals with schizophrenia or schizoaffective disorder who had at least two prescription drug claims for antipsychotic medications and have a PDC of at least 0.8 for antipsychotic medications.

S.6. Denominator Statement: Individuals at least 18 years of age as of the beginning of the measurement period with schizophrenia or schizoaffective disorder and at least two prescription drug claims for antipsychotic medications during the measurement period (12 consecutive months).

S.8. Denominator Exclusions: Individuals with any diagnosis of dementia during the measurement period.

De.1. Measure Type: [Process](#)

S.17. Data Source: [Claims](#)

S.20. Level of Analysis: [Clinician : Group/Practice, Health Plan, Population : Regional and State](#)

IF Endorsement Maintenance – Original Endorsement Date: [Nov 02, 2012](#) **Most Recent Endorsement Date:** [Oct 26, 2018](#)

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? [Not Applicable. This measure is not paired.](#)

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-

than-optimal performance. ***Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.***

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[1879_Adherence_to_Antipsychotic_Medications_Evidence-636614612743152050.docx](#)

1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

Yes

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.

We envision several important benefits related to quality improvement with the implementation of this measure. Specifically, the measure will help providers to identify patients who are not adherent (at a critical threshold of 0.8 or greater) to treatment with antipsychotic medications. Guidelines from the American Psychiatric Association (APA) and the National Institute for Clinical Excellence (NICE) emphasize the importance of treatment adherence and uninterrupted antipsychotic regimens to prevent symptoms and relapse. Furthermore, this measure will encourage providers to develop interventions to improve adherence for this high-risk population. The APA guidelines recommend the reasons for nonadherence be considered in the patient's treatment plan. Improved medication adherence would be expected to result in improved symptom control for individuals and a reduction in hospitalizations. Such changes have the potential to improve the quality of care for individuals with schizophrenia and, therefore, advance the quality of care in the area of mental health, a priority area identified by the National Priorities Partnership.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. (This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

PERFORMANCE BASED ON PHYSICIAN QUALITY REPORTING SYSTEM (PQRS) DATA FOR ELIGIBLE PROFESSIONALS (EP):

The following data are extracted from the Physician Compare 2015 Individual EP Public Reporting – Performance Scores file reflecting the most up to date performance data available for this measure. EP performance data is summarized by mean, standard deviation, minimum EP performance, maximum EP performance and performance at 10th, 25th, 50th, 75th, and 90th percentile.

Adherence to antipsychotic medications for individuals with schizophrenia –

YEAR | N | MEAN | ST DEV | 10TH | 25TH | 50TH | 75TH | 90TH | INTERQUARTILE RANGE

2015 | 80 | 72.7% | 36.4% | 10% | 33.75% | 100% | 100% | 100% | 66.25

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

OVERVIEW

Six studies (Lefeuille et al., 2016; Beebe et al., 2016; Lang et al., 2010; Martin et al., 2009; Ward et al. 2006; Gilmer et al., 2004) demonstrate low rates of adherence among individuals with schizophrenia who are prescribed antipsychotic medications. These low adherence rates were corroborated by the results of measure testing conducted by FMQAI (now HSAG) of Medicare data, which also showed considerable variation among providers. Both the low rates of adherence and variation among providers indicate a performance gap in the treatment of individuals with schizophrenia. Reported rates of adherence to antipsychotic medications (defined as a PDC or MPR of 0.8 or greater) among persons with schizophrenia range from 41 to 70 percent in these six studies. Martin et al. (2009) suggests that PDC is the most appropriate metric for measuring adherence to antipsychotics. The published studies and the testing results are described below.

PUBLISHED STUDIES:

LAFEUILLE ET AL. (2016): A retrospective study of Medicaid claims between 2008 and 2011 from 5 states found that among nearly 13,000 patients who received antipsychotics during the study period, 48.6 percent met the HEDIS measure's (Adherence to Antipsychotic Medications for Individuals with Schizophrenia) criteria for achieved continuity (PDC =80 percent). Rates were similar between patients receiving paliperidone palmitate (46.3 percent) and those receiving other antipsychotics (48.7 percent). Patients that met continuity criteria during the baseline year were more likely to be adherent in the measurement year (76.2 percent) than patients non-adherent in the baseline year (27.3 percent) ($p<0.001$).

BEEBE ET AL. (2016): One cross sectional descriptive study on 185 stable outpatients (i.e. did not include first episode participants) with schizophrenia spectrum disorders found adherence to antipsychotics determined through pill counts ranged from 0 to 100 percent with a mean of 70 percent (SD 34.9).

LANG ET AL. (2010): A recent study (Lang et al., 2010) was a retrospective analysis using claims data (July 1, 2004 - June 30, 2005) that identified 12,032 Florida Medicaid recipients with a diagnosis of schizophrenia who were prescribed an antipsychotic medication and were followed for one year after the prescription. During the one-year follow-up, only 66 percent of patients were adherent (MPR 80 percent or greater), 20 percent were partially adherent (MPR greater than or equal to 50 percent and less than 80 percent), and 14 percent were non-adherent (MPR < 50 percent).

MARTIN ET AL. (2009): Using data for patients with schizophrenia, this retrospective study analyzed North Carolina Medicaid administrative claims data from July 1999 to June 2000 with a final sample of 25,200 person-quarters with data from 7069 individuals. The study demonstrated that PDC was a more conservative metric compared to MPR and recommended that for drug classes such as antipsychotics the PDC should be used to measure adherence. The result of the analysis for PDC of patients that were adherent (PDC of 0.8 or greater) by quarter was approximately 41 percent.

WARD ET AL. (2006): A third study (Ward et al., 2006) was also a retrospective analysis of persons diagnosed with schizophrenia in two Canadian provinces. The level of adherence to the atypical antipsychotic medications (risperidone, olanzapine, or quetiapine) was measured among 41,754 and 3,291 patients in Quebec and Saskatchewan, respectively. During the follow-up period (mean of 2.6 and 3.1 years in Quebec and Saskatchewan, respectively), only 61.4 percent (Quebec) and 45.1 percent (Saskatchewan) of patients had good adherence (MPR 80 percent or greater).

GILMER ET AL. (2004): Similarly, a fourth study (Gilmer et al., 2004) was a retrospective study that analyzed adherence to antipsychotic medications for persons with schizophrenia in San Diego County, representing 2801 person-years. Using Medicaid claims data for fiscal years 1999 and 2000, they found that only 41 percent of patients were adherent (MPR 80 percent or greater), 16 percent were partially adherent (MPR greater than or equal to 50 percent and less than 80 percent), and 24 percent were non-adherent (MPR < 50 percent) during the year following study enrollment.

References:

Beebe, L. H., Smith, K., and Phillips, C. (2016) Descriptions and correlates of medication adherence, attitudes, and self-efficacy in outpatients with schizophrenia spectrum disorders (SSDs). *Archives of Psychiatric Nursing*, 30(3), 400-405.

Gilmer, T. P., Dolder, C. R., Lacro, J. P., Folsom, D. P., Lindamer, L., Garcia, P., et al. (2004). Adherence to treatment with antipsychotic medication and health care costs among Medicaid beneficiaries with schizophrenia. *American Journal of Psychiatry*, 161(4), 692-9.

