

Timeliness of Follow-up Visits Following Hospital Discharge for Children with a Primary Mental Health Diagnosis

Section 1. Basic Measure Information

1.A. Measure Name

Timeliness of Follow-up Visits Following Hospital Discharge for Children with a Primary Mental Health Diagnosis

1.B. Measure Number

0176

1.C. Measure Description

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

This measure describes various aspects of the timeliness of follow-up visits with mental health and primary care providers following hospital discharge of a child with a primary mental health diagnosis.

1.D. Measure Owner

Collaboration for Advancing Pediatric Quality Measures (CAPQuaM).

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.**

This measure belongs to the PQMP Mental Health Follow-up Measures Collection.

- 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.**

Not applicable.

- 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

The specified presence, absence, date, and specified characteristics of specified follow-up visits with specified primary care providers or specified mental health providers in specified timeframes following hospital discharge

Numerator Elements

The table specifying qualifying events and providers can be found in the technical specifications (see Supporting Documents). The data are comprehensive encounter or claims data, and elements include ICD-9 codes, HCSPCS codes, Revenue codes, and Place of Service codes, as well as dates of service and provider types. Not all data elements are required for each discharge, as indicated in the technical specifications.

1.H. Numerator Exclusions

- Otherwise qualifying events occurring in patients who meet numerator but not denominator criteria.
- Events that occur outside of the specified timeframe.

1.I. Denominator Statement

The denominator identifies hospital discharges that may qualify for the measures.

Denominator Elements:

1. Age of the child.
2. Evidence of qualifying discharges using the specified mix of ICD-9, CPT, HCSPCS, Revenue, and POS codes.
3. Discharge status (alive, not transferred to inpatient facility).
4. Date of discharge.

Stratifying variables to be identified include: Race/ethnicity and zip code data (or county FIPS code if zip not available).

1.J. Denominator Exclusions

Children who are not continuously enrolled in a New York insurance program (Medicaid and/or private health plan) contributing to the data set for at least 180 days following the date of discharge.

There are various specific exclusions for children who are re-admitted to the hospital within the specified follow-up periods.

1.K. Data Sources

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

Administrative (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 technical 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).**

Mental health is a critical component in the development of a child’s emotional and physical well-being. In 2009, nearly 10 percent of pediatric hospitalizations were for a primary mental health diagnosis, with depression, bipolar disorder, and psychosis as the most frequent reasons (Bardach, Coker, Zima, et al., 2014). Pediatric mental health hospitalizations increased 24 percent between 2007 and 2010 (Bardach, et al., 2014). Our analysis of discharges from general and children’s hospitals in the United States with a primary mental health diagnosis, using the 2012 Kids’ Inpatient Database (KID), found that mood disorders accounted for 55 percent of primary diagnoses, followed by psychotic (9 percent) and substance abuse disorders (8 percent). In all, U.S. children spent 1,721,765 days in a hospital for mental health care in 2012. This analysis also found mental health admissions were higher among black and white children compared with Hispanic children, and they were more common for children with public insurance than those with private or no insurance. Estimates put the cost of mental health hospitalization of children at \$11.6 billion between 2006 and 2011 (Torio, Encinosa, Berdahl, et al., 2015). Our analysis suggested a particular burden for Medicaid. We note additionally that children who are admitted to the hospital for a mental health condition are very likely to meet criteria for children with special health care needs (CSHCN), hence this measure set is of importance for this population of interest.

Follow-up is a key component of the optimal management of a number of medical conditions, but it is especially critical for children with mental health diagnoses. Timely follow-up with both primary care providers and mental health practitioners after a hospital discharge is imperative to deliver the best outcomes. There is broad acceptance that follow-up may also reduce re-

hospitalizations and associated costs. Still, the capacity (facilities and clinicians) needed to provide follow-up for children with mental health diagnoses remain insufficient. In Massachusetts, one study found that 80 percent of pediatricians reported that their patients struggled to find mental health services (Perrin, Sheldrick, 2012). Our project's focus groups indicated the burden on parents to identify and secure outpatient mental health services is substantial, including for children with private insurance, and that clinical resources are scarce. Children with mental health issues are more vulnerable to incomplete follow-up because of a lack of available services. The challenges are increased because care coordination for pediatric mental health patients is made more complex by a variety of issues, such as the potential for stigma, frequent involvement of one or both of the school and juvenile justice systems, the frequent involvement of child protective services, and the potential for concomitant substance abuse (Kazak, Hoagwood, Weisz, et al., 2010). Clinically, complexity is added by the particular reluctance of some mental health professionals to share information even within the clinical team (Coffey, Buck, Kassed, et al., 2008; Weiss, 2012).

Poor follow-up rates after a mental health hospital admission have been observed in studies going back to the 1970s. For example, in a study of a Medicaid population in Massachusetts, only 26 percent had a follow-up appointment within 30 days of discharge after a mental health hospitalization. The likelihood of follow-up often parallels an increased number of prior hospitalizations, increased length of hospital stay, greater perceived need for medications (Axelrod, Wetzler, 1989; Kirk, 1977; Wolkon, 1970) and patients' attitudes about their illness, hospitalization, and outpatient treatment (Axelrod, Wetzler, 1989; Tessler, Mason, 1979).

