Follow-up Visit for Children and Adolescents on Antipsychotics

Section 1. Basic Measure Information

1.A. Measure Name

Follow-up Visit for Children and Adolescents on Antipsychotics

1.B. Measure Number

0147

1.C. Measure Description

Please provide a non-technical description of the measure that conveys what it measures to a broad audience.

The percentage of children and adolescents who had a new prescription for an antipsychotic medication and had one or more follow-up visits with a prescriber.

Note: A higher rate indicates better performance.

1.D. Measure Owner

The measure owner is the National Committee for Quality Assurance (NCQA).

The measure was developed through the National Collaborative for Innovation in Quality Measurement (NCINQ) and the Rutgers University-based multi-State MEDNET consortium.

1.E. National Quality Forum (NQF) ID (if applicable)

Not applicable.

1.F. Measure Hierarchy

Please note here if the measure is part of a measure hierarchy or is part of a measure group or composite measure. The following definitions are used by AHRQ:

1. **Please identify the name of the collection of measures to which the measure belongs (if applicable). A collection is the highest possible level of the measure hierarchy. A collection may contain one or more sets, subsets, composites, and/or individual measures.**

    Not applicable.

2. **Please identify the name of the measure set to which the measure belongs (if applicable). A set is the second level of the hierarchy. A set may include one or more subsets, composites, and/or individual measures.**

    Safe and Judicious Use of Antipsychotics in Children and Adolescents.

3. **Please identify the name of the subset to which the measure belongs (if applicable). A subset is the third level of the hierarchy. A subset may include one or more composites, and/or individual measures.**

    Not applicable.

4. **Please identify the name of the composite measure to which the measure belongs (if applicable). A composite is a measure with a score that is an aggregate of scores from other measures. A composite may include one or more other composites and/or individual measures. Composites may comprise component measures that can or cannot be used on their own.**

    Not applicable.

1.G. Numerator Statement

One or more follow-up visits with a practitioner with prescribing authority, within 30 days of the date on which a new antipsychotic prescription was dispensed

1.H. Numerator Exclusions

None.

1.I. Denominator Statement

Children and adolescents 1 to 20 years of age with a new prescription for antipsychotic medication during the measurement year.

- Age Stratification: 1-5 years, 6-11 years, 12-17 years, 18-20 years.
- Continuous Eligibility: 4 months prior and 1 month following the new prescription.
- Benefit: Medical, Mental Health and Pharmacy.

1.J. Denominator Exclusions

Exclude children and adolescents who had an acute inpatient encounter for mental health or chemical dependency during the 30 days after the date on which a new antipsychotic prescription was dispensed.

1.K. Data Sources

Check all the data sources for which the measure is specified and tested.

Administrative data (e.g., claims data).

If other, please list all other data sources in the field below.

Not applicable.

Section 2: Detailed Measure Specifications

Provide sufficient detail to describe how a measure would be calculated from the recommended data sources, uploading a separate document (+ Upload attachment) or a link to a URL. Examples of detailed measure specifications can be found in the CHIPRA Initial Core Set Technical Specifications Manual 2011 published by the Centers for Medicare & Medicaid Services. Although submission of formal programming code or algorithms that demonstrate how a measure would be calculated from a query of an appropriate electronic data source are not requested at this time, the availability of these resources may be a factor in determining whether a measure can be recommended for use.

Please see the Supporting Documents for detailed measure specifications.

Section 3. Importance of the Measure

In the following sections, provide brief descriptions of how the measure meets one or more of the following criteria for measure importance (general importance, importance to Medicaid and/or CHIP, complements or enhances an existing measure). Include references related to specific points made in your narrative (not a free-form listing of citations).

3.A. Evidence for General Importance of the Measure

Provide evidence for all applicable aspects of general importance:

- **Addresses a known or suspected quality gap and/or disparity in quality (e.g., addresses a socioeconomic disparity, a racial/ethnic disparity, a disparity for Children with Special Health Care Needs (CSHCN), a disparity for limited English proficient (LEP) populations).**

- **Potential for quality improvement (i.e., there are effective approaches to reducing the quality gap or disparity in quality).**

- **Prevalence of condition among children under age 21 and/or among pregnant women.**

- **Severity of condition and burden of condition on children, family, and society (unrelated to cost).**

- **Fiscal burden of measure focus (e.g., clinical condition) on patients, families, public and private payers, or society more generally, currently and over the life span of the child.**

- **Association of measure topic with children's future health – for example, a measure addressing childhood obesity may have implications for the subsequent development of cardiovascular diseases.**

- **The extent to which the measure is applicable to changes across developmental stages (e.g., infancy, early childhood, middle childhood, adolescence, young adulthood).**

Antipsychotic medication use is an important area of interest for pediatric measures development, given the growing use in children and adolescents. Although antipsychotics may serve as effective treatment for a narrowly defined set of psychiatric disorders in children, they are often being prescribed for non-indicated, non-psychotic conditions such as attention-deficit hyperactivity disorder and disruptive behaviors (McKinney, Renk, 2011; Cooper, Hickson, Fuchs, et al., 2004; Olfson, Blanco, Liu, et al., 2006). Antipsychotics can increase a child's risk for developing serious health concerns and are associated with a number of adverse side effects (Correll, Manu, Olshanskiy, et al, 2009; Andrade, Lo, Roblin, et al, 2011; Bobo, Cooper, Stein, et al., 2013). Thus, this measure assesses whether children and adolescents newly prescribed an antipsychotic have documentation in their medical records of follow-up visits with a prescriber within a specified time period. Follow-up is a minimal clinical standard of care for children and adolescents on an antipsychotic, and it is an essential aspect of appropriate medication management. A follow-up visit with a prescriber is necessary to monitor health concerns, assess medication response, and adjust dosage if needed.