Lafeuille, M., Frois, C., Cloutier, M., Duh, M. S., Lefebvre, P., Pesa, J., and ... Durkin, M. (2016). Factors associated with adherence to the HEDIS quality measure in Medicaid patients with schizophrenia. *American Health and Drug Benefits*, 9(7), 399-409.

Lang, K., Meyers, J. L., Korn, J. R., Lee, S., Sikirica, M., Crivera, C., et al. (2010). Medication adherence and hospitalization among patients with schizophrenia treated with antipsychotics. *Psychiatr Serv*, 61(12), 1239-1247.

Martin, B. C., Wiley-Exley, E. K., Richards, S., Domino, M. E., Carey, T. S., and Sleath, B. L. (Jan 2009). Contrasting measures of adherence with simple drug use, medication switching, and therapeutic duplication. *Ann Pharmacother*, 43(1), 36-44.

Ward, A., Ishak, K., Proskorovsky, I., and Caro, J. (2006). Compliance with refilling prescriptions for atypical antipsychotic agents and its association with the risks for hospitalization, suicide, and death in patients with schizophrenia in Quebec and Saskatchewan: A retrospective database study. *Clin Ther*, 28(11), 1912-1921.

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. *(This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

We analyzed 2007-2008 claims data for 36,307 Medicare beneficiaries with schizophrenia. A consistent pattern was observed with adherence rates for antipsychotic medication being substantially lower among African-American and Hispanic persons with schizophrenia compared with Whites. For all age groups combined, the adherence rates were 63.6 percent and 66.0 percent for African-American and Hispanic persons, respectively as compared to, 79.0 percent for White persons. Additionally, adherence rates were lower among African-American and Hispanic persons than among White persons in every age group.

In regard to age-related disparities, adherence rates were lower among persons 18-44 years of age (i.e., 64.8 percent (18-24 years) and 70.8 percent (25-44 years)) as compared to those over 45 years of age (i.e., 77.6 percent (45-64 years), 76.5 percent (65-74 years), 77.8 percent (75-84 years), and 77.8 percent (85 years and older)). This pattern of lower adherence rates in younger persons was generally consistent across ethnic groups (White, African-American, and Hispanic persons).

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4

Substantial disparities in adherence rates for antipsychotic medications have been observed between race/ethnicity groups and age groups among persons with schizophrenia in published studies and in our testing results. One recent study did not find significant associations between adherence and patient characteristics in stable outpatients (i.e. patients who are not experiencing their first episode of psychosis).

PUBLISHED STUDIES

Six studies described in this section (Garcia et al., 2016; Lafeuille et al., 2016; Beebe et al., 2016; Busch, Lehman, Goldman, and Frank, 2009; Ahn et al., 2008; Gilmer et al., 2004; Valenstein et al., 2004) reported lower adherence rates among African-American or Hispanic persons with schizophrenia as compared to White persons with Schizophrenia. One study did not find significant differences among racial/ethnic groups in stable outpatients (Beebe et al., 2016).

GARCIA ET AL. (2016): This systematic review found age, race, and education to be associated with adherence rates. Younger patients were less adherent than older patients, black patients had lower adherence rates than white patient, and patients with lower levels of education had poorer adherence. The review found economic and transportation barriers hinder patient's adherence to treatment.

LAFEUILLE ET AL. (2016): A retrospective study of claims between 2008 and 2011 from 5 states found women (OR, 1.11; 95% CI, 1.01-1.22), age 55 to 64 compared to age 25-34 (OR, 1.26; 95% CI, 1.09-1.46), and Hispanic ethnicity compared to White (OR, 1.37; 95% CI, 1.05-1.81) were associated with higher odds of meeting continuity criteria (PDC > 0.8) for the Adherence to Antipsychotic Medications for Individuals with Schizophrenia HEDIS measure.

BEEBE ET AL. (2016): One study on 185 stable outpatients (i.e. patients who are not experiencing their first episode of psychosis) with schizophrenia spectrum disorders found no significant associations between adherence and age, diagnosis, gender, race, or education level.

BUSCH ET AL. (2009): In an observational study based on five years of claims data (July 1, 1996 to June 30, 2001), Busch et al. (2009) assessed quality of care related to the treatment of schizophrenia among 23,619 Medicaid enrollees in Florida. In comparing African-American patients with White patients in the maintenance phase, they reported a significantly lower rate among African-Americans for a measure related to adherence (i.e., having a continuous supply of an antipsychotic medication) (odds ratio 0.56; 95% CI 0.53-0.60).

AHN ET AL. (2008): In an analysis of 1994-2003 Medicaid claims data for 36,195 individuals with schizophrenia in California, being classified as non-adherent (defined using a medication possession ratio and other variables) was associated with being African-American or Hispanic.

GILMER ET AL. (2004): In a retrospective study using Medicaid claims data for fiscal years 1999 and 2000 in San Diego County (N=2801 person-years), the rate of adherence (MPR 0.8 or greater) was lower among African-Americans (34.9 percent) than among Whites (42.8 percent) or Hispanics (36.9 percent).

VALENSTEIN ET AL. (2004): In a claims-based study of 49,003 veterans with schizophrenia taking one antipsychotic medication during 12 months in 1998-1999, 54 percent of African-Americans were poorly adherent (MPR less than 0.8) compared to 32 percent of Whites in a descriptive analysis; in a logistic regression analysis, the odds ratio comparing the risk of poor adherence among African-Americans to Whites was 2.38 (95% CI 2.28-2.49).

References:

Ahn, J., McCombs, J. S., Jung, C., Croudace, T. J., McDonnell, D., Ascher-Svanum, H., et al. (2008). Classifying patients by antipsychotic adherence patterns using latent class analysis: Characteristics of nonadherent groups in the California Medicaid (Medi-Cal) Program. *Value in Health*, 11(1), 48-56.

Beebe, L. H., Smith, K., and Phillips, C. (2016) Descriptions and correlates of medication adherence, attitudes, and self-efficacy in outpatients with schizophrenia spectrum disorders (SSDs). *Archives of Psychiatric Nursing*, 30(3), 400-405.

Busch, A. B., Lehman, A. F., Goldman, H., and Frank, R. G. (2009). Changes over time and disparities in schizophrenia treatment quality. *Medical Care*, 47(2), 199-207.

Garcia, S., Martínez-Cengotitabengoa, M., López-Zurbano, S., et al. (2016). Adherence to antipsychotic medication in bipolar disorder and schizophrenic patients: a systematic review. *Journal of Clinical Psychopharmacology*, 36(4), 355-371.

Gilmer, T. P., Dolder, C. R., Lacro, J. P., Folsom, D. P., Lindamer, L., Garcia, P., et al. (2004). Adherence to treatment with antipsychotic medication and health care costs among Medicaid beneficiaries with schizophrenia. *American Journal of Psychiatry*, 161(4), 692-9.

Lafeuille, M., Frois, C., Cloutier, M., Duh, M. S., Lefebvre, P., Pesa, J., and ... Durkin, M. (2016). Factors associated with adherence to the HEDIS quality measure in Medicaid patients with schizophrenia. *American Health and Drug Benefits*, 9(7), 399-409.