Successful transition to outpatient treatment after a hospital discharge is thought to involve the presence of interventions or "bridging strategies" (Meyerson, Herman, 1983). Such strategies have ranged from telephone and letter prompting, to various inpatient interventions aimed at discharge planning and linkage (Axelrod, Wetzler, 1989; Bogin, Anish, Taub, et al., 1984; Stickney, Hall, Gardner, 1980; Wolkon, Peterson, Rogawski, 1978) and involvement of the patient and treatment staff (Fink, Heckerman, 1981; Olfson, Mechanic, Boyer, et al., 1998; Rosenfield, Caton, Nachumi, et al., 1986; Sullivan, Bonovitz, 1981). Such improvements include, but are not limited to, scheduling the follow-up visit for the patient prior to discharge, having a designated health care worker for follow-up prior to discharge, and receiving reminders for the pending follow-up appointment.

Follow-up after discharge of a hospitalized mental health patient is a current National Committee for Quality Assurance (NCQA) quality measure in the Health Effectiveness Data and Information Set (HEDIS) that tracks the percentage of patient appointments with a mental health practitioner. The HEDIS calculates the percentage of members who received a follow-up at 7 and 30 days after discharge for patients over 6 years of age. Follow-up under HEDIS guidelines can occur as an outpatient visit, an intensive outpatient encounter, or a partial hospitalization with a mental health practitioner.

This measure has several important merits, including its comprehensive definition of a mental health condition. However it also has several shortcomings. Not surprisingly, 7 and 30 day follow-up rates are highly correlated (Kazak, et al., 2010). The distinct interpretation of the two

is not clearly stated. The age range of the HEDIS measure is not specifically justified (6 and older). Further, children are not specified distinctly, and younger children are excluded. While admissions under 6 years old are unusual, it is reasonable to conclude that assessing follow-up may be even more consequential for these less common events. Also, there are no provisions to assess follow-up outside of the mental health system, such as with primary care providers. The HEDIS measure only reports whether a single mental health appointment occurred. There are no patient-centered aspects for the HEDIS measure. From this we conclude that follow-up after mental health discharge is an important topic, and that while there exists a meaningful but limited measure, there are important opportunities to enhance the existing HEDIS measure for children.

AHRQ and CMS charged CAPQuaM to develop measures about follow-up after a mental health hospitalization in the pediatric population. With this work, CAPQuaM advances the HEDIS measure by looking at continuity of care as a component of coordination of care by comparing follow-up appointments both within and outside of the mental health care system. This measure also seeks to be more expansive in the patient data it captures (e.g., this measure reports a greater age range, and it reports a more comprehensive timeline of follow-up than the HEDIS measure).

We view the HEDIS measure as an important start which we wish to enhance, both by specifying specifically for children and by extending the constructs of the measure as discussed above. One of the key aspects of this current measure is the way in which CAPQuaM defines and refers to continuity of care and coordination of care. Within the broader coordination of care literature, CAPQuaM notes the distinction made between continuity of care among mental health care clinicians and coordination of care between the mental health clinicians and the primary care/physical health care system. Continuity of care is that subset of activities that may cross organizations or settings but remains within a clinical specialty. In the current context, it refers to ongoing care after discharge with a behavioral or mental health clinician. Coordination of care refers to efforts that are done to integrate activities by distinct clinical realms while caring for an individual. In the development of our measures, CAPQuaM made explicit the various components of follow-up—specifically, continuity within the mental health specialty and the coordination that occurs across specialties (i.e., primary care physician and mental health provider).

Barbara Starfield defined primary care as “that level of a health service system that provides entry into the system for all new needs and problems, provides person-focused (not disease-oriented) care over time, provides care for all but very uncommon or unusual conditions, and coordinates or integrates care provided elsewhere by others” (Starfield, 1998). Coordination of care sees the primary care practice as integrating all aspects of its patients’ care, even when the patient is being seen elsewhere (Starfield, Shi, Macinko, 2005). This coordination is especially important for CSHCN (mental health conditions included) and has become a key aspect in the medical home model, which strives to provide a single point of care from which all other health care services can be integrated (Stille, Antonelli, 2004). Coordination of care implies continuity, but continuity can happen with only minimal or inadequate coordination and is not sufficient to qualify as meaningful, high-quality care. This measure set uses follow-up visits to a mental

health provider to signify continuity of care and follow-up with a primary care provider to signify coordination of care.

The CAPQuaM measure development process led us to develop measures of follow-up that include patient engagement, continuity, coordination, and the establishment of follow-up by considering beyond the initial appointment. This measure:

- Reports rates of follow-up with mental health clinicians and with primary care providers, considering timeframes recommended by an expert panel.
- Uses age stratification to provide more detailed information regarding follow-up practices. Age groups include children less than 6 years of age; 6-11 years; 12-18 years, and 19-21 years.
- Assesses the extent to which initial follow-up visits establish ongoing care by measuring the time interval between first and second follow-up appointments, both with mental health providers and with primary care clinicians..
- Used readmission rates as an important clinical outcome in validating the measure.

With a better understanding of follow-up patterns after hospitalization for a mental health condition, health care organizations and policymakers can develop better informed services for children with mental health conditions.