The measure is part of a set that assesses the safe and judicious use of antipsychotics in children and adolescents.

Prevalence of Antipsychotic Prescribing and Health Impact

Antipsychotic prescribing for children and adolescents has increased rapidly in recent decades, driven both by new prescriptions and longer duration of use (Patten, Waheed, Bresee, 2012). The frequency of prescribing antipsychotics among youth increased almost five-fold from 1996 to 2002, from 8.6 per 1,000 children and adolescents to 39.4 per 1,000 (Cooper, Arbogast, Ding, et al., 2006).

Antipsychotic medications are associated with a number of potentially adverse side effects, including weight gain (Correll, et al., 2009) and diabetes (Andrade, et al., 2011; Bobo, et al., 2013), which can have serious implications for future health outcomes. Other serious risks include extrapyramidal side effects, sedation and somnolence, liver toxicity, and cardiac arrhythmias (Correll, 2008). To the extent that side effects are not monitored, identified, and addressed appropriately, lack of follow-up care places children and adolescents at risk for poorer health.

Fiscal Burden

Although there is little research available on the fiscal burden associated with adverse effects of antipsychotic use among children and adolescents, one study of Medicaid-enrolled youth on antipsychotics found that health care costs for patients who developed cardio-metabolic side effects were 34 percent higher compared with those who did not (Jerrell, McIntyre, 2009). Proper monitoring of side effects through follow-up visits presents a possible solution to

alleviate these costs.

Opportunity for Improvement

No quality improvement studies targeted specifically to follow-up care for youth prescribed antipsychotic medications were identified. Although having a follow-up visit with a prescriber is a minimal standard of care (ACAAP, 2012), studies suggest that children may not be receiving adequate follow-up care. One national study of privately insured children found that fewer than 30 percent of children with a new prescription for psychotropic medication had a follow-up visit within 30 days (Harpaz-Rotem, Rosenheck., 2006). To the extent that side effects are not monitored, identified, and addressed appropriately, lack of follow-up care places children at risk for poorer health. Recent reviews of clinical trials of antipsychotics in youth note that there is little evidence on the long-term safety of antipsychotic prescribing in children (Hammerman, Dreiher, Klang, et al., 2008; Jerrell, McIntyre, 2009)

Health Care Disparities

More than a decade of research suggests that minority youth receive lower quality mental health care compared with white American youth (Alegria, Vallas, Pumariega, 2010). Research suggests that minority children are more likely to be prescribed antipsychotic medication, compared with white children (Adams, Xu, Dong, 2009). Analysis of Medicaid data shows that youth in foster care are more likely to be prescribed antipsychotic medications than those not in foster care (Zito, Safer, Sai, et al., 2008). In a study of 13 State Medicaid programs, 12.4 percent of children in foster care were prescribed antipsychotics, compared with 1.4 percent of children not in foster care (Medicaid Medical Directors, 2010). In addition, children and adolescents with public insurance are more likely to be prescribed an antipsychotic than those with private insurance (Crystal, Olfson, Huang, et al., 2009). Taken together, these trends suggest that access to follow-up care for minority, low socioeconomic status, and foster care youth prescribed antipsychotics may be of particular importance.

3.B. Evidence for Importance of the Measure to Medicaid and/or CHIP

Comment on any specific features of this measure important to Medicaid and/or CHIP that are in addition to the evidence of importance described above, including the following:

- **The extent to which the measure is understood to be sensitive to changes in Medicaid or CHIP (e.g., policy changes, quality improvement strategies).**

- **Relevance to the Early and Periodic Screening, Diagnostic and Treatment benefit in Medicaid (EPSDT).**

- **Any other specific relevance to Medicaid/CHIP (please specify).**

The use of antipsychotic medications is greater and increasing more rapidly in youth enrolled in the Medicaid program than in youth with private insurance (Crystal, et al., 2009). In addition, youth in foster care are more likely to be placed on antipsychotics. Low-income youth, who are already at greater risk for both physical and mental health problems, may be additionally susceptible to side effects associated with antipsychotic medications.

3.C. Relationship to Other Measures (if any)

Describe, if known, how this measure complements or improves on an existing measure in this topic area for the child or adult population, or if it is intended to fill a specific gap in an existing measure category or topic. For example, the proposed measure may enhance an existing measure in the initial core set, it may lower the age range for an existing adult-focused measure, or it may fill a gap in measurement (e.g., for asthma care quality, inpatient care measures).

While there are no existing measures that address follow-up care for children prescribed antipsychotic medication, the Core Set of Children's Health Care Quality Measures for Medicaid/CHIP includes one behavioral health measure, Follow-up Care for Children Prescribed ADHD Medication, on which this measure is modeled (see https://www.ahrq.gov/sites/default/files/wysiwyg/policymakers/chipra/overview/background/measures-CC-2.pdf).

Section 4. Measure Categories

CHIPRA legislation requires that measures in the initial and improved core set, taken together, cover all settings, services, and topics of health care relevant to children. Moreover, the legislation requires the core set to address the needs of children across all ages, including services to promote healthy birth. Regardless of the eventual use of the measure, we are interested in knowing all settings, services, measure topics, and populations that this measure addresses. These categories are not exclusive of one another, so please indicate "Yes" to all that apply.