Valenstein, M., Blow, F. C., Copeland, L. A., McCarthy, J. F., Zeber, J. E., Gillon, L., et al. (2004). Poor antipsychotic adherence among patients with schizophrenia: Medication and patient factors. *Schizophrenia Bulletin*, 30(2), 255-64.

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. ***Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.***

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area (check all the areas that apply):
Behavioral Health

De.6. Non-Condition Specific(check all the areas that apply):
Disparities Sensitive

De.7. Target Population Category (Check all the populations for which the measure is specified and tested if any):
Elderly, Populations at Risk, Populations at Risk : Dual eligible beneficiaries

S.1. Measure-specific Web Page (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

Measure #383 at <https://www.cms.gov/Medicare/Quality-Payment-Program/Resource-Library/2017-Resources.html>

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure Attachment:

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

Attachment Attachment: [NQF_1879_Code_Tables_2018_Final.xlsx](#)

S.2c. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

No, this is not an instrument-based measure Attachment:

S.2d. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Not an instrument-based measure

S.3.1. For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

Yes

S.3.2. For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

- Updated NDCs as of February 20, 2018
- Removed medications lacking FDA approval for treatment of schizophrenia: pimozide and olanzapine-fluoxetine
- Added medications with FDA approval for treatment of schizophrenia: cariprazine, quetiapine fumarate (Seroquel), brexpiprazole, aripiprazole lauroxil (Aristada)

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Individuals with schizophrenia or schizoaffective disorder who had at least two prescription drug claims for antipsychotic medications and have a PDC of at least 0.8 for antipsychotic medications.

S.5. Numerator Details (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

The numerator is defined as individuals with a PDC of 0.8 or greater.

The PDC is calculated as follows:

PDC NUMERATOR

The PDC numerator is the sum of the days covered by the days' supply of all prescription drug claims for all antipsychotic medications. The period covered by the PDC starts on the day the first prescription is filled (index date) and lasts through the end of

the measurement period, or death, whichever comes first. For prescription drug claims with a days' supply that extends beyond the end of the measurement period, count only the days for which the drug was available to the individual during the measurement period. If there are claims for the same drug (generic name) on the same date of service, keep the claim with the largest days' supply. If claims for the same drug (generic name) overlap, then adjust the prescription start date to be the day after the previous fill has ended.

PDC DENOMINATOR

The PDC denominator is the number of days from the first prescription drug claim date through the end of the measurement period, or death date, whichever comes first.

S.6. Denominator Statement *(Brief, narrative description of the target population being measured)*

Individuals at least 18 years of age as of the beginning of the measurement period with schizophrenia or schizoaffective disorder and at least two prescription drug claims for antipsychotic medications during the measurement period (12 consecutive months).

S.7. Denominator Details *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Target population meets the following conditions:

1. Continuously enrolled in Medicare Part D with no more than a one-month gap in enrollment during the measurement period;
2. Continuously enrolled in Medicare Part A and Part B with no more than a one-month gap in Part A enrollment and no more than a one-month gap in Part B enrollment during the measurement period; and,
3. No more than one month of HMO (Health Maintenance Organization) enrollment during the measurement period.

IDENTIFICATION OF SCHIZOPHRENIA

Individuals with schizophrenia or schizoaffective disorder are identified by having a diagnosis of schizophrenia within the inpatient or outpatient claims data. Individuals must have:

At least two encounters with a diagnosis of schizophrenia or schizoaffective disorder with different dates of service in an outpatient setting, emergency department setting, or non-acute inpatient setting during the measurement period;

OR

At least one encounter with a diagnosis of schizophrenia or schizoaffective disorder in an acute inpatient setting during the measurement period.

CODES USED TO IDENTIFY SCHIZOPHRENIA OR SCHIZOAFFECTIVE DISORDER DIAGNOSIS

Codes used to identify schizophrenia or schizoaffective disorder are included in the attached excel worksheet of codes (NQF_1879_Code Tables_2018_Final.xlsx) under the tab NQF_1879_Schizophrenia.

Table 1: Schizophrenia or Schizoaffective Disorder Diagnosis

ICD-9-CM: 295.xx

ICD-10-CM: F20.0, F20.1, F20.2, F20.3, F20.5, F20.81, F20.89, F20.9, F25.0, F25.1, F25.8, F25.9

CODES USED TO IDENTIFY ENCOUNTER TYPE:

Codes used to identify encounters are under tab NQF_1879_Encounter_types.

Table 2.1: Outpatient Setting

Current Procedural Terminology (CPT): 98960-98962, 99078, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99385-99387, 99395-99397, 99401-99404, 99411, 99412, 99429, 99510

HCPCS: G0155, G0176, G0177, G0409-G0411, G0463, H0002, H0004, H0031, H0034-H0037, H0039, H0040, H2000, H2001, H2010-H2020, M0064, S0201, S9480, S9484, S9485, T1015

UB-92 revenue: 0510, 0511, 0513, 0516-0517, 0519-0523, 0526-0529, 0770, 0771, 0779, 0900-0905, 0907, 0911-0917, 0919, 0982, 0983

OR

CPT: 90791, 90792, 90832-90834, 90836-90840, 90845, 90847, 90849, 90853, 90863, 90867-90870, 90875, 90876, 90880, 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99291

WITH

Place of Service (POS): 03, 05, 07, 09, 11, 12, 13, 14, 15, 20, 22, 24, 33, 49, 50, 52, 53, 71, 72

Table 2.2: Emergency Department Setting

CPT: 99281-99285

UB-92 revenue: 0450, 0451, 0452, 0456, 0459, 0981

OR

CPT: 90791, 90792, 90832-90834, 90836-90840, 90845, 90847, 90849, 90853, 90863, 90867-90870, 90875, 90876, 99291

WITH

POS: 23

Table 2.3: Non-Acute Inpatient Setting

CPT: 99304-99310, 99315, 99316, 99318, 99324-99328, 99334-99337

HCPCS: H0017-H0019, T2048

UB-92 revenue: 0118, 0128, 0138, 0148, 0158, 0190-0194, 0199, 0524, 0525, 0550-0552, 0559, 0660-0663, 0669, 1000, 1001, 1003-1005

OR

CPT: 90791, 90792, 90832-90834, 90836-90840, 90845, 90847, 90849, 90853, 90863, 90867-90870, 90875, 90876, 99291

WITH

POS: 31, 32, 56

Table 2.4: Acute Inpatient Setting

UB-92 revenue: 0100, 0101, 0110-0114, 0119-0124, 0129-0134, 0139-0144, 0149-0154, 0159, 0160, 0164, 0167, 0169, 0200-0204, 0206-0209, 0210-0214, 0219, 0720-0724, 0729, 0987

OR

CPT: 90791, 90792, 90832-90834, 90836-90840, 90845, 90847, 90849, 90853, 90863, 90867-90870, 90875, 90876, 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99291

WITH

POS: 21, 51

IDENTIFICATION OF PRESCRIPTION DRUG CLAIMS FOR ANTIPSYCHOTIC MEDICATION:

Individuals with at least two prescription drug claims for any of the following oral antipsychotic medications (Table 3: Oral Antipsychotic Medications) or long-acting injectable antipsychotic medications (see Table 4: Long-acting injectable antipsychotic

medications). The National Drug Center (NDC) identifier for medications included in the measure denominator are listed in tab NQF_1879_ Antipsychotics of the attached excel workbook. Obsolete drug products are excluded from National Drug Codes (NDCs) with an inactive date more than six years prior to the beginning of the measurement period or look-back period.