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

Comment on 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).**

Children with mental health diagnoses comprise a critically important population of high interest to Medicaid. According to one report produced by the Center for Health Care Strategies, less than 10 percent of children in Medicaid utilize behavioral health care, but behavioral health care accounts for 38 percent of Medicaid expenditures for children (Pires, Grimes, Gilmer, et al., 2013). Furthermore, one-third of the Medicaid child population utilizing behavioral health care is in the foster care system. These children represent 56 percent of the total behavioral health expenses for all children enrolled in Medicaid. Our analysis of both the National Survey of Children's Health data (NSCH, 2011-2012), and of the 2012 Kids' Inpatient Database (KID) confirmed the importance of mental health care in the Medicaid population. An analysis of the NSCH data indicates that approximately 5.2 million U.S. children between the ages of 0-17 years have been told that they have an emotional, behavioral, or developmental issue; 56 percent of

these children are of low income and have public insurance. Children with public insurance account for 3 out of every 1,000 mental health hospital admissions.

We have done extensive analysis of various approaches to identifying and counting hospital admissions for children with a mental health diagnosis using New York State Medicaid data. In 2013, we identified 14,488 inpatient discharges for children aged 0-21 in New York State Medicaid, of which more than 11,000 were children 0-18 years of age.

Demographics: The survey of CSHCN, conducted by the Centers for Disease Control and Prevention (CDC) and available at www.childhealthdata.org, showed that 19 percent of Hispanic children and 15 percent of black children have an emotional, behavioral or development issue. Black and Hispanic children are more likely to have a hospital admission for a mental health disorder compared to white non-Hispanic children, according to the 2012 KID database; 56 percent of children with emotional, behavioral, or developmental issues have public insurance, and almost 30 percent live in households under the Federal poverty line.

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).

This measure is part of a measure set developed by CAPQuaM to measure and report rates of follow-up after a mental health hospitalization in a pediatric population; it is intended to enhance an existing measure in the Health Effectiveness Data and Information Set (HEDIS) that was developed by the National Committee for Quality Assurance (NCQA).

Further discussion is presented in the section on General Importance of the Measure.

The HEDIS measure calculates and reports the percentage of members who received a follow-up at 7 and 30 days after discharge for patients over 6 years of age. Follow-up under HEDIS guidelines can occur as an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner. Though HEDIS has many important merits, the measure falls short in realistically examining follow-up patterns after a mental health hospitalization.

The goal of the CAPQuaM team was to address the gaps in the HEDIS measure as well as enhance and accurately measure continuity and coordination. The several important gaps in the HEDIS measure include the following:

1. It measures continuity of care rather than quality of care. In a study of the HEDIS construct, it was shown that – in a VA setting – this measure was not correlated with other measures of quality of care (Druss, Rosenheck, 1997), and was not associated with readmission rates, suggesting that its sole focus on continuity may be too narrow.

2. It excludes patients who are discharged to another, less acute facility. The rationale is that those patients may not have an outpatient visit soon. This seems to exclude a significant swath of mental health patients. Nearly one-half of adolescents lack a medical home, rates are even lower among subgroups. Effective care coordination and family centered care could result in higher quality of care for all children and adolescents. Medical home access and care coordination partially mediate the relationship between emotional and behavioral difficulties among CSHCN (Berry, Soltau, Richmond, et al., 2011).
3. It reports follow-up within 7 or 30 days of discharge, treating each as successes. There are substantive differences in the meaning of 30- and 7-day measures, as well as statistical relationships that are not clearly articulated (Stein, Kogan, Sorbero, et al., 2007).
4. The age range (6-20 years of age) is not specifically justified. Presumably, indeed, most admissions to a mental health facility fall within this age range. However, the inclusion of both adults (ages 18-20) and children (less than 18 years of age) in the same measure could be problematic, as issues related to the treatment of children, including consent/assent to hospitalization, are quite different from those encountered in adults. Further, issues experienced by younger children (ages 6-12) may be different from those experienced by teens (11-21 years of age). In addition, there are differences in location of receipt of mental health care based on the age of the child (Grover, Lee, 2013).
5. It lacks a focus on coordination of care (Dworsky, Courtney, 2009; McMillan, Raghavan, 2009).
6. It asks that care be reported for a group of patients and not individually, making it impossible to stratify or aggregate for specific populations, such as by age category, race/ethnicity, or socioeconomic status. Research suggests differences in type of mental health care location may help explain lingering racial/ethnic and socioeconomic differences in diagnosis and treatment of pediatric psychosocial conditions (Kaizar, Chisholm, Seltman, et al., 2006).

CAPQuAM's measure on follow-up after a mental health hospital stay seeks to enhance the current HEDIS measure in the following ways:

- Uses a more focused age range (0-21 years of age) to isolate pediatric and adolescent admissions from those of adults and then stratifies by age group (under 6, 6-11 years, 12-18 years, and 19-21 years) to provide more detailed information regarding follow-up practices.
- Reports follow-up rates in specified timeframes that were endorsed and recommended by our Expert Panel.
- Reports follow-up rates in both mental health care and primary care practice settings.
- Reports the rate of children having a second follow-up appointment both with mental health and primary care providers. This will help assess the extent to which an initial follow-up appointment establishes ongoing care.

- Reports readmission rates after various timeframes.
- Supports a variety of key stratifications.