Does the measure address this category?

a. **Care Setting – ambulatory:** Yes.
b. **Care Setting – inpatient:** Not applicable.
c. **Care Setting – other – please specify:** Not applicable.
d. **Service – preventive health, including services to promote healthy birth:** Not applicable.
e. **Service – care for acute conditions:** Not applicable.
f. **Service – care for children with special health care needs/chronic conditions:** Yes.
g. **Service – other (please specify):** Not applicable.
h. **Measure Topic – duration of enrollment:** Not applicable.
i. **Measure Topic – clinical quality:** Yes.
j. **Measure Topic – patient safety:** Not applicable.
k. **Measure Topic – family experience with care:** Not applicable.
l. **Measure Topic – care in the most integrated setting:** Not applicable.
m. **Measure Topic other (please specify):**
n. **Population – pregnant women:** Not applicable.
o. **Population – neonates (28 days after birth) (specify age range):** Not applicable.
p. **Population – infants (29 days to 1 year) (specify age range):** Not applicable.
q. **Population – pre-school age children (1 year through 5 years) (specify age range):** Yes; 1-5 years.

r. **Population – school-aged children (6 years through 10 years) (specify age range):** Yes; 6-11 years.
s. **Population – adolescents (11 years through 20 years) (specify age range):** Yes; 12-17 years and 18-20 years.
t. **Population – other (specify age range):** Not applicable.
u. **Other category (please specify):** Not applicable.

Section 5. Evidence or Other Justification for the Focus of the Measure

The evidence base for the focus of the measures will be made explicit and transparent as part of the public release of CHIPRA deliberations; thus, it is critical for submitters to specify the scientific evidence or other basis for the focus of the measure in the following sections.

5.A. Research Evidence

Research evidence should include a brief description of the evidence base for valid relationship(s) among the structure, process, and/or outcome of health care that is the focus of the measure. For example, evidence exists for the relationship between immunizing a child or adolescent (process of care) and improved outcomes for the child and the public. If sufficient evidence existed for the use of immunization registries in practice or at the State level and the provision of immunizations to children and adolescents, such evidence would support the focus of a measure on immunization registries (a structural measure).

Describe the nature of the evidence, including study design, and provide relevant citations for statements made. Evidence may include rigorous systematic reviews of research literature and high-quality research studies.

Follow-up care for children and adolescents on psychotropic medications, the broader class of medications under which antipsychotics fall, is a minimum standard of care. Follow-up visits provide a mechanism for assessing medication efficacy and side effects, dose adjustments, and medication adherence, as well as providing support for the doctor-family-patient relationship.

The American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameter on the Use of Psychotropic Medication in Children and Adolescents identifies follow-up care as one of the core principles of prescribing, noting: "the prescriber develops a plan to monitor the patient, short and long term" based in part on the timing of onset of side effects. Further support comes from the AACAP Practice Parameter for the Use of Atypical Antipsychotic Medications in Children and Adolescents, where three recommendations endorse follow-up for youth on antipsychotics as a standard of care in order to monitor potential medication effects (AACAP, 2011). AACAP Practice Parameters for the Assessment and Treatment of Children and Adolescents with Schizophrenia, and the ACAPP Practice Parameters for the Assessment and Treatment of Children and Adolescents with Bipolar Disorder, also have recommendations identifying follow-up as a minimum practice standard (go to
https://www.aacap.org/AACAP/Resources_for_Primary_Care/Practice_Parameters_and_Resour

7

ce_Centers/Practice_Parameters.aspx for more information on AACAP Practice Parameters; see also Appendix 1 in the Supporting Documents for clinical guideline tables).

Studies of the onset of side effects for antipsychotics support recommendations for frequency of follow-up visits needed to support side-effect monitoring. Compliance with recommended metabolic monitoring requires a minimum follow-up of monthly for the first 3 months after initiating an antipsychotic and then quarterly monitoring. Guidelines call for more frequent follow-up for serious mental illnesses, such as schizophrenia, where initially weekly follow-up is recommended, followed by a minimum of monthly visits with a physician in the recovery phase of treatment to "adequately monitor symptom course, side effects, and compliance, while also directing any necessary psychosocial interventions." The Texas Department of Family and Protective Services (DFPS) guidelines for youth in foster care echo other guidelines in underscoring that follow-up frequency should be based on the individual child's severity of illness and treatment response (Texas DFPS, 2016).

In summary, follow-up care is a core principle of prescribing antipsychotic medications and a minimum standard of care. At a minimum, follow-up intervals are monthly for the first 3 months, then every 3 months to ensure appropriate monitoring. However, depending upon the age of the child, diagnosis, phase of illness, treatment engagement, and response, more frequent follow-up visits are recommended.

Clinical Guideline Tables are available in Appendix 1 (see Supporting Documents).

5.B. Clinical or Other Rationale Supporting the Focus of the Measure (optional)

Provide documentation of the clinical or other rationale for the focus of this measure, including citations as appropriate and available.

This measure assesses whether children and adolescents received a follow-up visit with a prescriber following a new start of an antipsychotic medication prescription. Follow-up is a minimal clinical standard of care for children and adolescents on an antipsychotic and an essential aspect of appropriate medication management. A follow-up visit with a prescriber is necessary to monitor health concerns, assess medication response, and adjust dosage if needed. This measure is intended for use by States and health plans to ensure appropriate access to follow-up care for children and adolescents on antipsychotics.