TABLE 3: ORAL ANTIPSYCHOTIC MEDICATIONS

The following are oral formulations only.

Typical Antipsychotic Medications:

chlorpromazine
fluphenazine
haloperidol
loxapine
molindone
perphenazine
prochlorperazine
thioridazine
thiothixene
trifluoperazine

Atypical Antipsychotic Medications:

aripiprazole
asenapine
brexpiprazole
cariprazine
clozapine
iloperidone
lurasidone
olanzapine
paliperidone
quetiapine
quetiapine fumarate (Seroquel)
risperidone
ziprasidone

Antipsychotic Combinations:

perphenazine-amitriptyline

TABLE 4: LONG-ACTING INJECTABLE ANTIPSYCHOTIC MEDICATIONS

The following are the long-acting (depot) injectable antipsychotic medications by class for the denominator. The route of administration includes all injectable and intramuscular formulations of the medications listed below.

Typical Antipsychotic Medications:

fluphenazine decanoate (J2680)
haloperidol decanoate (J1631)

Atypical Antipsychotic Medications:

aripiprazole (J0401)
aripiprazole lauroxil (Aristada)
olanzapine pamoate (J2358)
paliperidone palmitate (J2426)
risperidone microspheres (J2794)

Note: Since the days' supply variable is not reliable for long-acting injections in administrative data, the days' supply is imputed as listed below for the long-acting (depot) injectable antipsychotic medications billed under Medicare Part D and Part B:

fluphenazine decanoate (J2680) – 28 days' supply
haloperidol decanoate (J1631) – 28 days' supply
aripiprazole (J0401) – 28 days' supply
aripiprazole lauroxil (Aristada) - 28 days' supply
olanzapine pamoate (J2358) – 28 days' supply
paliperidone palmitate (J2426) – 28 days' supply
risperidone microspheres (J2794) – 14 days' supply

S.8. Denominator Exclusions (Brief narrative description of exclusions from the target population)

Individuals with any diagnosis of dementia during the measurement period.

S.9. Denominator Exclusion Details (All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)

Individuals with any diagnosis of dementia are identified with the diagnosis codes listed below tab NQF_1879_Dementia

Table 5: Codes Used to Identify Dementia

ICD-9-CM: 290.0, 290.10, 290.11, 290.12, 290.13, 290.20, 290.21, 290.3, 290.40, 290.41, 290.42, 290.43, 290.8, 290.9, 291.2, 292.82, 294.10, 294.11, 294.20, 294.21, 330.1, 331.0, 331.19, 331.82

ICD-10-CM: E75.00, E75.01, E75.02, E75.09, E75.10, E75.11, E75.19, E75.4, F01.50, F01.51, F02.80, F02.81, F03.90, F03.91, F05, F10.27, F11.122, F13.27, F13.97, F18.17, F18.27, F18.97, F19.17, F19.27, F19.97, G30.0, G30.1, G30.8, G30.9, G31.09, G31.83

S.10. Stratification Information (Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)

Depending on the operational use of the measure, measure results can be stratified by:

- State
- Physician Group*
- Age – Divided into six categories: 18-24, 25-44, 45-64, 65-74, 75-84, and 85+ years
- Race/Ethnicity
- Dual Eligibility

*See Calculation Algorithm/Measure Logic S.14 below for physician group attribution methodology used for this measure.

S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

No risk adjustment or risk stratification

If other:

S.12. Type of score:

Rate/proportion

If other:

S.13. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Better quality = Higher score

S.14. Calculation Algorithm/Measure Logic (Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.)

Target Population: Individuals at least 18 years of age as of the beginning of the measurement period who have met the enrollment criteria for Medicare Parts A, B, and D.

Denominator: Individuals at least 18 years of age as of the beginning of the measurement period with schizophrenia or schizoaffective disorder and at least two prescription drug claims for antipsychotic medications during the measurement period (12 consecutive months).

CREATE DENOMINATOR:

1. Pull individuals who are 18 years of age or older as of the beginning of the measurement period.
2. Include individuals who were continuously enrolled in Medicare Part D coverage during the measurement period, with no more than a one-month gap in enrollment during the measurement period, or up until their death date if they died during the measurement period.
3. Include individuals who had no more than a one-month gap in Medicare Part A enrollment, no more than a one-month gap in Part B enrollment, and no more than one month of HMO (Health Maintenance Organization) enrollment during the current measurement period (fee-for-service [FFS] individuals only).
4. Of those individuals identified in Step 3, keep individuals who had:

At least two encounters with a diagnosis of schizophrenia or schizoaffective disorder with different dates of service in an outpatient setting, emergency department setting, or non-acute inpatient setting during the measurement period;

OR

Individuals who had at least one encounter with a diagnosis of schizophrenia or schizoaffective disorder in an acute inpatient setting during the measurement period.

5. For the individuals identified in Step 4, extract Medicare Part D claims for any antipsychotic medication during the measurement period. Attach the generic name and the drug ID to the dataset.
6. Of the individuals identified in Step 5, exclude those who did not have at least two prescription drug claims for any antipsychotic medication on different dates of service (identified by having at least two Medicare Part D claims with the specific codes) during the measurement period.
7. Exclude those individuals with a diagnosis of dementia during the measurement period.

Numerator: Individuals with schizophrenia or schizoaffective disorder who had at least two prescription drug claims for antipsychotic medications and have a PDC of at least 0.8 for antipsychotic medications.

CREATE NUMERATOR:

For the individuals in the denominator, calculate the PDC for each individual according to the following methods:

1. Determine the individual's medication therapy period, defined as the number of days from the index prescription date through the end of the measurement period, or death, whichever comes first. The index date is the service date (fill date) of the first prescription drug claim for an antipsychotic medication in the measurement period.
2. Within the medication therapy period, count the days the individual was covered by at least one drug in the antipsychotic medication class based on the prescription drug claim service date and days of supply.
 - a. Sort and de-duplicate Medicare Part D antipsychotic medication claims by beneficiary ID, service date, generic name, and descending days' supply. If prescriptions for the same drug (generic name) are dispensed on the same date of service for an individual, keep the dispensing with the largest days' supply.
 - b. Calculate the number of days covered by antipsychotic drug therapy per individual.
 - i. For prescription drug claims with a days' supply that extends beyond the end of the measurement period, count only the days for which the drug was available to the individual during the measurement period.
 - ii. If claims for the same drug (generic name) overlap, then adjust the prescription start date to be the day after the previous fill has ended.
 - iii. If claims for different drugs (different generic names) overlap, do not adjust the prescription start date.
3. Calculate the PDC for each individual. Divide the number of covered days found in Step 2 by the number of days in the individual's medication therapy period found in Step 1.

An example of SAS code for Steps 1-3 was adapted from Pharmacy Quality Alliance (PQA) and is available at the URL: <http://www2.sas.com/proceedings/forum2007/043-2007.pdf>.

4. Of the individuals identified in Step 3, count the number of individuals with a calculated PDC of at least 0.8 for the antipsychotic medications. This is the numerator.