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:** Yes.
- c. **Care Setting – other – please specify:** Not applicable.
- d. **Service – preventive health, including services to promote healthy birth:** Follow-up care is both treatment- and prevention-oriented.
- e. **Service – care for acute conditions:** Yes.
- 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:** Yes.
- 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):** Not applicable.
- n. **Population – pregnant women:** Not applicable.
- o. **Population – neonates (28 days after birth) (specify age range):** Yes.
- p. **Population – infants (29 days to 1 year) (specify age range):** Yes.
- q. **Population – pre-school age children (1 year through 5 years) (specify age range):** Yes.
- r. **Population – school-aged children (6 years through 10 years) (specify age range):** Yes.
- s. **Population – adolescents (11 years through 20 years) (specify age range):** Yes.
- 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.

We conducted a two-stage literature review, begun with an ad hoc review by CAPQuaM staff to orient ourselves to the literature and the topic. For the Round 2 measure development, the original literature search conducted by a librarian at Columbia University resulted in 8,835 references that were not separated into mental health and medication reconciliation. The articles were first divided among pairs of reviewers (eight reviewers in total). Each pair of reviewers decided if an article was to be included or excluded and whether it was appropriate for mental health, appropriate for medication reconciliation, or for both. Results were merged into Excel, and disagreements were discussed and resolved. The Mental Health library then had 920 articles. Two research assistants sorted all articles based on a hierarchical categorization list (“Categories for MH distribution”) and also excluded articles when necessary; the Mental Health library then had 778 articles. Realizing the large number of articles for each reader in the time given, it was decided that a prioritization of articles should take place. Reviewers (two) gave each article a rating of 1, 2, or 3, with 1 being high priority and 3 being low. Articles that both reviewers assigned a 3 were excluded, leaving 653 articles in Mental Health that were reviewed by the literature review team.

The team developed an integrated model for coordination of care that incorporated our measure assignments from AHRQ and CMS that spanned this measure, as well as two medication reconciliation measures. The figure illustrates CAPQuaM’s round 2 conceptual model (see Supporting Documents).

Since little research is documented in the literature on continuity or coordination of care following MH discharge of pediatric populations, the following summary pertains to studies in both adult and pediatric settings. Findings on patient risk factors have been inconclusive. Data on

the role of clinical characteristics in predicting successful linkage can sometimes be contradictory (Axelrod, Wetzler, 1989; Fink, Heckerman, 1981; Kirk, 1977; Kolko, Campo, Kilbourne, et al., 2012; Lee, Greene, Hsu, et al., 2009; Tessler, Mason, 1979). The relationship between continuity and previous hospitalizations (Axelrod, Wetzler, 1989; Kirk, 1977; Wolkon, 1970), length of stay (Axelrod, Wetzler, 1989; Fink, Heckerman, 1981; Simms, Dubowitz, Szilagyi, 2000), and patients' attitudes about their illness, hospitalization, and outpatient treatment (Axelrod, Wetzler, 1989; Tessler, Mason, 1979) have been documented.

Successful transition to outpatient treatment after a hospital discharge is thought to involve the presence of interventions or "bridging strategies" (Meyerson, Herman, 1983). Such strategies have ranged from telephone and letter prompting to various inpatient programmatic interventions aimed at discharge planning and linkage (Axelrod, Wetzler, 1989; Bogin, et al., 1984; Stickney, et al., 1980; Wolkon, et al., 1978) to involvement of the patient and treatment staff (Carlisle, Mamdani, Schachar, et al., 2012; Fink, Heckerman, 1981; Olfson, et al., 1998; Rosenfield, et al., 1986). The relative effectiveness of these various strategies has not been examined in the context of patients' clinical and social risk factors, but the success of such interventions suggests that they could be used to inform the constructs that should be in place in order for continuity/coordination of care to be optimal.

In addition to the constructs above, original studies from our group found the following:

In a Medicaid population in Massachusetts, there was poor coordination of care and incomplete communication from the mental health team to the primary care system. A follow-up with the primary care provider could be documented 26 percent of the time within 30 days and 32.2 percent within 60 days. Among all discharges, there was evidence in the chart that the PCP was aware of the mental health discharge only 46 percent of the time (n=242). Of those, 32 percent of the communication came directly from the patient and not another medical provider. Even among those who were seen in follow-up, nearly one-quarter did not show evidence of awareness of the MH discharge even after the "follow-up" visit. The MassHealth medical director (herself a psychiatrist) estimated that in nearly every one of those admissions some form of medication change was made, and lack of notation of awareness by the PCP was even more disturbing in that context.

Physical proximity of services from different providers, such as exemplified in some iterations of the "medical home" paradigm," as applied specifically to mental health constructs, was shown to foster continuity of care in a controlled study (Patton, Hetrick, McGorry, 2007). A transition care-coordinator paradigm improves medical health constructs and can in fact save lives in medical settings (Sarvet, Gold, Straus, 2011). Bates and Bitton (2010) remind us that transitions are a vulnerable time for patients, concluding that "Hospitals need to let medical homes know when their patients leave, and medical homes need processes to contact these patients for follow-up. In addition, practices need electronic tools to assist with medication reconciliation, the process of identifying and updating the complete list of medications the patient is taking. One group is evaluating a tool that enables primary care providers to call up a patient's medication list at discharge and rapidly compare it to the electronic medication list that existed before admission" (Myers, Valentine, Melzer, 2008). The medical home paradigm, which is touted as a

strategy for improving care coordination, was specifically shown to be less available to youth with mental health problems, flagging it as an underused strategy in this population (Vigod, Kurdyak, Dennis, et al., 2013). The school health center is the new medical home that is a public and private collaboration. School-aged youth often have unmet needs that can lead to morbidity and mortality linked to complex behavior patterns and psychological risk factors (Bates, Bitton, 2010). Prevention and treatment in the school setting is now integrated in school-based and school-linked clinics.