Section 6. Scientific Soundness of the Measure

Explain the methods used to determine the scientific soundness of the measure itself. Include results of all tests of validity and reliability, including description(s) of the study sample(s) and methods used to arrive at the results. Note how characteristics of other data systems, data sources, or eligible populations may affect reliability and validity.

8

Methods

NCINQ employed a multi-step process that includes working with a wide range of stakeholders to define measure specifications and review testing results. We tested the measure in a population of children and adolescents in Medicaid, and we present results at both the State and health plan levels. While key findings are presented here, measure-specific data results tables are described in Appendix 1 (see Supporting Documents). Findings across the measure set for eligible population, performance rates, reliability, and validity are described in the Antipsychotics Testing Summary (see Supporting Documents).

As an additional analysis at the end, we tested the feasibility of the measures for commercial health plans. We show the means and ranges of the eligible population and performance rates in the Antipsychotics Testing Summary (see Supporting Documents).

Our research questions were as follows.

1. What is the eligible population for each measure?
2. What is the distribution of performance rates at the State and health plan levels?
3. How does performance vary for important subpopulations?
4. What is the validity and reliability of each measure?

We tested the measures in the following administrative data sources.

- 2008 claims data from the Medicaid Analytic eXtract (MAX) for 11 States

- 2011 claims data from two MEDNET States

- 2012 claims data from one MEDNET State

- 2009 claims data from 17 New York State Medicaid health plans.

- 2013 claims data from 73 commercial health plans nationwide

Our study population comprised children up to age 20 years as of December 31 of the measurement year. We examined performance separately for children with foster care experience, defined as those with a MAX eligibility code for foster care in their last month within the study period. This population included children receiving adoption benefits and older youth who had aged out of the foster care system. It also includes children who were placed in group homes and other out-of-home placements.

6.A. Reliability

Reliability of the measure is the extent to which the measure results are reproducible when conditions remain the same. The method for establishing the reliability of a measure will depend on the type of measure, data source, and other factors.

Explain your rationale for selecting the methods you have chosen, show how you used the methods chosen, and provide information on the results (e.g., the Kappa statistic). Provide appropriate citations to justify methods.

Our results suggest this measure is reliable at the State and plan levels, with an average State-level reliability of 0.98 and an average plan-level reliability of 0.95. Full reliability findings are presented in the Antipsychotics Testing Summary (see Supporting Documents).

6.B. Validity

Validity of the measure is the extent to which the measure meaningfully represents the concept being evaluated. The method for establishing the validity of a measure will depend on the type of measure, data source, and other factors.

Explain your rationale for selecting the methods you have chosen, show how you used the methods chosen, and provide information on the results (e.g., R2 for concurrent validity).

Face validity refers to whether the measure plausibly represents the concept being evaluated in the judgment of likely users of the measure. To assess different perspectives on the measure's validity, NCINQ reviewed the specifications and field test results with our NCINQ advisory panels and other stakeholders. NCINQ's stakeholders include patients and families, clinicians, and State Medicaid officials, as well as experts in the field of child health, foster care, and measure development (i.e., individuals well-positioned to speak to this measure's face validity). This process ensures measures are reasonable and important to those using them. Our advisory panels concluded this measure is a valid way to assess whether follow-up visits occurred for children and youth on antipsychotic medications. Stakeholder reviews of the specifications and field test results indicate the measure has face validity.

For construct validity, we assessed the correlation between this measure and other measures in the antipsychotics set. Among Medicaid plans, we did not find significant correlations between this measure and other measures. However, among commercial plans, we found a moderate significant correlation between this measure and the Use of First-Line Psychosocial Care and Use of Multiple Concurrent Antipsychotics measures.

In rankings analysis, we found that plans and states can be approximately ranked based on profiles of performance across multiple measures. The consistency of performance across measures suggest the measures are assessing a dimension of quality.

See Antipsychotics Testing Summary (see Supporting Documents) for full validity findings.

Section 7. Identification of Disparities

CHIPRA requires that quality measures be able to identify disparities by race, ethnicity, socioeconomic status, and special health care needs. Thus, we strongly encourage nominators to have tested measures in diverse populations. Such testing provides evidence for assessing measure's performance for disparities identification. In the sections below, describe the results of efforts to demonstrate the capacity of this measure to produce results that can be stratified by the characteristics noted and retain the scientific soundness (reliability and validity) within and across the relevant subgroups.

7.A. Race/Ethnicity

Recognizing that children with differing races and ethnicities make up a diverse population of individuals with needs of varying complexity, please describe the results of any efforts to demonstrate the capacity of this measure to produce results that stratify by race and ethnicity.

Using the MAX data files, NCINQ was able to collect race/ethnicity data for five categories: white non-Hispanic, black non-Hispanic, Hispanic, other, and unknown. We found the following:

- Rates of receiving a follow-up visit with a prescriber were lower among black Non-Hispanic children than among white-Non-Hispanic and Hispanic children in both the general Medicaid and foster care populations
- Children in the general Medicaid population had less access to a follow-up visit with a prescriber than children in the foster care population

Detailed results are presented in Table 1 in Appendix 1 (see Supporting Documents).

7.B. Special Health Care Needs

We explored the relationship between the general population of children and children in the foster care system. Rates of follow-up visits for the general population compared to the foster care population were roughly the same (72.8 percent compared to 75.3 percent, respectively; detailed are presented in Table 2 in Appendix 1 in the Supporting Documents).

7.C. Socioeconomic Status

We used Medicaid data only and, thus, were unable to assess information on socioeconomic status.

