



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

Measure: Developmental Screening Follow-up: Follow-up with Patient Family After Developmental Screening

Measure Developer: Pediatric Measurement Center of Excellence (PMCoE)

Numerator	Denominator	Exclusions	Data Source(s)
Patients whose family received a discussion of the developmental screening results by a primary care clinician on the same day as the screening visit.	All patients aged 6 months to 36 months who received a developmental screen using a standardized developmental screening tool that was administered by the primary care clinician or, if conducted elsewhere, results appear in the patient's medical chart.	None.	Electronic health record (EHR); paper medical record.

Measure Importance

According to the Centers for Disease Control and Prevention (CDC), 13 percent of children in the United States have developmental or behavioral disabilities.¹ However, according to the U.S. Department of Education, fewer than half of children who have developmental delays are identified prior to starting school.²

Discussion with the family about the results of a positive developmental screen is critical to any other follow-up actions necessary, as the child is dependent on the parent(s) to take him or her to any follow-up appointments needed to address the developmental concerns. The communication with the family has to effectively establish for the parent an understanding of the concerns to increase the likelihood of parental follow through with the discussed follow-up actions. Discussion of negative results from a developmental screen is important to track the appropriate development of the pediatric patient and for the pediatric clinician to provide anticipatory guidance to support appropriate development.

With high quality preventive care, which includes clear communication between the provider and the patient's family, early identification and follow-up on developmental delays can be improved.



Evidence Base for the Focus of the Measure

The American Academy of Pediatrics (AAP) policy statement, Identifying Infants and Young Children with Developmental Disorders in the Medical Home: an Algorithm for Developmental Surveillance and Screening,³ describes the importance of early identification and treatment of children with neurodevelopmental and behavioral problems to their well-being and development. In addition, the following clinical recommendation statement is taken verbatim from the AAP policy statement referenced above:

“If the results are normal, the child health professional should inform the parents and continue with other aspects of the preventive visit. If there was concern prior to the screen or the screening result was concerning, additional surveillance or evaluations should be scheduled.”³

Advantages of the Measure

- This measure is specified for construction in electronic health records (EHRs).
- This measure has also been specified to be constructed to assess performance through manual chart review.
- This measure enhances the developmental screening measure in the CHIPRA initial core set fulfilling the critically important follow-up/referral component of screening.
- This measure is publicly available for noncommercial use.

Levels of Aggregation Applicable to the Measure

This measure is intended for aggregation and comparison at the State, regional, payment model, health plan, provider, and practice levels.

Reliability and Validity of the Measure

- Pilot reliability testing of the eMeasure was conducted in 20 randomly sampled patient records with a completed developmental screen between July 2011 and April 2014. Patients were selected from practices and early intervention programs in 13 counties in Pennsylvania and New Jersey.
- Parallel forms reliability eMeasure testing was performed at one site, and a total of 224 developmental screens were abstracted both electronically and manually. Reliability was assessed by comparing the eMeasure output with results of abstraction of documentation from the same charts.
- Manual chart abstractions were performed in the primary care networks of four hospitals in the Chicago area. A chart abstraction tool and algorithm were developed and disseminated to sites. A total of 141 charts were reviewed, with each chart being reviewed by two research nurses. Reliability and validity were assessed.
- Reliability of the measure for manual chart abstraction was assessed by evaluating agreement between the two nurse abstractors' assessments of each of the measure's elements and assessment of measure performance.

- Validity was assessed through direct assessment of the fields for each of the measure elements and their use in the EHR.
- The face validity of the measure was assessed by an expert technical panel of key stakeholders and through a public comment and was determined to have both understandability and face validity for key developmental screening follow-up stakeholders.⁴

Measure Testing

- Feasibility of the eMeasure requires that all of the elements of the measure are available in structured, queryable fields and that these fields are used for routine documentation. Feasibility testing was conducted in the primary care networks of the Chicago Pediatric Quality and Safety Consortium (CPQSC), which comprises five Chicago-area hospitals: Advocate Lutheran General Children's Hospital, Advocate Christ Hope Children's Hospital, John H. Stroger Cook County Hospital, Mt. Sinai Children's Hospital, and Robert and Anne Lurie Children's Hospital. A Data Element Table (DET) tool was used to assess the sites' EHR systems, which include Epic, Cerner, and Allscripts TouchWorks.
- Feasibility also was assessed in a customized electronic system used by practices and early intervention programs in 13 counties in Pennsylvania and New Jersey and a North Carolina private pediatric practice with a customized EHR based on eClinicalWorks.
- Reliability and validity were assessed in the customized electronic system used by practices and early intervention programs in 13 counties in Pennsylvania and New Jersey and a North Carolina private pediatric practice with a customized EHR based on eClinicalWorks.