Confidentiality of mental health records is often cited as a barrier to communication from mental health clinicians, even though HIPAA rules specifically allow sharing of medical, including mental health, information other than psychotherapy notes. Other barriers include different charting systems (electronic or otherwise) between providers, lack of time, lack of documentation, possibly even though coordination of care might have happened, patient non-adherence or even refusal of care, and excessive reliance on the patient/family.

Despite workforce limitations, there is ample evidence that follow-up is a manageable and consequential process of care, and some institutions and systems do it better than others.

Gender, age, race, type of admission diagnosis, and urban vs. other settings all seem to be predictors of continuity of care. Fragmented care for inner-city minority children with ADHD, system and human level factors that were perceived to impede coordination of care, need for better organizational policies that define provider responsibilities, and accountability are all major issues. There is a need to support the coordination of care and provide additional education and resources to improve collaboration (Boyer, McAlpine, Pottick, et al., 2000). This justifies our approach to stratification

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.

The clinical rationale is described in the preceding section. Follow-up is consequential in terms of children's health, well-being, hospitalization, and costs. Follow-up is needed both to assure continuity in the mental health system and to promote coordination via the primary care system, as with a medical home. Further evidence of the importance of such coordination is demonstrated by several analyses that we conducted:

Our cross-sectional study of the 2012 KID database found the rate of pediatric hospitalizations for mental disorders in 2012 was 2.96 per 1,000 children, representing 4 percent (257,882) of total pediatric hospitalizations. Expected variation in admission rate by age group was seen: 0.13, 1.04, 5.36 and 7.49 ($P < .001$) per 1,000 in children less than 6, 6-11, 12-18 and 19-20 years old, respectively. Admissions were most common in children with public insurance (3.0 per 1,000), compared to private insurance (2.0 per 1,000) and those without insurance (1.0 per 1,000), $P < .001$. Median length of stay was 4.2 (IQR 2.3-6.8) days. Children in the United States spent 1,721,765 days in hospitals for mental health care in 2012. An approximately equal number of

children were diagnosed primarily for physical health disorders who also had a mental health diagnosis noted, highlighting the critical importance of coordinating care across the mental health and primary care systems to optimize integrated care for children.

Our study of 2013 data in New York Medicaid found more than 11,000 primary mental health discharges in children 0-18 and another 3,000 or so in those aged 19 and 20 years. We present combination measures of MH (mental health) and PCP (primary care clinician) follow-up, followed by a breakdown by type of visit. For illustration purposes, the data for the combination measures are for those 0-18, while those of the individual measures are for ages 0-21. We have also demonstrated important variations by race/ethnicity, age, percent poverty in the county, and urbanicity. In addition, we found that delayed primary care follow-up was clearly associated with higher mental health readmission rates. The low rates of timely follow-up and the high rates of mental health readmission strongly suggest the clinical importance of this measure (see mental health follow-up charts in the Supporting Documents).

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.

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.

The basis for the scientific soundness and reproducibility of this measure lies in the expertise of our Expert Panel, as well as with the literature review and administrative data from which it was developed. Though these types of data have their limitations, they have been shown in multiple studies to be reliable sources of information for population-level quality measurement. They are currently used for all of the analogous measures of which we are aware. Our use of New York State Medicaid data reflects the same process of data analysis that resulted in the HEDIS measures.

Most databases contain consistent elements, are available in a timely manner, provide information about large numbers of individuals, and are relatively inexpensive to obtain and use. The validity of New York databases has been established, and their strengths and weaknesses relative to data abstracted from medical records and obtained via survey have been documented (Adams, Newacheck, Park, et al., 2013). Administrative data are supported, if not encouraged, by many Federal agencies, such as the National Institutes of Health (NIH), AHRQ, CMS, and the

Department of Veterans Affairs (VA). CMS made clear to the participating AHRQ-CMS CHIPRA Centers of Excellence funded to develop measures in the Pediatric Quality Measures Program that it places a premium on feasibility when assessing those measures that it will most highly recommend to States to complete. The sources of data for the existing measure and other similar measures are typically based on administrative data providing consensual validation for the appropriate primary data source.

Constructs underlying these measures:

- Identifying children with a mental health diagnosis through the use of diagnostic and billing codes.
- Identifying specific services children received in the specified timeframes following their mental health admission: primary care visits and visits with a mental health care provider.
- Incorporating widely used coding schema, including HCPCS, CPT, and CMS's revenue codes and place of service in ways consistent with previous usage.
- Identifying the type of facility providing the service using CMS's place of service codes.

We were guided in our inclusion criteria for a mental health hospitalization by the results of a formal RAND/UCLA modified Delphi process conducted with a multidisciplinary panel of national experts, which included a pediatrician, pediatric hospitalist, family physician, child psychiatrist, adult psychiatrist, adolescent physician, family advocate, discharge planner, and a licensed psychologist. The definitions were specified to allow their use with data elements that are typically available in electronic form to a responsible entity, such as a health plan or State Medicaid program. Part of our validation process involved using New York State Medicaid data for iterative testing to refine our specifications. We conducted at least eight distinct rounds of testing using these data.

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).

