Developmental Screening (NPM-6): New Data and Practice Resources

July 25th, 2018

Ashley Hirai, PhD
Senior Scientist, Office of Epidemiology and Research
Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration (HRSA)
Overview

1. Measure alignment
2. New data and findings from the 2016 NSCH
3. New resources for effective/promising strategies
How is developmental screening (NPM-6) assessed?

National Survey of Children’s Health

DURING THE PAST 12 MONTHS, did a doctor or other health care provider have you or another caregiver fill out a questionnaire about specific concerns or observations you may have about this child’s development, communication, or social behaviors? Sometimes a child’s doctor or other health care provider will ask a parent to do this at home or during a child’s visit.

☐ Yes  ☐ No

If yes, and this child is 9-23 Months:

Did the questionnaire ask about your concerns or observations about: Mark ALL that apply.

☐ How this child talks or makes speech sounds?

☐ How this child interacts with you and others?

If yes, and this child is 2-5 Years:

Did the questionnaire ask about your concerns or observations about: Mark ALL that apply.

☐ Words and phrases this child uses and understands?

☐ How this child behaves and gets along with you and others?

Parent-completed questionnaire from a doctor or other health care provider

Two age-specific content components regarding:
- language development
- social behavior
• **Denominator Change**
  • Previously children 10 months through 5 years with a health care visit in the past year
  • Now all children 9 through 35 months for alignment with
    • AAP Bright Futures – screening at 9, 18, 24 or 30 months
    • Healthy People 2020 – Maternal, Infant, Child Health Objective 29.1 Screening for Autism and Other Delays through 35 months
    • Medicaid/CHIP Core Quality Set – developmental screening in first three years of life

• **Alignment for consistency with guidelines and other measures; should be no change in practice**
Developmental Screening and Surveillance in Early Childhood: Results from the 2016 NSCH


https://jamanetwork.com/journals/jamapediatrics/article-abstract/2686728
Background and Importance

• Approximately 12%-15% of children experience developmental delays or disabilities
  • Isolated delays in reaching developmental milestones
  • Functional impairments in vision or hearing
  • Diagnosable learning, emotional, and behavioral disorders

• Early identification and intervention are critical to promote healthy development and school readiness

• AAP has recommended universal screening since 2001 with specific algorithm in 2006 for screening at 9, 18, 24 or 30 months

• Many initiatives and campaigns
  • Commonwealth Fund’s Assuring Better Child Development
  • CDC “Learn the Signs, Act Early”; ACF “Birth to Five, Watch Me Thrive”
  • Medicaid/CHIP Core Quality Measure with Demonstration Grants
  • Title V MCH Block Grant Performance Measure
Objectives

• Previous NSCH analyses indicated that
  • Fewer than 1 in 5 children screened in 2007 (19.5%)
  • Increased to 1 in 3 by 2011/12 (30.8%)

• Study Question: Using the newly redesigned NSCH, what are the latest national estimates of developmental screening and surveillance, and individual and state variation, that may identify opportunities for improvement?
Methods

• **Data Source:** 2016 National Survey of Children’s Health
  • Nationally and state representative parent-completed survey
  • Address-based mailed survey with web response option

• **Study Population:** Children 9-35 months

• **Outcomes:**
  • **Developmental Screening:** parent-completed standardized screening
  • **Developmental Surveillance:** elicitation of developmental concerns

• **Covariates:**
  • Child: age, sex, race/ethnicity
  • Family: household education/income, primary language, family structure
  • Health Care: insurance, preventive visit, medical home, CSHCN

• **Statistical Analysis:**
  • Unadjusted and adjusted associations with covariates
  • State-level estimates before and after adjustment
Overall Results

As reported by their parent/guardian(s) in 2016,

• 30.4% of children had received developmental screening
• 37.1% of children had received developmental surveillance
Variation by Child, Family, and Health Care Factors

- Developmental screening ranged from 9.2% among children without a preventive medical visit to 39.1% among CSHCN.
- After adjustment, factors that remained significantly related to screening included primary language, family structure, highest household education, medical home, preventive visit, child health status, and CSHCN status.