Selected Results from Tests of the Measure

- Feasibility testing indicated that while many demographic data elements are currently captured in structured data fields in the EHR, some important data elements required to calculate this measure as an eMeasure often are not available in structured fields in the EHR; therefore, this measure is not currently feasible as an eMeasure in those EHR systems. However, these elements are documented and available in the paper and electronic medical records; therefore, this measure is feasible for manual chart abstraction.
- Parallel forms reliability eMeasure testing indicated that in one site, while the eMeasure was technically feasible, clinicians were not using the available structured fields for the measure elements required for construction of the eMeasure report; therefore, the eMeasure was not implementable at that site at this time but would be feasible with clinician documentation workflow changes.
- Agreement between two independent reviews of the medical charts was 73 percent ($\kappa=0.42$).
- Performance of the measure varied across sites, with performance ranging from 83 percent to 20 percent.
- Disparities in performance across racial/ethnic groups were also identified. Approximately 76 percent of white patients had a documented discussion of developmental screening results in their medical records, compared with 42 percent of black patients and 55 percent of Hispanic patients.

- Clinical performance on this measure was consistent with the literature reports of the results overall and across sites, given the sites' characteristics.^{3,5-9}

Current Measures

- The Developmental Screening Follow-up Measure - Follow-up with Patient Family After Developmental Screening, as specified by the Pediatric Measurement Center of Excellence (PMCoE) - Developmental Screening Leadership Team and Expert Technical Panel is in use in the American Board of Pediatrics (ABP) Maintenance of Certification (MOC) – Part 4, Performance Improvement Module (PIM) for use by physicians in the process of Recertification.
- Pediatric physicians must conduct a PIM in the process of recertification and can select to conduct 100 chart reviews using the Developmental Screening Follow-up with Patient Family After Developmental Screening measure specifications to assess their own performance, implement improvement, and conduct 100 post chart reviews to assess improvement. This is then entered into the ABP MOC PIM electronic system.
- The ABP found this measure to be an effective and usable measure within the structure of the MOC PIM for physician recertification.

Caveats

- Use of the eMeasure is limited to sites where the EHR includes all of the measure elements in structured, queryable fields and where routine documentation of the relevant clinical information is done in these structured, queryable fields.
- There is a possibility that missing data or ambiguous information from poor documentation of care can lead to calculation errors and low performance on the measure.
- Workflow modifications or changes to the site's EHR system may be necessary in order to calculate the measure.

More Information

- AHRQ: CHIPRAqualitymeasures@ahrq.hhs.gov
- PMCOE: Lisa Krams, lkrams@asp.org; Ramesh Sachdeva, rsachdeva@aap.org
- Coming soon: Link to measure details on the AHRQ Web site.

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

Notes

¹Boulet SL, Boyle CA, Schieve LA. Health care use and functional impact of developmental disabilities among US children, 1997-2005. *Arch Pediatr Adolesc Med* 2009; 163(1):19-26.

²U.S. Department of Education, Office of Special Education Programs [Internet], Data Analysis System (DANS), Part C Child Count, 1997-2006.

³American Academy of Pediatrics. Identifying infants and young children with developmental disorders in the medical home: an algorithm for developmental surveillance and screening. *Pediatrics* 2006; 118(1):405-20.

⁴The topic, language, specifications, and results were reviewed by a 21-member Expert Workgroup comprising a wide range of stakeholders including pediatricians, family physicians, State Medicaid agencies, physician assistants, Early Intervention, Head Start, child/adolescent psychologists, ABCD programs, neurologists, patient-family members, and researchers. The Expert Workgroup technical panel was solicited for feedback on importance, relevance, understandability, and usability throughout the development process. Further, using the networks of Expert Workgroup members, this measure was put through a Public Comment period and feedback on the variables above as well as additional general feedback was requested.

⁵Coker TR, Chung PJ. Parent-reported quality of preventive care for children at risk of developmental delay. *Acad Pediatr* 2012; 12(5):384-90.

⁶Jimenez ME, Barg FK, Guevara JP, et al. Barriers to evaluation for early intervention services: parent and early intervention employee perspectives. *Acad Pediatr* 2012; 12(6):551-7.

⁷National Collaborative for Innovation in Quality Measurement Center of Excellence (NCINQ). Developmental screening in children. 2011. Developed by NCINQ for use in the AHRQ PQMP Consortium.

⁸Bethell C, Reuland C, Schor E, et al. Rates of parent-centered developmental screening: disparities and links to service access. *Pediatrics* 2011; 128(1):146-55.

⁹Jennings DJ, Hanline MF. Developmental screening referrals: child and family factors that predict referral completion. *Topics Early Child Spec Educ* 2013; 33(2):102-11.

The Children's Health Insurance Program Reauthorization Act (CHIPRA) called for establishment of a Pediatric Quality Measures Program (PQMP) as a follow-up 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 can be found at www.ahrq.gov/CHIPRA. All measures are publicly available for noncommercial use.



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