Note: the reliability section also contains information related to validity. Administrative data using ICD-9 and CPT-4 codes have been shown to be a reliable and effective means to identify clinical encounters. We have previously shown (in our asthma measure development work) that the validity (particularly the sensitivity without cost to the specificity) of administrative data can be enhanced by using Revenue codes. Like CPT codes, place of service codes are sufficiently valid to be used by CMS for payment decisions. We have been reassured by our New York State Medicaid partners regarding the validity of provider type coding within State Medicaid data sets and from their national experience in managed care data sets as well.

CAPQuaM's 360 degree method engages collaborators and partners and is informed by the literature. It seeks to have measures emerge from a systematic process. In developing these measures, we incorporated:

- A high level of engagement with partnered institutions and senior advisors, including a wide diversity of stakeholders.
- A detailed literature review, updated and supplemented as needed.
- A geographically diverse, multidisciplinary expert panel that participated in a two-round RAND/UCLA modified Delphi process, with enhanced follow-up.
- Development of a Boundary Guideline that simultaneously accounts for a variety of gradients, including gradients of importance, relevance, and certainty, as appropriate to the construct being represented.
- Specification and review of approaches to measurement by stakeholders and experts
- Testing and assessment of measure performance to the extent feasible given resources and available time.

Use of expert panels has been demonstrated to be useful in measure development and health care evaluation, including for children (McPherson-Corder, 1995). Practitioners have been identified as a resource for researchers in developing and revising measures, since they are on the frontlines working with the populations who often become research participants. Involving practitioners can assist researchers in the creation of measures that are appropriate and easily administered (Grimes, Kapunan, Mullin, 2006). Our expert panel supported measures that assessed the presence of prompt follow-up with a mental health professional following hospitalization for mental health and also with a primary care clinician. Our expert panel further defined the age ranges and range of diagnoses to be considered as mental health discharges, along with who could be considered a primary care clinician and mental health clinician for the purposes of follow-up. We worked closely with our partners in the New York State Medicaid program to map the intended constructs to administrative data fields that were both available in New York and that would typically be available to Medicaid programs. Finally, our panel suggested what timeframes should be considered timely, both for an initial follow-up visit and for a second visit following a hospital discharge.

For the presentation of ratings of CAPQuaM's expert panel on mental health follow-up, we modified the Inter-Percentile Range Adjusted for Symmetry (IPRAS) score that had been developed by RAND and RAND Europe researchers. Our modified IPRAS maintained the original IPRAS's capacity to integrate the extent of variability into the final rating score and hence to provide additional discrimination between scenarios with similar median scores but varying levels of consensus (Fitch, Aguilar, Burnand, et al., 2001). Comparing our modified score to the original IPRAS we added further discrimination, always in the predicted (desired) direction based upon a qualitative assessment of the scoring. Keeping with CAPQuaM's process, using these IPRAS scores gave enhanced discrimination that produced more informative

Boundary Guidelines that provided meaningful guidance for prioritizing constructs for measurement and testing.

Key reference materials for our work included our partner NCQA and HEDIS's specifications for their measure on follow-up after mental health discharge and articles in the literature, including one co-authored by Senior Advisory Board Member Harold Pincus (Viggiano, Pincus, Crystal, 2012), AHRQ's specifications for its clinical classification software, the standard reference manuals for ICD-9-CM and CPT-4 published by Ingenix, and CMS' own Revenue Codes and Place of Service codes (Healthcare Cost and Utilization Project [HCUP], 2014.) We were also informed by a recently published annual report on mental health admissions for children (Torio, Encinosa, Berdahl, et al., 2015), and we have conducted analysis of the KIDS database to enhance our understanding of this area.

Our final definitions operationalize the recommendations of our expert panel. As needed, we guided decisions with reference to the sources noted to the previous paragraph and also our own analyses of HCUP and New York State Medicaid data. Specific pretesting included iterative analyses in New York State Medicaid data, which demonstrated that our parameters (definitions of admissions and follow-up) were selective but not overly restrictive, especially in regards to the current HEDIS measure. This helped us achieve our goals of more accurately reporting follow-up rates among pediatric populations.

From testing in New York State Medicaid data we also could conclude:

- Follow-up with a mental health care provider was more likely to happen in a timely fashion compared with follow-up with a primary care provider.
- There was evidence that the majority of children who had an initial follow-up appointment within a given provider type (mental health vs. PCP) had a second appointment with the specified provider.
- Higher rates of readmission were observed when follow-up took longer and no follow-up appointment occurred with a primary care provider. Failure to follow up with a primary care provider within 7 days after discharge (days 1-7) was associated with higher risk of readmission at 30, 90, and 180 days post-discharge

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

We used existing data to describe race/ethnicity. We have specified these data to be stratified by race/ethnicity. In New York State, we were able to identify differences across a variety of measures (see Race/Ethnicity Charts in the Supporting Documents).

These analyses also show that PCP and mental health follow-up measures capture different information that does not change consistently between populations, highlighting the importance of our decision to include both.

7.B. Special Health Care Needs

These measures generally pertain to CSHCN; we did not further specify disparities within the CSHCN population.

7.C. Socioeconomic Status

We have specified an approach to looking at poverty in the home county of each child. In New York State, data analyses of our measures were sensitive to differences in the three categories that are present within the State. Values were more favorable in more wealthy counties.