PHYSICIAN GROUP ATTRIBUTION:

Physician group attribution was adapted from Generating Medicare Physician Quality Performance Measurement Results (GEM) Project: Physician and Other Provider Grouping and Patient Attribution Methodologies (<http://www.cms.gov/Medicare/Quality->

Initiatives-Patient-Assessment-Instruments/GEM/downloads/GEMMethodologies.pdf). The following is intended as guidance and reflects only one of many methodologies for assigning individuals to a medical group. Please note that the physician group attribution methodology excludes patients who died, even though the overall measure does not.

I. Identify Physician and Medical Groups

1. Identify all Tax Identification Numbers (TINs)/National Provider Identification (NPIs) combinations from all Medicare Part B claims in the measurement year and the prior year. Keep records with valid NPI. Valid NPIs have 10 numeric characters (no alpha characters).
2. For valid NPIs, pull credentials and specialty code(s) from the CMS provider tables.
3. Create one record per NPI with all credentials and all specialties. A provider may have more than one specialty.
4. Attach TIN to NPI, keeping only those records with credentials indicating a physician (MD or DO), physician assistant (PA), or nurse practitioner (NP).
5. Identify medical group TINs: Medical group TINs are defined as TINs that had physician, physician assistant, or nurse practitioner provider specialty codes on at least 50% of Medicare Part B carrier claim line items billed by the TIN during the measurement year or prior year. (The provider specialty codes are listed after Patient Attribution.)
 - a. Pull Part B records billed by TINs identified in Step 4 during the measurement year and prior year.
 - b. Identify claims that had the performing NPI (npi_prfrmng) in the list of eligible physicians/TINs, keeping those that match by TIN, performing NPI, and provider state code.
 - c. Calculate the percentage of Part B claims that match by TIN, npi_prfrmng, and provider state code for each TIN, keeping those TINs with percentages greater than or equal to 50%.
 - d. Delete invalid TINs. Examples of invalid TINs are defined as having the same value for all nine digits or values of 012345678, 012345678, 123456789, 987654321, or 87654321.
6. Identify TINs that are not solo practices.
 - a. Pull Part B records billed by physicians identified in Step 4 for the measurement year and/or prior year.
 - b. Count unique NPIs per TIN.
 - c. Keep only those TINs having two or more providers.
 - d. Delete invalid TINs. Examples of invalid TINs are defined as having the same value for all nine digits or values of 012345678, 012345678, 123456789, 987654321, or 87654321.
7. Create final group of TINs from Step 5 and Step 6 (TINs that are medical groups and are not solo practices).
8. Create file of TINs and NPIs associated with those TINs. These are now referred to as the medical group TINs.
9. Determine the specialty of the medical group (TIN) to be used in determining the specialty of nurse practitioners and physician assistants. The plurality of physician providers in the medical group determines the specialty of care for nurse practitioners and physician assistants.
 - a. From the TIN/NPI list created in Step 8, count the NPIs per TIN/specialty.
 - b. The specialty with the maximum count is assigned to the medical group.

II. Identify Individual Sample and Claims

10. Create individual sample.
 - a. Pull individuals with 11+ months of Medicare Parts A, B, and D during the measurement year.
 - b. Verify the individual did not have any months with Medicare as secondary payer. Remove individuals with BENE_PRMRY_PYR_CD not equal to one of the following:
 - A = working-age individual/spouse with an employer group health plan (EGHP)
 - B = End Stage Renal Disease (ESRD) in the 18-month coordination period with an EGHP
 - G = working disabled for any month of the year
 - c. Verify the individual resides in the U.S., Puerto Rico, Virgin Islands, or Washington D.C.
 - d. Exclude individuals who enter the Medicare hospice at any point during the measurement year.
 - e. Exclude individuals who died during the measurement year.
11. For individuals identified in Step 10, pull office visit claims that occurred during the measurement year and in the six months prior to the measurement year.
 - a. Office visit claims have CPT codes of 99201-99205, 99211-99215, and 99241-99245.
 - b. Exclude claims with no npi_prfrmng.
12. Attach medical group TIN to claims by NPI.

III. Patient Attribution

13. Pull all Medicare Part B office claims from Step 12 with specialties indicating primary care or psychiatry (see list of provider

specialties and specialty codes below). Attribute each individual to at most one medical group TIN for each measure.

a. Evaluate specialty on claim (HSE_B_HCFA_PRVDR_SPCLTY_CD) first. If specialty on claim does not match any of the measure-specific specialties, then check additional specialty fields.

b. If the provider specialty indicates nurse practitioners or physician assistants (code 50 or code 97), then assign the medical group specialty determined in Step 9.

14. For each individual, count claims per medical group TIN. Keep only individuals with two or more E&M claims.

15. Attribute individual to the medical group TIN with the most claims. If a tie occurs between medical group TINs, attribute the TIN with the most recent claim.

16. Attach the medical group TIN to the denominator and numerator files by individual.

Provider Specialties and Specialty Codes

Provider specialties and specialty codes include only physicians, physician assistants, and nurse practitioners for physician grouping, TIN selection, and patient attribution. The provider specialty codes and the associated provider specialty are shown below:

01—General practice*
02—General surgery
03—Allergy/immunology
04—Otolaryngology
05—Anesthesiology
06—Cardiology
07—Dermatology
08—Family practice*
09—Interventional pain management
10—Gastroenterology
11—Internal medicine*
12—Osteopathic manipulative therapy
13—Neurology
14—Neurosurgery
16—Obstetrics/gynecology*
18—Ophthalmology
20—Orthopedic surgery
22—Pathology
24—Plastic and reconstructive surgery
25—Physical medicine and rehabilitation
26—Psychiatry*
28—Colorectal surgery
29—Pulmonary disease
30—Diagnostic radiology
33—Thoracic surgery
34—Urology
37—Nuclear medicine
38—Geriatric medicine*
39—Nephrology
39—Pediatric medicine
40—Hand surgery
44—Infectious disease
46—Endocrinology
50—Nurse practitioner*
66—Rheumatology
70—Multi-specialty clinic or group practice*
72—Pain management
76—Peripheral vascular disease
77—Vascular surgery
78—Cardiac surgery
79—Addiction medicine

81—Critical care (intensivists)

82—Hematology

83—Hematology/oncology

84—Preventive medicine*

85—Maxillofacial surgery

86—Neuropsychiatry*

90—Medical oncology

91—Surgical oncology

92—Radiation oncology

93—Emergency medicine

94—Interventional radiology

97—Physician assistant*

98—Gynecologist/oncologist

99—Unknown physician specialty

Other—NA

*Provider specialty codes specific to this measure

S.15. Sampling (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.

This measure does not use a sample or survey.

S.16. Survey/Patient-reported data (If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)

Specify calculation of response rates to be reported with performance measure results.

S.17. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.18.

