



Measure Fact Sheet – The AHRQ-CMS Pediatric Quality Measures Program (PQMP)

Measure: Behavior Therapy as First-Line Treatment for Preschool-Aged Children with ADHD

Measure Developer: Pediatric Measurement Center of Excellence (PMCoE)

Numerator	Denominator	Exclusions	Data Source(s)
Patients for whom ADHD-focused evidence-based behavior therapy was prescribed as first-line treatment.	All patients aged 4 through 5 years with a diagnosis of ADHD.	Denominator exclusions include: <ul style="list-style-type: none"> – Documentation of medical reason(s) for not prescribing behavior therapy as first-line treatment. – Documentation of system reason(s) for not prescribing behavior therapy as first-line treatment. 	Medical record (paper or electronic).

Notes: Evidence-based behavior therapy is defined as (1) treatment directed to the parent and caregiver (guardian, teacher, child care worker); (2) training provided in parent or caregiver-administered behavior modification; and (3) treatment that does not involve child-directed play therapy. First-line treatment is treatment provided prior to prescribing of any ADHD medication. Reasons for not providing behavior therapy as first-line treatment include: patients with multiple psychiatric conditions referred to other providers, patients determined to be at risk for harming themselves or others, and lack of access to services.

Measure Importance

In November 2011, the American Academy of Pediatrics (AAP) released a new Attention Deficit Hyperactivity Disorder (ADHD) Guideline with several new critical recommendations for ADHD diagnosis, followup, and treatment,¹ including establishment of a new lower age threshold of 4 years for diagnosis of ADHD. Approximately 9.5 percent of children aged 4-17 were diagnosed with ADHD in 2007, with a higher prevalence among boys, minority children, and children covered by Medicaid.^{2,3} ADHD has a multidimensional effect on an individual's daily life functioning and can culminate in significant costs attributable to a greater need for health care, more frequent unintentional injury, co-occurring psychiatric conditions, and productivity losses. Studies have shown that symptom reduction can be achieved with the use of behavior therapy, making ADHD medication use unnecessary. Although ADHD medications can reduce symptoms, they may be associated with side effects and symptoms



affecting morbidity. There is limited information about the effects of stimulant medication in children between the ages of 4 and 5 years, and there are concerns about potential harms related to changes in the threshold age for ADHD diagnosis. There are also concerns about the possible effects of such medications on growth during this rapid period of development.

Evidence Base for the Focus of the Measure⁴

The 2011 AAP ADHD Guideline¹ states: “For preschool-aged children (4 through 5 years of age), the primary care clinician should prescribe evidence-based parent- and/or teacher-administered behavior therapy as the first line of treatment (Quality of Evidence: A/Strong Recommendation) and may prescribe treatment with methylphenidate if behavior interventions have not provided adequate improvement, and there is moderate to severe continuing disturbance in the child’s function. In areas where evidence-based behavior therapy is not available, the clinician needs to weigh the risks of starting medication at an early age against the harm of delaying diagnosis and treatment (Quality of Evidence: B/Recommendation).”¹

Advantages of the Measure

- May hasten diffusion of best practices in a newly defined area of care.
- May encourage the most effective treatment for this population.
- May protect against adverse effects of early, unnecessary, or inappropriate stimulant use.
- Publicly available for noncommercial use.
- Measure type specified and tested to be collected through manual medical chart review or as an eMeasure in the appropriate setting.

Levels of Aggregation Applicable to the Measure

The measures are intended for aggregation and comparison at the State, regional, health plan, and provider group levels.⁵

Reliability and Validity of the Measure

Feasibility of this measure as an eMeasure was moderate, with two of the five testing sites able to electronically implement the measure (one with workflow modifications). Empirical testing of the feasibility of eMeasure implementation determined that it is possible to construct this measure as an eMeasure in some settings.

Manual chart abstraction of this measure using either paper or electronic medical records is feasible and reliable. In a sample of 11 medical records in two sites, eight met all of the elements necessary for the assessment. There was greater than 70 percent agreement between the two research nurse abstractors on each element.

The measure has content validity, as assessed by 25 stakeholders and subject matter experts, with representation from relevant medical specialties, social workers, teachers, parents, consumer representatives, and measure methodologists, among others. Additional input on the content validity of draft measures was obtained through a 21-day public comment period. All comments were reviewed by the PMCoE Expert Workgroup, and the measure was adjusted as needed.