7.D. Rurality/Urbanicity

We have specified an approach to looking at the rurality/urbanicity in the home county of each child. In New York State data, analyses of our measures were sensitive to differences in the three categories that are present in the State. Performance was more favorable in large urban as compared to small urban compared to rural counties.

7.E. Limited English Proficiency (LEP) Populations

We have not tested or specified this measure for this specific purpose. There are no barriers to stratifying on this variable if this information were to be collected in charts or elsewhere.

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?

The definitions were specified to allow their use with data elements that are typically available in electronic form as administrative data to a responsibility entity, such as a health plan or State

Medicaid program. While zip code is sometimes a hidden or non-public variable when such data sets are released, it generally is available to a responsible entity, such as an insurer or Medicaid program. While race and ethnicity data are typically available to Medicaid programs and are usually on institutional (e.g., hospital) medical records, they may or may not be on an individual physician practice's chart. They are often but not always recorded in insurance databases. The CHIPRA legislation that funded this work indicates that measures are to be able to assess racial and ethnic disparities and hence these data points need to be specified in this measure.

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?

The necessary data typically are available; race/ethnicity data should be added when necessary.

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.

This measure is not currently in use.

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?

In testing, it was possible to complete these measures using administrative data from the New York State Medicaid Program.

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

This measure is not currently in use.

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?

New York State Medicaid (2014) experienced the following findings, which allows for calculation of population necessary to achieve desirable sample sizes. Approximately one in five children in Medicaid had a behavioral health diagnosis. The prevalence is higher as the age goes up. Among children and young adults up to age 21 with behavioral health diagnoses, the rate of hospitalization was 13.7 hospitalizations per 100 years of children with behavioral health diagnoses, of which 10.1 per 100 child-years were for behavioral health diagnoses. By age strata for children 6-11 years, it was 7.0 and 5.5 per 100 child-years, 13.7 and 10.8 for 12-17 years, and for ages 18-20, 24.6 and 16.7 admissions per 100 child years of enrollment, respectively.

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?

May need to stratify by age to avoid confounding. Other county-based stratifications may be valuable to assess potential attribution of cause.

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?

New York State Medicaid (2014) experienced the following findings, which allows for calculation of population necessary to achieve desirable sample sizes. Approximately one in five children in Medicaid had a behavioral health diagnosis. The prevalence is higher as the age goes up. Among children and young adults up to age 21 with behavioral health diagnoses, the rate of hospitalization was 13.7 hospitalizations per 100 years of children with behavioral health diagnoses, of which 10.1 per 100 child-years were for behavioral health diagnoses. By age strata for children 6-11 years, it was 7.0 and 5.5 per 100 child-years, 13.7 and 10.8 for 12-17 years, and for ages 18-20, 24.6 and 16.7 admissions per 100 child years of enrollment, respectively.

***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?**

May need to stratify by age to avoid confounding. Other county-based stratifications may be valuable to assess potential attribution of cause.

***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?**

New York State Medicaid (2014) experienced the following findings, which allows for calculation of population necessary to achieve desirable sample sizes. Approximately one in five children in Medicaid had a behavioral health diagnosis. The prevalence is higher as the age goes up. Among children and young adults up to age 21 with behavioral health diagnoses, the rate of hospitalization was 13.7 hospitalizations per 100 years of children with behavioral health diagnoses, of which 10.1 per 100 child-years were for behavioral health diagnoses. By age strata for children 6-11 years, it was 7.0 and 5.5 per 100 child-years, 13.7 and 10.8 for 12-17 years, and for ages 18-20, 24.6 and 16.7 admissions per 100 child years of enrollment, respectively.

***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?

May need to stratify by age to avoid confounding. Other county-based stratifications may be valuable to assess potential attribution of cause.

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?

New York State Medicaid (2014) experienced the following findings, which allows for calculation of population necessary to achieve desirable sample sizes. Approximately one in five children in Medicaid had a behavioral health diagnosis. The prevalence is higher as the age goes up. Among children and young adults up to age 21 with behavioral health diagnoses, the rate of hospitalization was 13.7 hospitalizations per 100 years of children with behavioral health diagnoses, of which 10.1 per 100 child-years were for behavioral health diagnoses. By age strata for children 6-11 years, it was 7.0 and 5.5 per 100 child-years, 13.7 and 10.8 for 12-17 years, and for ages 18-20, 24.6 and 16.7 admissions per 100 child years of enrollment, respectively.

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?

May need to stratify by age to avoid confounding. Other county-based stratifications may be valuable to assess potential attribution of cause.

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?

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?

Invalid data and bias.

Provider Level

Hospital: Can compare hospitals

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, but not hospital data.

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?

Varies by hospital; can be aggregated over consecutive years to achieve sample size.

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?

May need to stratify by age to avoid confounding. Other county-based stratifications may be valuable to assess potential attribution of cause.

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)

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?

Would only be appropriate for larger groups or those who specialize in this population.

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?

May need to stratify by age to avoid confounding. Other county-based stratifications may be valuable to assess potential attribution of cause.

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).

These are intuitive measures. We interpret coordination (with a small ‘c’) to have occurred when PCP follow-up is achieved and continuity to occur when mental health follow-up is achieved. We consider care to have been potentially established (within the PCP or mental health system) at the time of the second visit within the specified system. We consider Coordination (‘capital ‘C’) to have begun when both the PCP and mental health follow-up have been achieved. Delays and failures may threaten the opportunity for coordination even when visits occur.