7.D. Rurality/Urbanicity

We assessed rurality/urbanicity using 2003 Rural-Urban Continuum Codes from the Area Resource File (https://data.hrsa.gov/topics/health-workforce/ahrf), which provides a wide range of county-level data collected from a number of sources. We merged these codes with the MAX data. Metropolitan is defined as counties in metro areas; Non-Metropolitan is defined as urban populations of at least 2,500 population, adjacent or not adjacent to a metro area; and Rural is defined as completely rural or less than 2,500 urban population, either adjacent or not adjacent to a metro area.

For the general population of children, rates of follow-up visits were higher (i.e., better) in rural areas (76.4 percent). In the foster care population, rates were better in non-metropolitan areas. In both populations, children in urban areas have the lowest rates of access (Table 3 in Appendix 1; see Supporting Documents).

7.E. Limited English Proficiency (LEP) Populations

We used Medicaid data only and, thus, were unable to assess information on LEP.

Section 8. Feasibility

Feasibility is the extent to which the data required for the measure are readily available, retrievable without undue burden, and can be implemented for performance measurement. Using the following sections, explain the methods used to determine the feasibility of implementing the measure.

8.A. Data Availability

1. What is the availability of data in existing data systems? How readily are the data available?

All data needed to calculate the Follow-up Visit for Children and Adolescents on Antipsychotics measure are present in administrative claims data. The measure may be challenging to implement in electronic health records (EHRs) because it requires information sharing across multiple settings of care. However, it could be specified within an electronic medical record or e-prescribing program with a focus on follow-up by a prescriber. The value of this approach would be to increase opportunities for interventions at the point of service through decision support.

2. If data are not available in existing data systems or would be better collected from future data systems, what is the potential for modifying current data systems or creating new data systems to enhance the feasibility of the measure and facilitate implementation?

Not applicable.

8.B. Lessons from Use of the Measure

1. Describe the extent to which the measure has been used or is in use, including the types of settings in which it has been used, and purposes for which it has been used.

A similar claims- and encounter-based measure is being implemented by New York State in a web-based application to support clinical decision-making and quality improvement, the Psychiatric Services and Clinical Knowledge Enhancement System (PSYCKES). PSYCKES is being used in a broad array of settings, including Medicaid providers in hospitals, clinics, health homes, county mental health departments, and Medicaid managed care plans. The measures in PSYCKES profile performance of regions, counties, managed care plans, and providers, and flag individual Medicaid enrollees with a quality alert to support clinical review.

For States, the estimated required sample size needed to gain adequate numbers of observations was 142. For Medicaid health plans, it was 81. See Antipsychotics Testing Summary (see Supporting Documents) for complete details.

As this measure focuses on the rate of providing a recommended service, a higher rate indicates better performance. The plan-level mean performance rate was 80.6 percent. The State-level rate was 72.8 percent among the general population of Medicaid and 75.3 percent among children in

foster care. Complete details are provided in Tables 4 and 5 in Appendix 1 (see Supporting Documents) and the Antipsychotics Testing Summary (see Supporting Documents).

2. If the measure has been used or is in use, what methods, if any, have already been used to collect data for this measure?

A similar measure is used by New York State and is implemented in a Web-based application to support clinical decision making and quality improvement. Several multi-State quality collaboratives have used a related measure, and a number of States have incorporated these measures into their pharmacy oversight systems.

3. What lessons are available from the current or prior use of the measure?

Not applicable.

Section 9. Levels of Aggregation

CHIPRA states that data used in quality measures must be collected and reported in a standard format that permits comparison (at minimum) at State, health plan, and provider levels. Use the following table to provide information about this measure's use for reporting at the levels of aggregation in the table.

For the purpose of this section, please refer to the definitions for provider, practice site, medical group, and network in the Glossary of Terms.

If there is no information about whether the measure could be meaningfully reported at a specific level of aggregation, please write "Not available" in the text field before progressing to the next section.

Level of aggregation (Unit) for reporting on the quality of care for children covered by Medicaid/ CHIP†:

State level* Can compare States

Intended use: **Is measure intended to support meaningful comparisons at this level? (Yes/No)**
Yes.

Data Sources: **Are data sources available to support reporting at this level?**
Yes.

Sample Size: **What is the typical sample size available for each unit at this level? What proportion of units at this level of aggregation can achieve an acceptable minimum sample size?**
Sample size = 142.

In Use: **Have measure results been reported at this level previously?**
No.

Reliability & Validity: **Is there published evidence about the reliability and validity of the measure when reported at this level of aggregation?**
No.

Unintended consequences: **What are the potential unintended consequences of reporting at this level of aggregation?**
None.

Other geographic level: Can compare other geographic regions (e.g., MSA, HRR)

Intended use: **Is measure intended to support meaningful comparisons at this level? (Yes/No)**
Yes.

Data Sources: **Are data sources available to support reporting at this level?**
Yes.

Sample Size: **What is the typical sample size available for each unit at this level? What proportion of units at this level of aggregation can achieve an acceptable minimum sample size?**
Not applicable.

In Use: **Have measure results been reported at this level previously?**
No.

Reliability & Validity: **Is there published evidence about the reliability and validity of the measure when reported at this level of aggregation?**
No.

Unintended consequences: **What are the potential unintended consequences of reporting at this level of aggregation?**
Limited denominator size may affect reliability.