Measure Testing

Feasibility testing of this eMeasure was conducted in four Chicago Pediatric Quality and Patient Safety Consortium (CPQSC) sites and involved using a tool to assess the availability and use of necessary measure elements in structured, queryable fields within the electronic health records. To conduct feasibility, reliability, and validity testing of this measure as a chart review measure, two nurses independently reviewed the universe of charts of patients 4-5 years of age who were diagnosed with ADHD over the course of 1 year at each of the four CPQSC institutions. The nurses at each testing site manually abstracted each of the elements of the measure using a pre-established template to assess inter-rater reliability and measure validity.

Selected Results from Tests of the Measure

- **Stratification:** Data sources contain data that allow this measure to be stratified by race and ethnicity, socioeconomic status using payer as a proxy, and language preference.
- **Data Source:** Data from the measure can be obtained from paper medical records and, with some workflow changes, may be obtainable through some electronic health records.
- **Reliability:** Reliability was moderate, with approximately 73 percent of reviewers agreeing that there was evidence in the chart that an ADHD-focused evidence-based behavior therapy was prescribed, 73 percent agreeing that ADHD treatment medication was prescribed, and 75 percent agreeing that there was evidence in the chart for patients aged 4-5 years that behavior therapy was prescribed as first-line treatment prior to medication prescription.
- **Validity:** This measure was assessed for content and face validity by looking for agreement among subject matter experts. The panel of stakeholder representatives participating in the ADHD Expert Workgroup was included, and input was received through a 21-day public comment period. There was consensus that both backward and forward assessment of the measure reflected at “face value” that identified patients were prescribed evidence-based behavior therapy prior to medication being prescribed.
- **Feasibility:** Results of testing demonstrated that the elements of the behavior therapy as First-Line Treatment measure were feasible to collect, whether collected as an eMeasure or through manual chart review. For use of the eMeasure, assessment of the existence and use of each of the elements of the measure in the electronic health record in structured, queryable fields would be necessary in any setting wanting to reliably and validly assess performance.

Current Measure Use

This measure, as specified, has been built into the ADHD Performance Improvement Module for use by pediatricians in the American Board of Pediatrics, Maintenance of Certification, Part 4 - Performance Improvement Module on ADHD care.

Caveats

- This measure is not specified for use with administrative claims data, because administrative claims data currently do not contain procedure codes that accurately represent the numerator; there is no specific code for behavior therapy.
- Documentation required for this measure, including behavior therapy prescription and exclusions for medical and system reasons, is not done systematically at this time in electronic health records, in structured, queryable fields. As an example, a structured, queryable field gives one the ability to select a choice from a limited set of responses through a drop-down menu. This option is typically found only in the progress note as free-text, resulting in a less accurate calculation.
- Locations and contexts for documentation of ADHD care in the medical record varied across test sites.

More Information

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- Coming soon: Link to measure details on the AHRQ Web site.

For more information about the PQMP, visit www.ahrq.gov/CHIPRA.

Notes

¹American Academy of Pediatrics Subcommittee on Attention-Deficit/Hyperactivity Disorder, Steering Committee on Quality Improvement and Management. ADHD: Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents. *Pediatrics*; originally published online October 16, 2011. Available at <http://pediatrics.aappublications.org/content/early/2011/10/14/peds.2011-2654.full.pdf>

²Centers for Disease Control and Prevention. Increasing prevalence of parent-reported attention-deficit/hyperactivity disorder among children: United States, 2003 and 2007. *MMWR Morb Mortal Wkly Rep* 2010;59(44):1439-43.

³Bloom B, Cohen RA, Freeman G. Summary health statistics for U.S. children: National Health Interview Survey, 2009. *National Center for Health Statistics. Vital Health Stat* 2010;10(247).

⁴An evidence base comprises the breadth and rigor of studies demonstrating valid relationship(s) among the structure, process, and/or outcomes 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).

⁵The Children's Health Insurance Program Reauthorization Act required measures developed under this program to "permit comparison of quality and data at a State, plan, and provider level." The measure developer identified the intended levels of aggregation and comparison as reported here.

The Children's Health Insurance Program Reauthorization Act (CHIPRA) called for establishment of a Pediatric Quality Measures Program (PQMP) as a followup to identifying the initial core set of children's health care quality measures. This fact sheet was produced by the Agency for Healthcare Research and Quality (AHRQ), based on information provided by the AHRQ-CMS Pediatric Measurement Center of Excellence (PMCoE), which was funded by an AHRQ/CMS grant as a CHIPRA Center of Excellence. A listing of all submitted PQMP Centers of Excellence measures can be found at www.ahrq.gov/CHIPRA. All measures are available for public noncommercial use.



AHRQ Pub. No. 14(15)-P005-2-EF
October 2014