Claims

S.18. Data Source or Collection Instrument (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

IF instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

The data source for the measure calculation required the following Medicare files depending on the level of accountability where the measure is being used:

- Denominator tables to determine individual enrollment
- Prescription drug benefit (Part D) coverage tables
- Beneficiary file
- Institutional claims (Part A)
- Non-institutional claims (Part B)—physician carrier/non-DME (durable medical equipment)
- Prescription drug benefit (Part D) claims
- Centers for Medicare and Medicaid Services (CMS) physician and physician specialty tables
- National Plan and Provider Enumeration System (NPPES) database

S.19. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

No data collection instrument provided

S.20. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Clinician : Group/Practice, Health Plan, Population : Regional and State

S.21. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Outpatient Services

If other:

S.22. COMPOSITE Performance Measure - Additional Specifications *(Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)*

2. Validity – See attached Measure Testing Submission Form
[1879_Adherence_to_Antipsychotic_Medications_Testing.docx](#)

2.1 For maintenance of endorsement

Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

Yes

2.2 For maintenance of endorsement

Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

No

2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

No - This measure is not risk-adjusted

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

[Coded by someone other than person obtaining original information \(e.g., DRG, ICD-9 codes on claims\)](#)

If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields *(i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields)* Update this field for **maintenance of endorsement**.

[ALL data elements are in defined fields in electronic claims](#)

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources. For **maintenance of endorsement**, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-

specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Required for maintenance of endorsement. Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

Testing demonstrated that the data required were available and accessible. Issues affecting feasibility regarding missing data were not identified. The cost of data collection is negligible, since the administrative data (collected by CMS primarily for billing purposes) are used as the data source for this measure. Other feasibility/implementation issues were not identified.

Eligible professionals successfully reported this measure to CMS as part of the Physician Quality Reporting Program.

DATA COLLECTION

Testing was conducted with the CMS administrative claims data. No additional data collection was conducted.

AVAILABILITY OF DATA

Testing was conducted with the CMS administrative claims data. The data were readily available and accessible.

MISSING DATA

No threats to the validity of this measure were identified using a limited analysis designed to address missing data (Reference Validity Testing Section 2b2.2).

TIMING AND FREQUENCY OF DATA COLLECTION

Testing was conducted with the CMS administrative claims data. Data sources needed to implement the measure are collected by CMS in a timely manner.

SAMPLING

Not Applicable

PATIENT CONFIDENTIALITY

Not Applicable

TIME AND COST OF DATA COLLECTION

The administrative data (collected by CMS primarily for billing purposes) are used as the data source for this measure. Therefore, the cost of data collection is negligible.

OTHER FEASIBILITY/IMPLEMENTATION ISSUES

Not Applicable

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).

Proprietary coding is contained in the attached list of codes. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets.

Current Procedural Terminology (CPT) codes copyright 2018 American Medical Association. All rights reserved. CPT is a trademark of the AMA. No fee schedules, basic units, relative values or related listings are included in CPT. The AMA assumes no liability for the data contained herein. Applicable FARS/DFARS restrictions apply to government use.

The American Hospital Association holds a copyright to the Uniform Bill Codes (“UB”) contained in the measure specifications. The UB Codes in the HEDIS specifications are included with the permission of the AHA. The UB Codes contained in the HEDIS specifications may be used by health plans and other health care delivery organizations for the purpose of calculating and reporting HEDIS measure results or using HEDIS measure results for their internal quality improvement purposes. All other uses of the UB Codes require a license from the AHA. Anyone desiring to use the UB Codes in a commercial Product(s) to generate HEDIS results, or for any other commercial use, must obtain a commercial use license directly from the AHA. To inquire about licensing, contact ub04@healthforum.com.

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)

4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

Quality Payment Program (QPP) - previously Physician Quality Reporting System (PQRS): This measure is used in the Quality Payment Program (QPP) which is a reporting program that uses a combination of incentive payments and payment adjustments to promote reporting of quality information by eligible clinicians. Quality performance results from QPP will be published on Physician Compare.

New York State Delivery System Reform Incentive Payment (DSRIP) Program: The measure is publicly reported in New York State’s Delivery System Reform Incentive Payment (DSRIP) Program, and is included in the Value Based Payment (VBP) Quality Measure Set for the Health and Recovery Plan (HARP) subpopulation. As of 2016, 45,000 individuals were enrolled in HARP. HARP is a specialized managed care program for adult individuals with Severe Mental Illness (SMI) or Substance Use Disorder (SUD) that began its rollout in New York State on October 1, 2015. This measure was selected as clinically relevant, reliable, valid, and feasible and is required to report. Pay for performance measures are intended to be used in the determination of shared savings amount for which VBP Contractors are eligible. In other words, these are the measures on which payments in VBP contracts may be based. Measures can be included in both the determination of the target budget and in the calculation of shared savings for VBP Contractors.

Substance Abuse and Mental Health Services Administration (SAMHSA) Section 223 Demonstration Program: This program is authorized under Section 223 of the Protecting Access to Medicare Act (PAMA). Program activities aim to integrate behavioral health with physical health care, increase consistent use of evidence-based practices, and improve access to high-quality care. Participating states in the demonstration program certify community behavioral health clinics that meet federally developed criteria emphasizing accessible and high-quality care. The certified community behavioral health clinics (CCBHCs) are compensated for services through a prospective payment system (PPS).

4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program,

certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.

Quality Payment Program (QPP) - previously Physician Quality Reporting System (PQRS): In 2015, 80 eligible professionals (EP) reported on the measure. EPs submitting PQRS data to CMS received a PQRS feedback report on whether they satisfactorily reported and if they are subject to a payment adjustment. The data in these reports may help EPs determine whether or not it is necessary to submit an informal review request. An informal review is a process that allows EPs to request a review of their payment adjustment determination.

New York State DSRIP Program: This measure was added to the program to be tested in the HARP subpopulation in 2017 with results to be reported in 2018. Medicaid Managed Care Organizations with Level 1 or higher value-based contracting arrangements or MCOs with a VBP Pilot contract are required to report. The New York State Department of Health website provides a library of resources for providers and health plans including the technical specifications manual, webinars, and information about the advisory groups involved. The state also holds workshops to explain the VBP process and expectations.

SAMHSA Section 223 Demonstration Program: In 2015, the Department of Health and Human Services (HHS) awarded CCBHC planning grants (Phase I) to 24 states, and eight of those states were selected to participate in the demonstration program (Phase II) to improve access to high-quality behavioral health programs. The CCBHC demonstration program and PPS are designed to work within the scope of state Medicaid Plans and to apply specifically to individuals who are Medicaid enrollees. The eligible population in these states includes all behavioral health clinic (BHC) consumers served by a BHC provider.

4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

Quality Payment Program (QPP) - previously Physician Quality Reporting System (PQRS): Each year, QPP individual EPs and QPP group practices receive feedback reports on whether they satisfactorily reported and if they are subject to the future downward payment adjustment. CMS hosts training sessions on these reports and posts audio recording and slide presentations on their webpages. CMS also provides technical assistance and maintains webpages with information about accessing and understanding these reports.

New York State DSRIP Program: Information on the process are provided in New York State's, 2018 Value Based Payment Reporting Requirements Technical Specifications Manual. Plans will electronically submit patient-level detail files and patient attribution files via secure file transfer on August 1, 2018. The New York State Department of Health website provides a library of resources for providers and health plans including the technical specifications manual, webinars, and information about the advisory groups involved. The state also holds workshops to explain the VBP process and expectations.