Medicaid or CHIP Payment model: Can compare payment models (e.g., managed care, primary care case management, FFS, and other models)

Intended use: **Is measure intended to support meaningful comparisons at this level? (Yes/No)**
Yes.

Data Sources: **Are data sources available to support reporting at this level?**
Yes.

Sample Size: **What is the typical sample size available for each unit at this level? What proportion of units at this level of aggregation can achieve an acceptable minimum sample size?**
Not applicable.

In Use: **Have measure results been reported at this level previously?**
No.

Reliability & Validity: **Is there published evidence about the reliability and validity of the measure when reported at this level of aggregation?**
No.

Unintended consequences: **What are the potential unintended consequences of reporting at this level of aggregation?**
None.

Health plan*: Can compare quality of care among health plans.

Intended use: **Is measure intended to support meaningful comparisons at this level? (Yes/No)**
Yes.

Data Sources: **Are data sources available to support reporting at this level?**
Yes.

Sample Size: **What is the typical sample size available for each unit at this level? What proportion of units at this level of aggregation can achieve an acceptable minimum sample size?**
Sample size = 81.

In Use: **Have measure results been reported at this level previously?**
No.

Reliability & Validity: **Is there published evidence about the reliability and validity of the measure when reported at this level of aggregation?**
No.

Unintended consequences: **What are the potential unintended consequences of reporting at this level of aggregation?**
None.

Provider Level
Individual practitioner: Can compare individual health care professionals

Intended use: **Is measure intended to support meaningful comparisons at this level? (Yes/No)**
No.

Data Sources: **Are data sources available to support reporting at this level?**
No.

Sample Size: **What is the typical sample size available for each unit at this level? What proportion of units at this level of aggregation can achieve an acceptable minimum sample size?**
Not applicable.

In Use: **Have measure results been reported at this level previously?**
Not applicable.

Reliability & Validity: **Is there published evidence about the reliability and validity of the measure when reported at this level of aggregation?**
Not applicable.

Unintended consequences: **What are the potential unintended consequences of reporting at this level of aggregation?**
Limited denominator size may affect reliability; access to information for services provided in other settings may be limited.

Provider Level
Hospital: Can compare hospitals

Intended use: **Is measure intended to support meaningful comparisons at this level? (Yes/No)**
No.

Data Sources: **Are data sources available to support reporting at this level?**
No.

Sample Size: **What is the typical sample size available for each unit at this level? What proportion of units at this level of aggregation can achieve an acceptable minimum sample size?**
Not applicable.

In Use: **Have measure results been reported at this level previously?**
Not applicable.

Reliability & Validity: **Is there published evidence about the reliability and validity of the measure when reported at this level of aggregation?**
Not applicable.

Unintended consequences: **What are the potential unintended consequences of reporting at this level of aggregation?**
Not applicable.

Provider Level
*Practice, group, or facility:** Can compare: (i) practice sites; (ii) medical or other professional groups; or (iii) integrated or other delivery networks*

Intended use: **Is measure intended to support meaningful comparisons at this level? (Yes/No)**
No.

Data Sources: **Are data sources available to support reporting at this level?**
No.

Sample Size: **What is the typical sample size available for each unit at this level? What proportion of units at this level of aggregation can achieve an acceptable minimum sample size?**
Not applicable.

In Use: **Have measure results been reported at this level previously?**
Not applicable.

Reliability & Validity: **Is there published evidence about the reliability and validity of the measure when reported at this level of aggregation?**
Not applicable.

Unintended consequences: **What are the potential unintended consequences of reporting at this level of aggregation?**
Limited denominator size may affect reliability; access to information for services provided in other settings may be limited.

Section 10. Understandability

CHIPRA states that the core set should allow purchasers, families, and health care providers to understand the quality of care for children. Please describe the usefulness of this measure toward achieving this goal. Describe efforts to assess the understandability of this measure (e.g., focus group testing with stakeholders).

NCINQ specifically sought to assess the understandability of the measures from a wide range of stakeholders, including purchasers, families, and providers. We convened an overall, multi-stakeholder advisory panel to assess all measures developed by our Center. This panel included representation from consumers, pediatricians, family physicians, adolescent medicine physicians, health plans, State Medicaid agencies, and researchers. In addition to our multi-stakeholder panel, we convened the following targeted panels:

- State Advisory Panel.
- Consumer Advisory Panel.
- Mental Health Technical Subgroup.

We also convened two panels with particular relevance to antipsychotic measures: (1) a Foster Care Panel with representatives from State child welfare and behavioral health services, Medicaid officials, the Administration on Children, Youth and Families, and foster care alumni; and (2) the Center for Health Care Strategies Improving the Use of Psychotropic Medications

among Children in Foster Care (PMQIC) Workgroup, a six-State collaborative working with cross-agency teams to improve issues around the use of psychotropic medications among youth. Input from these groups, in particular our targeted panels, were instrumental in ensuring these measures addressed needs of children in Medicaid and the foster care system. Throughout the measure development process, we presented the measures to these panels and solicited feedback on importance, understandability, and usability.

We also posted the measures for public comment to obtain feedback from an even wider audience. In addition to our usual questions around importance of the topic, usability, and feasibility of implementation, we specifically sought feedback on the appropriateness of our continuous eligibility definitions, how we defined antipsychotic "use," and appropriateness of the specifications for foster care populations.

The vast majority of comments received for Follow-up Visit for Children and Adolescents on Antipsychotics either supported the measure as specified or supported with suggested modifications. Stakeholders expressed some concerns about the limited availability of mental health providers for youth; thus, we specified the measure to allow for a follow-up visit with any prescriber. Our stakeholders agreed a general practitioner with prescribing authority still meets the measure intent of providing medication management services.