Adjusted Rates of Developmental Screening

<table>
<thead>
<tr>
<th>Factor</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Primary Language</td>
<td>32.9%</td>
<td>19.8%</td>
</tr>
<tr>
<td>Preventive Medical Visit</td>
<td>32.6%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Medical Home</td>
<td>35.1%</td>
<td>26.3%</td>
</tr>
</tbody>
</table>
State-level Variation in Developmental Screening

- Child, family, health care factors explained only 4% of variation
Conclusions and Implications

- Addressing language barriers and promoting the medical home model and adherence to well child visit schedule may improve screening rates.
- Despite low overall rates, state variation underscores the promise and potential for quality improvement efforts.
- State differences were not explained by child, family, and health care characteristics, suggesting a role for unmeasured policies and practices.
  - Top performers (OR, CO, MN, NC, AK, MT, MA, MD) located in all regions show that improvement is possible across the country.
- Systems-level quality improvement efforts, building upon the medical home, will be necessary to achieve universal screening.
Strengthening the Evidence for MCH Programs

https://www.mcchevidence.org/tools/npm/6-developmental-screening.php

Developmental Screening

The Title V Maternal and Child Health Services Block Grant to States Program guidance defines the significance of this goal as follows:

Early identification of developmental disorders is critical to the well-being of children and their families. It is an integral function of the primary care medical home. The percent of children with a developmental disorder has been increasing, yet overall screening rates have remained low. The American Academy of Pediatrics recommends screening tests begin at the nine month visit.

NPM 6 Tools

› Introductory Resources

› Evidence Brief (National Center for Education in MCH (NCEMCH) at Georgetown University).

› Environmental Scan (Women’s and Children’s Health Policy Center (WCHPC) at Johns Hopkins University). This environmental scan identifies compilations of strategies to advance NPM 6. Read more about environmental scans.

› Evidence Analysis Report

› Evidence Review Brief. A three-page summary of report methodologies, results, key findings, and implications.

› Evidence Review: Full Report. A critical analysis and synthesis of the effectiveness of strategies that might be applied to address NPM 6 to serve as the foundation for accountability. The evidence review uses a structured approach to evaluate the available empirical evidence and to draw conclusions on the best available evidence. Read about the evidence analysis report methodology | You can also access the full set of Evidence Analysis Reports.
## Developmental Screening Evidence Brief

<table>
<thead>
<tr>
<th>Target Audience</th>
<th>Intervention</th>
<th>Example(s)</th>
<th>Evidence Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>Home Visiting</td>
<td>Routine developmental screening and parent education by home visitors</td>
<td>——</td>
</tr>
<tr>
<td>Health Care</td>
<td>Health Care Provider Training Only</td>
<td>Learning module implemented in pediatric practices</td>
<td>——</td>
</tr>
<tr>
<td>Providers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care</td>
<td>Quality Improvement in Health Care</td>
<td>Statewide learning collaborative for pediatric practices</td>
<td>Moderate Evidence</td>
</tr>
<tr>
<td>Practices</td>
<td>Settings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systems</td>
<td>Systems-level Approaches with Quality Improvement</td>
<td>Statewide learning collaborative for primary care practices with enhanced reimbursement for developmental screening and collaboration with local agencies</td>
<td>Moderate Evidence</td>
</tr>
</tbody>
</table>

—— indicates insufficient number of studies to assign evidence rating or outcome

---

Garcia S, Brown E, Strobino D, Minkovitz C. National Performance Measure 6 Developmental Screening Evidence Review. Strengthen the Evidence Base for Maternal and Child Health Programs. Women’s and Children’s Health Policy Center, Johns Hopkins University, Baltimore, MD. 2018
Contact Information

Ashley Hirai, PhD
Senior Scientist, Office of Epidemiology and Research
Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration (HRSA)
Email: ahirai@hrsa.gov
Phone: 240.472.2783
Web: mchb.hrsa.gov
To learn more about our agency, visit

www.HRSA.gov

Sign up for the HRSA eNews

FOLLOW US:  

facebook  twitter  linkedin  youtube