Higher rates of timely follow-up are desirable; 100 percent is the goal.

In general, longer times to first visit are worse, certainly above 7 days for mental health follow-up and beyond 21 days for primary care follow-up. Even within the allowable period, shorter duration between visits than that potentially may represent better care.

Higher rates of delayed follow-up are worse. Higher rates of failure are worse.

Time between the first and the second visit should be 30 days or less. Beyond that is worse. Even within the allowable period, shorter duration between visits potentially may represent better care.

Combination measures are stricter and more representative of what is desirable care. One delay or failure is bad. Two is worse. Failure is worse than delay, although neither represents adequate care.

Means incorporate extreme values to a greater extent than do medians. Interquartile range may be calculated (75th percentile value less 25th percentile value) to describe the extent of variability in these asymmetrical distributions of time.

Although not all mental health readmissions represent a failure, the number should be very low and approach zero. In the observed range, lower rates should be interpreted as better.

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.

The capacity to add more clinical data from accessible health IT systems would enhance this measure.

11.B. Health IT Testing

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

No.

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.

The specifications indicate how to use administrative data to calculate the measure.

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 (ONC) criteria (see healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov__standards_ifr/1195)?

No.

If yes, please describe.

Not applicable.

11.E. Health IT Calculation

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

Encounter data are needed for unbiased and accurate calculations.

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?

Not applicable.

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).

This measure suffers from the usual limitations of administrative data analysis. Our careful and iterative processes have mitigated these limitations to the extent possible.

This measure does not consider specific processes that may enhance follow-up, limiting the opportunity for this measure to inform regarding mechanisms for achieving improvement.

Our intent was to produce a patient-centered measure set to explore engagement with patients in terms of discharge and follow-up. This was viewed as a critical need by our expert panel, and the current data set is limited in its capacity to assess these issues.

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.

The CAPQuaM presents herein a nuanced and important measure set. It was developed systematically, tested, and assessed iteratively using New York State Medicaid data and national data; it advances the field substantially. The process was systematically designed to enhance the pre-existing HEDIS measure, adding nuance and a child-centric mindset to our development. We herein operationalize the results of a process that involved reviewing more than 800 articles in the literature, a diverse and systematically identified expert panel, and substantive engagement with a broad range of national and regional partners and colleagues who collaborated on the development of a feasible, important, and readily understandable set of measures that include:

- 1. Timely Coordination of care**, including both mental health (MH) and primary care (PC) clinicians for outpatient follow-up visits.
 - a. Timely receipt of initial mental health follow-up visit (percent first mental health visit ≤ 7 days).
 - b. Timely receipt of initial primary care follow-up visit (percent first PCP follow-up visit ≤ 21 days).
 - c. For our primary measure, Timely Receipt of Initial Coordinated Follow-up Care, both a and b must be satisfied.

- 2. Delayed initiation of follow-up.**
 - a. Delayed receipt of initial mental health follow-up visit (percent first follow-up visit with MH provider > 30 days).
 - b. Delayed receipt of initial primary care follow-up visit (percent first follow-up visit with MH provider > 30 days).
 - c. Both delayed. Meets criteria for both a and b.
 - d. Either delayed. Meets criteria for either a or b.

- 3. Time to initial mental health follow-up** (continuous, report mean, median 25th, 75th, 90th, and 97.5th percentile).

- 4. Time to initial primary care follow-up** (continuous, report mean, median 25th, 75th, 90th, and 97.5th percentile).

- 5. Primary failure to initiate follow-up.**
 - a. Primary failure to initiate mental health follow-up (percent first follow-up visit with MH provider > 60 days).

- b. Failure of timely PCP follow-up (percent first follow-up visit to PCP > 60 days).
- c. Primary failure to initiate follow-up. Meets criteria for both a and b.
- d. Primary failure to initiate coordinated follow-up care. Meets criteria for either a. or b.

6. Establishment of ongoing follow-up care. Times described below are times between first and second visits with PC or MH clinician as indicated.

- a. Failure to establish follow-up care. Failure to establish ongoing follow-up (percent without two or more MH and PCP visits in the 240 days following discharge).
- b. Failure to establish coordinated follow-up care. Failure to establish ongoing follow-up (percent without two or more MH OR two or more PCP visits in the 240 days following discharge).
- c. Time between first and second MH visit (continuous: mean, median 25th, 75th, 90th and 97.5th percentile).
- d. Time between first and second PC Visit (continuous: mean, median 25th, 75th, 90th and 97.5th percentile).
- e. Timely establishment of MH follow-up (percent <= 30 days).
- f. Timely establishment of PC follow-up (percent <= 30 days).
- g. Delayed second MH visit (percent > 60 days).
- h. Delayed second PCP visit (percent > 60 days).
- i. Failure to establish ongoing MH follow-up (percent without two or more MH visits in the 180 days following discharge).
- j. Failure to establish ongoing PC follow-up (percent without two or more PCP visits in the 180 days following discharge).

7. MH Readmission Rates

- a. 7-day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Days 1 through 7, inclusive.
- b. 30-day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Days 1 through 30, inclusive.
- c. 60-day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Days 1 through 7, inclusive.
- d. 180-day readmission rate: Report the percent of eligible discharges followed by a qualifying readmission on Days 1 through 180, inclusive.

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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.

AHRQ Publication No. 19-0024
September 2019