This measure was prioritized as an important measure, both through public comment and by NCINQ advisory panels. Stakeholders noted the measure is important because it assesses a minimum standard of care. Final measure specifications were informed by commenters' and advisory panel feedback.

Section 11. Health Information Technology

Please respond to the following questions in terms of any health information technology (health IT) that has been or could be incorporated into the measure calculation.

11.A. Health IT Enhancement

Please describe how health IT may enhance the use of this measure.

This measure has been specified and tested in claims data only. This measure could benefit from incorporation in health IT, as it would allow follow-up visits to be tracked and possibly tied into patient reminder systems.

11.B. Health IT Testing

Has the measure been tested as part of an electronic health record (EHR) or other health IT system?

The measure has not been tested in an EHR. However, a similar claims-based measure is being implemented by New York State in a Web-based application to support clinical decision-making and quality improvement: the Psychiatric Services and Clinical Knowledge Enhancement System (PSYCKES). PSYCKES is used in settings that include Medicaid providers in hospitals, clinics,

health homes, county mental health departments, and Medicaid managed care plans. Measures flag individual Medicaid enrollees with a quality alert to support clinical review.

If so, in what health IT system was it tested and what were the results of testing?

Not applicable.

11.C. Health IT Workflow

Please describe how the information needed to calculate the measure may be captured as part of routine clinical or administrative workflow.

As currently specified, measure elements are derived from claims/encounter data, and necessary data elements are generated when a prescription is filled at a pharmacy. For an EHR- or e-prescribing-based measure, data elements are generated automatically when a prescription is written; no change in clinician workflow would be required.

11.D. Health IT Standards

Are the data elements in this measure supported explicitly by the Office of the National Coordinator for Health IT Standards and Certification criteria (see healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov__standards_ifr/1195)?

Yes.

If yes, please describe.

Both Stage 2 of Meaningful Use and the 2014 edition of the ONC Certification of EHR technology require the electronic capture of medication order/prescription data in ambulatory settings.

11.E. Health IT Calculation

Please assess the likelihood that missing or ambiguous information will lead to calculation errors.

This measure assesses whether new prescriptions of antipsychotics are followed by a visit with a prescriber. Calculation errors are unlikely.

11.F. Health IT Other Functions

If the measure is implemented in an EHR or other health IT system, how might implementation of other health IT functions (e.g., computerized decision support systems in an EHR) enhance performance characteristics on the measure?

E-prescribing platforms can be designed to feed databases that can be used for performance reporting but also can be used to provide decision support to the prescriber.

Section 12. Limitations of the Measure

Describe any limitations of the measure related to the attributes included in this CPCF (i.e., availability of measure specifications, importance of the measure, evidence for the focus of the measure, scientific soundness of the measure, identification of disparities, feasibility, levels of aggregation, understandability, health information technology).

A limitation of the measure is its basis on clinical consensus that a follow-up visit is a minimum standard of care for youth on antipsychotics, though the consensus is consistent across guidelines. In addition, evidence for specific timing of follow-up is strongest for monitoring of side effects. However, this evidence is based on data on the timing and nature of side-effects rather than studies of the impact of monitoring. In addition, the prescriber is not specified as the person who initially prescribed the medication; however, the consensus of our stakeholder panels was that follow-up with any prescriber is important and can result in proper management.

Section 13. Summary Statement

Provide a summary rationale for why the measure should be selected for use, taking into account a balance among desirable attributes and limitations of the measure. Highlight specific advantages that this measure has over alternative measures on the same topic that were considered by the measure developer or specific advantages that this measure has over existing measures. If there is any information about this measure that is important for the review process but has not been addressed above, include it here.

This measure assesses whether children and adolescents received a follow-up visit with a prescriber following a new start of an antipsychotic medication prescription. Follow-up is a minimum clinical standard of care for children and adolescents on an antipsychotic and an essential aspect of appropriate medication management. Risks associated with antipsychotic medications in children include delirium, serious behavioral changes, cardiac arrhythmias, and death. These risks are in addition to common side effects, such as metabolic disturbance, which may have a serious impact on children and adolescents who are at varying stages of development, and extrapyramidal side effects, which can be permanent and disfiguring. A follow-up visit with a prescriber is necessary to monitor these areas of concern and ensure that the medication is not harming the child. In addition, follow-up care is needed to assess response to treatment and the ongoing need for antipsychotic medication.

This measure is specified for administrative claims and is intended for use by States and health plans to ensure appropriate access to follow-up care for children and adolescents on antipsychotics. Testing results suggest the measure is highly feasible, valid, and reliable at both the State and health plan levels. Extensive feedback from multiple and varied stakeholders found the measure to be understandable and meaningful. Targeted feedback from stakeholders with a particular interest in antipsychotics, including State Medicaid directors and those working within the foster care system, indicated the measure is a high priority for the youth population.

References

Adams SJ, Xu S, Dong F. Differences in prescribing patterns of psychotropic medication for children and adolescents between rural and urban prescribers. Boulder, CO: WICHE Center for Rural Mental Health Research; 2009.

Alegria M, Vallas M, Pumariega AJ. Racial and ethnic disparities in pediatric mental health. Child Adolesc Psychiatr Clin N Am 2010; 19(4):759-74.