SAMHSA Section 223 Demonstration Program: Certified community behavioral health clinics and their states are required to collect 21 of 32 quality measures for the demonstration program. This measure is required to be reported. For each demonstration year (the measurement year), quality measures and metrics are submitted within nine months for CCBHCs, and within 12 months for states. CCBHC-lead data and measures are reported to their designated state agency, and state-lead data and measures are reported to SAMHSA by email. SAMHSA will share the data with CMS for the purposes of Quality Bonus Payments and with the Office of the Assistant Secretary for Planning and Evaluation (ASPE) for the purposes of evaluation. Data is reported by using the data reporting templates, and relaying on the major specifications and instructions for those templates found in the Technical Specifications and Resource Manual. SAMHSA's technical assistance (e.g. webinars, guidance documents) is designed to help states

and clinics collect, analyze and report the data for each measure. Clarifications related to quality measures and data reporting are provided on the SAMHSA website, and additional questions are submitted by email.

4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.

Describe how feedback was obtained.

Quality Payment Program (QPP) - previously Physician Quality Reporting System (PQRS): CMS solicits feedback and has a designated space on their webpage with information on how to share feedback with them. The measure owner has not received any feedback on this measure.

New York State DSRIP Program: The program is in its first pilot year and performance has not yet been reported. The state receives feedback on quality measure feasibility, reporting, and calculation from a VBP Measure Support Task Force, including professionals from various Managed Care Organizations (MCOs), VBP Pilot Contractors, State Agencies, along with other professionals with experience in quality measurement and health information technology. They also receive input from a Clinical Advisory Group that evaluates feedback from VBP Contractors, MCOs, and stakeholders, any significant changes in evidence base of underlying measures and/or conceptual gaps in the measurement program. Feedback from these groups is not publicly available at this time.

SAMHSA Section 223 Demonstration Program: For the purposes of continuous quality improvement, behavioral health clinics (BHCs) submit data and measure results to the state. Ongoing refinement of the system at both the state and BHC level is achieved through state feedback to the BHC regarding the data and measure results, and BHC internal feedback and adjustment regarding both data and results. Feedback from these groups is not publicly available at this time.

4a2.2.2. Summarize the feedback obtained from those being measured.

Quality Payment Program (QPP) - previously Physician Quality Reporting System (PQRS): No feedback was received specific to this measure.

New York State DSRIP Program: No feedback specific to this measure is currently available.

SAMHSA Section 223 Demonstration Program: No feedback specific to this measure is currently available.

4a2.2.3. Summarize the feedback obtained from other users

This measure recently went through a re-evaluation process. During that process, feedback on the measure was obtained from measure advisory panels including NCQA's Pharmacy Panel and NCQA's Behavioral Health Measure Advisory Panel. These panels recommended adding medications which are FDA approved for the treatment of schizophrenia and removing medications which are not FDA approved.

4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

Based on the feedback obtained from NCQA's Pharmacy Panel and Behavioral Health Measure Advisory Panel (described in 4a2.2.3) the following measure changes were implemented:

1. Add the following FDA approved medications to the measure:

- Cariprazine
- Quetiapine fumarate (Seroquel)
- Brexpiprazole
- Aripiprazole lauroxil (Aristada)

2. Remove the following off-label medications from the measure (these medications were included in the original measure specification):

- Pimozide
- Olanzapine-fluoxetine

Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

Quality Payment Program (QPP) - previously Physician Quality Reporting System (PQRS): PQRS data extracted from Physician Compare is only available for 2015. Data was not available at the time of maintenance endorsement to evaluate improvement. In future endorsement maintenance we will be able to show change over time and hope to demonstrate improvement in performance.

New York State DSRIP Program: Performance data is not publicly available for this measure.

SAMHSA Section 223 Demonstration Program: Performance data is not publicly available for this measure.

We envision this measure will help providers to identify patients with schizophrenia who are not adherent (at a critical threshold of 0.8 or greater) with long-term treatment with antipsychotic medications and target interventions to improve medication adherence.

4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.

Susceptibility to inaccuracies, errors, or unintended consequences were not identified during testing. There were no identified unintended findings for this measure during testing and none have been brought to our attention since implementation.

4b2.2. Please explain any unexpected benefits from implementation of this measure.

No unexpected benefits.

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

Yes

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

0541 : Proportion of Days Covered (PDC): 3 Rates by Therapeutic Category

0542 : Adherence to Chronic Medications

0543 : Adherence to Statin Therapy for Individuals with Cardiovascular Disease

0544 : Use and Adherence to Antipsychotics among members with Schizophrenia

0545 : Adherence to Statins for Individuals with Diabetes Mellitus

0569 : ADHERENCE TO STATINS

1880 : Adherence to Mood Stabilizers for Individuals with Bipolar I Disorder

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

Adherence to Antipsychotic Medications for Individuals with Schizophrenia. NCQA is measure steward.

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications harmonized to the extent possible?

Yes

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

The measure specifications are harmonized with the related measure, Adherence to Mood Stabilizers for Individuals with Bipolar I Disorder (NQF #1880), where possible. The methodology used to calculate adherence in these measures is proportion of days covered (PDC) which is calculated the same in both measures. The methodology used to identify the denominator population is also calculated the same in both measures with the exception of the clinical conditions which is the target of the measure. The medications included in both measures are specific to the clinical condition targeted in the measure.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

OR

Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):

Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)

The Adherence to Antipsychotic Medications for Individuals with Schizophrenia (NCQA) measure is used for HEDIS reporting and is harmonized with the NQF #1879 in condition, target population, methodology, and medications. The HEDIS measure is only used in Medicaid health plans and therefore is restricted to adults age 18-64.

During development the measure developers identified another competing measure which eventually lost NQF endorsement. The section below is from the original submission of the measures for initial endorsement and compares this measure (#1879 Adherence to Antipsychotic Medications for Individuals with Schizophrenia) to a previously NQF-endorsed measure (#0544 Use and Adherence to Antipsychotics among Members with Schizophrenia).

Measure 1879 (Adherence to Antipsychotic Medications for Individuals with Schizophrenia) has both the same measure focus and essentially the same target population as Measure 0544 (Use and Adherence to Antipsychotics among Members with Schizophrenia), which is no longer endorsed after the measure's time-limited endorsement (TLE) status expired. Measure 1879 is superior to the existing Measure 0544 because it represents a more valid and efficient approach to measuring medication adherence to antipsychotic medications. In addition, as discussed above in Section 5a.2, Measure 1879 is harmonized with several other adherence measures in the NQF portfolio. Key differences in measure validity and efficiency are addressed in the sections below.

VALIDITY

The Proportion of Days Covered (PDC), which is the method used to calculate adherence in Measure 1879, has several advantages over the Medication Possession Ratio (MPR), which is used in Measure 0544. First, the PDC was found to be more conservative compared to the Medication Possession Ratio (MPR) and was preferred in clinical scenarios in which there is the potential for more than one drug to be used within a drug class concomitantly (e.g., antipsychotics). This clinical situation applies directly to Measure 1879. Martin et al. (2009) demonstrated this in a study published in the Annals of Pharmacotherapy by comparing the methodology for drugs that are commonly switched, where the MPR was 0.690, truncated MPR was 0.624, and PDC was 0.562 and found significant differences between the values for adherence ($p < 0.001$). Martin et al (2009) also compared drugs with therapeutic duplication where the PDC was 0.669, truncated MPR was 0.774, and MPR was 1.238, and again obtained significant differences ($p < 0.001$). These findings were partially replicated by testing results from FMQAI (now HSAG) of Measure 1879 where MPR produced a higher measure rate (as compared to PDC) as shown below.