American Academy of Child and Adolescent Psychiatry (AACAP). Practice Parameter for the Use of Atypical Antipsychotic Medications in Children and Adolescents. Washington, DC: AACAP; 2011. http://www.aacap.org/App_Themes/AACAP/docs/practice_parameters/Atypical_Antipsychotic_Medications_Web.pdf. Accessed October 22, 2018.

Andrade SE, Lo JC, Roblin D, et al. Antipsychotic medication use among children and risk of diabetes mellitus. Pediatrics 2011; 128(6):1135-41.

Bobo WV, Cooper WO, Stein CM, et al. Antipsychotics and the risk of type 2 diabetes mellitus in children and youth. JAMA Psychiatry 2013; 70(10):1067-75.

Cooper WO, Arbogast PG, Ding H, et al. Trends in prescribing of antipsychotic medications for U.S. children. Ambulatory Pediatr 2006; 6(2):79–83.

Cooper WO, Hickson GB, Fuchs C, et al. New users of antipsychotic medications among children enrolled in TennCare. Arch Pediatr Adolesc Med 2004; 158(8):753–9.

Correll CU. Antipsychotic use in children and adolescents: Minimizing adverse effects to maximize outcomes. J Am Acad Child Adolesc Psychiatry 2008; 47(1):9-20.

Correll CU, Manu P, Olshanskiy V, et al. Cardiometabolic risk of second-generation antipsychotic medications during first-time use in children and adolescents. JAMA 2009; 302(16):1765-73.

Crystal S, Olfson M, Huang C, et al. Broadened use of atypical antipsychotics: Safety, effectiveness, and policy challenges. Health Aff 2009; 28(5):w770-81.

Hammerman A, Dreiher J, Klang SH, et al. Antipsychotics and diabetes: An age-related association. Ann Pharmacother 2008; 42(9):1316-22.

Harpaz-Rotem I, Rosenheck RA. Prescribing practices of psychiatrists and primary care physicians caring for children with mental illness. Child Care Health Dev 2006; 32(2):225-37.

Jerrell JM, McIntyre RS. Health-care costs of pediatric clients developing adverse events during treatment with antipsychotics. Value Health 2009; 12(5):716-22.

McKinney C, Renk K. Atypical antipsychotic medications in the management of disruptive behaviors in children: Safety guidelines and recommendations. Clinical Psychol Rev 2011; 31(3):465–71.

Medicaid Medical Directors Learning Network (MMDLN) and Rutgers Center for Education and Research on Mental Health Therapeutics. Antipsychotic Medication Use in Medicaid Children and Adolescents: Report and Resource Guide from a 16-State Study. New Brunswick, NJ: Rutgers University; 2010. Available at http://rci.rutgers.edu/~cseap/MMDLNAPKIDS/Antipsychotic_Use_in_Medicaid_Children_Report_and_Resource_Guide_Final.pdf. Accessed October 22, 2018.

Olfson M, Blanco C, Liu L, et al. National trends in the outpatient treatment of children and adolescents with antipsychotic drugs. Arch Gen Psychiatry 2006; 63(6):679–85.

Patten SB, Waheed W, Bresee L. A review of pharmacoepidemiologic studies of antipsychotic use in children and adolescents. Can J Psychiatry 2012; 57(12):717-21.

Texas Department of Family and Protective Services (DFPS). Psychotropic Medication Utilization Parameters for Children and Youth in Foster Care (5th Edition). Austin, TX: Texas DFPS; 2016. Available at https://www.dfps.state.tx.us/Child_Protection/Medical_Services/documents/reports/2016-03_Psychotropic_Medication_Utilization_Parameters_for_Foster_Children.pdf. Accessed October 23, 2018.

Zito JM, Safer DJ, Sai D, et al. Psychotropic medication patterns among youth in foster care. Pediatrics 2008; 121(1):e157-63.

Section 14: Identifying Information for the Measure Submitter

First Name: Sarah

Last Name: Hudson Scholle, MPH, DrPH

Title: Vice President, Research and Analysis

Organization: National Committee for Quality and Assurance (NCQA)

Mailing Address: 1100 13th Street, NW, Suite 1000

City: Washington

State: DC

Postal Code: 20005

Telephone: 202-955-1726

Email: scholle@ncqa.org

The CHIPRA Pediatric Quality Measures Program (PQMP) Candidate Measure Submission Form (CPCF) was approved by the Office of Management and Budget (OMB) in accordance with the Paperwork Reduction Act.

The OMB Control Number is 0935-0205 and the Expiration Date is December 31, 2015.

Public Disclosure Requirements

Each submission must include a written statement agreeing that, should U.S. Department of Health and Human Services accept the measure for the 2014 and/or 2015 Improved Core Measure Sets, full measure specifications for the accepted measure will be subject to public disclosure (e.g., on the Agency for Healthcare Research and Quality [AHRQ] and/or Centers for Medicare & Medicaid Services [CMS] websites), except that potential measure users will not be permitted to use the measure for commercial use. In addition, AHRQ expects that measures and full measure specifications will be made reasonably available to all interested parties. "Full measure specifications" is defined as all information that any potential measure implementer will need to use and analyze the measure, including use and analysis within an electronic health record or other health information technology. As used herein, "commercial use" refers to any sale, license or distribution of a measure for commercial gain, or incorporation of a measure into any product or service that is sold, licensed or distributed for commercial gain, even if there is no actual charge for inclusion of the measure. This statement must be signed by an individual authorized to act for any holder of copyright on each submitted measure or instrument. The authority of the signatory to provide such authorization should be described in the letter.