Adherence to Antipsychotic Medications for Individuals with Schizophrenia
Method Measure Rate

Comparison of MPR and PDC

Method Measure Rate

MPR 74.4%

PDC 70.0%

Based on initial draft measure specifications and data from a 100% sample of Medicare fee-for-service beneficiaries with Part D coverage in Florida and Rhode Island, using 2008 Medicare Parts A, B, and D data.

Additional differences between Measure 1879 and TLE 0544 related to validity include the following concerns:

Denominator: The measure denominator requires at least two antipsychotic medication prescriptions; whereas, the NQF TLE measure (NQF# 0544) does not require any antipsychotic medication prescriptions in the measure denominator. In 0544, an MPR of “0” is assigned to those without any antipsychotic medication prescriptions, which may falsely lower measure rates, specifically in scenarios where the prescriber has made the decision not to prescribe antipsychotic medications for an individual diagnosed with schizophrenia.

Exclusion related to a diagnosis of dementia: Measure 1879 excludes individuals with a diagnosis of dementia during the measurement year which is not considered in Measure 0544. Antipsychotic medications are currently labeled with a Food and Drug Administration (FDA) Black Box warning that states, “Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. Analyses of seventeen placebo-controlled trials (modal duration of 10 weeks), largely in patients taking atypical antipsychotic drugs, revealed a risk of death in drug-treated patients of between 1.6 to 1.7 times the risk of death in placebo-treated patients.” The Technical Expert Panel, which reviewed the measure, recommended excluding these individuals from the measure denominator, since continued adherence to antipsychotic medications in this subpopulation may increase mortality and not represent quality of care. (Please see Section 2b3.2 that provides descriptive results of testing related to exclusions.)

EFFICIENCY

Measure 1879 requires only one year of administrative claims data, rather than two years of data which is required for TLE 0544. The Technical Expert Panel that reviewed Measure 1879 indicated that the burden of requiring two years of administrative claims data would not meaningfully modify measure rates and would potentially result in the unnecessary exclusion of individuals for which adherence should be assessed but for which only 1 year of claims data were available. Additional rationale for this TEP recommendation was related to an increased length of the continuous enrollment criteria to specify the measure use with two years of data. FMQAI’s (now HSAG) empirical analysis of a related adherence measure (NQF 0542 – Adherence to Chronic Medications) using 2007 and 2008 Medicare Part D data for beneficiaries in Florida and Rhode Island validated this concern and indicated that approximately 10% of the eligible population would be excluded from the measure if the enrollment criteria required two years of administrative claims data as opposed to one year.

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

No appendix Attachment:

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): Centers for Medicare & Medicaid Services

Co.2 Point of Contact: Helen, Dollar-Maples, Helen.Dollar-Maples@cms.hhs.gov, 410-786-7214-

Co.3 Measure Developer if different from Measure Steward: National Committee for Quality Assurance

Co.4 Point of Contact: Kristen, Swift, swift@ncqa.org, 202-955-5174-

Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

Behavioral Health Measure Advisory Panel (BHMAP) – advised on the measure re-evaluation:

1. Katherine Bradley, MD, MPH, Kaiser Permanente Washington Health Research Institute
2. Christopher Dennis, MD, MBA, FAPA, Chief Behavioral Health Officer, Landmark Health
3. Ben Druss, MD, MPH, Professor, Emory University
4. Frank A. Ghinassi, PhD, ABPP, President and CEO, Rutgers University Behavioral Health Care
5. Connie Horgan, ScD, Professor and Director, Institute for Behavioral Health, Brandeis University
6. Laura Jacobus-Kantor, PhD, Chief, Quality, Evaluation and Performance, SAMHSA HHS
7. Jeffrey Meyerhoff, MD, National Medical Director for Medicare and Retirement, Optum Behavioral Solutions
8. Harold Pincus, MD, Professor and Vice Chair--Department of Psychiatry, College of Physicians and Surgeons, Co-Director, Irving Institute for Clinical and Translational Research, Columbia University, Director of Quality and Outcomes Research, New York – Presbyterian Hospital
9. Michael Schoenbaum, PhD, Senior Advisor for Mental Health Services, Epidemiology and Economics, National Institute of Mental Health
10. John Straus, MD, Medical Director Special Projects, Massachusetts Behavioral Health Partnership A Beacon Health Options Company
11. William Wood, MD, PhD, Manager, Medical Director Behavioral Health, Anthem, Inc.

HEDIS Expert Pharmacy Panel – advised on the measure re-evaluation:

1. Linda DeLaet, PharmD, Kaiser Permanente
2. Gerry Hobson, RPh, Cerner Multum
3. Chronis H. Manolis, RPh, UPMC Health Plan
4. Cathrine Misquitta, PharmD, MBA, BCPS, CGP, FCSHP, Health Net Pharmaceutical Services
5. Kevin Mark, MD, Wisconsin First, Inc.

FMQAI (now HSAG) TEP - advised on the original measure development and testing:

1. Douglas Bell, MD, Associate Professor in Residence, UCLA Department of Medicine, Division of General Internal Medicine and Health Services Research
2. Jill S. Borchert, Pharm.D., BCPS, Professor, Pharmacy Practice and PGY1 Residency Program Director, Midwestern University, Chicago College of Pharmacy
3. Anne Burns, RPh, Vice President, Professional Affairs, American Pharmacists Association
4. Jannet Carmichael, Pharm.D., FCCP, FAPhA, BCPS, VISN 21 Pharmacy Executive, VA Sierra Pacific Network
5. Marshall H. Chin, MD, MPH, Professor of Medicine, University of Chicago
6. Edward Eisenberg, MD, Vice President and Chief Medical Officer, Medicare, Medco Health Solutions
7. Jay A. Gold, MD, JD, MPH, Senior Vice President and Medicare Chief Medical Officer, MetaStar, Inc.
8. David Nau, Ph.D., R.Ph., CPHQ, Senior Director of Research and Performance Measurement, PQA, Inc.
9. N. Lee Rucker, M.S.P.H., Strategic Policy Senior Advisor, AARP - Public Policy Institute
10. Marissa Schlaifer, MS, RPh, Director of Pharmacy Affairs Academy of Managed Care Pharmacy
11. Brad Tice, Pharm.D., Chief Clinical Officer, PharmMD Solutions, LLC
12. Jennifer K. Thomas, Pharm.D., Manager, Pharmacy Services, Delmarva Foundation for Medical Care / Delmarva Foundation of the District of Columbia
13. Darren Triller, Pharm.D., Director, Pharmacy Services, IPRO
14. Neil Wenger, MD, Professor of Medicine, UCLA Department of Medicine, Division of General Internal Medicine and Health Services Research

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2010

Ad.3 Month and Year of most recent revision: 04, 2018

Ad.4 What is your frequency for review/update of this measure? Annual

Ad.5 When is the next scheduled review/update for this measure? 04, 2019

Ad.6 Copyright statement: Not Applicable, the measure is in the public domain.

Ad.7 Disclaimers:
Ad.8 Additional Information/Comments: