Can the Eyes Deceive?
Developmental Surveillance and Screening in Practice

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The Iowa Department of Public Health
Child Health Specialty Clinics
Iowa Medicaid Enterprise

Disclosures:
Dr. Steven Wolfe is a consultant for 1st Five and Child Health Specialty Clinics

Learning Objectives
- Utilize the pediatric periodicity schedule to optimize well child care.
- Identify well child health care surveillance recommendations and implementation tools.
- Understand observing the child only is not sufficient to screen for autism or developmental delay.
- Describe autism (M-CHAT-R/F), child development (ASQ), and child social-emotional development (ASQ:SE) screening tools.
- Identify and improve the recommended well-child screening and surveillance processes for developmental and behavioral assessments in your practice.
**Surveillance vs Screening**

**Surveillance:** continuous, longitudinal, cumulative process designed to optimize children’s health outcome.
- Periodicity table
- Bright Futures

**Screening:** periodic, intermittent focused assessment of a child’s health.
- M-CHAT-R/F
- ASQ-3
- ASQ-SE-2

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**The Science Behind Policy**

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**Summary of Surveillance and Screening Recommendations**

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Informal strategies don’t work
• 60-80% of pediatricians fail
• Insensitive in detection
• No help in decision making
• Lack of feedback

Sand N, Silverstein M, Glascoe FP, Tonniges T, Gupta B, O’Connor K. Pediatricians’ reported practices regarding developmental screening: are guidelines useful? Do they help? Presented at: annual meeting of the Pediatric Academic Societies; May 1–4, 2004; San Francisco, CA
### Why Providers Might Miss Autism

**Figure 2**

Accuracy of referral decisions. Children were observed twice (3 to 90 minutes, 30 to 60 minutes, plus a separate interval observation). Rates of agreement on autism referrals for all of the trial decisions (i.e., generated an autism referral, the other did not except 1 in 1 language case, the same user gave different decisions for each view).

### Parent Resources

- Parents are good observers of their child’s communication and behaviors
- Some parents are challenged by not knowing what should be age appropriate communications and behaviors
- Resources
  - Communication Checklist: 9-24 months Babies Learn at an Amazing Rate
  - 16 Gestures by 16 Months
    - www.firstwordsproject.com

### Surveillance

- Use a standardized tool:
  - Bright Futures
  - Iowa Child Health and Development Record
Surveillance at each visit:
- Age Appropriate
- Fine and Gross Motor Assessment
- Intellectual and Language Development
- Social, Emotional, and Behavioral Development

Screening:
- General Developmental Screen
- ASQ-3 at 9, 18, 24, and 30 months

ASD Surveillance
ASD red flags include parent concern about social skills, language skills or behavior at any age. Concerns of frequent tantrums or intolerance to change.
- Delayed language and social communication
- No babbling 9 months
- No pointing or gestures – 12 months
- Failure to orient to name – 12 months
- No single word – 18 months
- Lack of pretend or symbolic play – 18 months.
- No spontaneous, meaningful (not repetitive or echolalic) 2 word phrases – 24 months
- Any loss of language or social skills at any time
- Children with a sibling with ASD

Surveillance should occur at every well child visit.
**ASD -- Screening**

Targeted screening using a standardized tool:
- **ASD: M-CHAT-R/F**
  - 18 months and 24 months
- **General Developmental Screen: ASQ – 3**
  - Ages and Stages at 9, 18, and 24 or 30 months

**REMEMBER:**
**PARENT CONCERNS TRUMPS ALL.**
**THESE ARE SCREENING NOT DIAGNOSTIC TOOLS!!!**

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**ASD Screening**

**M-CHAT-R/F initial screening:**

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk 0-2</td>
<td>93%</td>
</tr>
<tr>
<td>Medium Risk 3-7</td>
<td>6%</td>
</tr>
<tr>
<td>High Risk 8-20</td>
<td>1%</td>
</tr>
</tbody>
</table>

- 27% of screen positive kids will have a developmental delay or concern.
- 100% of high risk group had delays or concerns which justified immediate referral.
- Valid tool for screening for autism in children 16-30 months of age.
Medium risk group (3-7) require use of M-CHAT-R follow-up.

- Failed follow-up items based on items failed in M-CHAT-R.
- Follow formal flowchart until arrived at Pass or Fail for each question repeated.
- If parent responds with “maybe”, ask if behavior is most often yes or no (may still need to use your judgment).
- Screen positive if fails any 2 items – referral required. Score 0-1 screen negative.

Child ≥ 3 initially or ≥ 2 after M-CHAT-F have a 47.5% risk of being diagnosed with autism.

M-CHAT-R/F can both be completed by appropriate trained staff.

M-CHAT-F can be done either in person or by phone.

- Do NOT do same day as visit.
- Provider should verify all positive screens and decide on plan of care.

DO NOT WATCH AND WAIT
Bill is a 24 month old male being evaluated for surveillance and screening. Parents voice concerns about the child’s development since his last 18 month exam. He was born one month premature and developed neonatal jaundice which required photo therapy. An older sibling has developed normally. Physical exam is normal. Responds negatively to being examined.

M-CHAT-R:
- Parents respond Yes to question 2.
- Parents respond No to questions 4, 8, 20.
- Score 4 moderate autism risk 3-7.

Recommended follow-up:
Administer M-CHAT-F questions 2, 4, 8, 20.

8. Is ______ interested in other children?
ASD Case 1 Continued

**M-CHAT-F**
- Question 2 – **PASS**
- Question 4 – **PASS**
- Question 8 – **PASS**
- Question 20 – **FAIL**

Score 1 – negative screen

- Schedule 30 month surveillance visit and assess development unless parent’s concerns require earlier visit.
- A missed item may need clinical evaluation even if the child is screen negative on the M-CHAT-R/F.

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**Embrace the end of the screening.**

The USPSTF has delivered an important message, which should spur more research and enhance the knowledge base around universal ASD screening. The USPSTF embraced this issue in all its complexity.
Recommended General Developmental Screening Tools

- Ages and Stages – 3 (ASQ-3)
- Ages and Stages:SE-2 (Social and Emotional)
- Written 4th to 6th grade level
- Parent completed: 15-20 minutes
- Scored by trained personnel: 5 minutes

ASQ - 3

- Screen children ages 1-66 months
- 21 questionnaires ages 2-60 months
- 5 domains with about 6 questions per domain and an overall section which elicits parent’s concern
- Questions scored as: Yes, Sometimes, No
- 85% sensitivity and specificity
**ASQ – 3: Domains**

- **Communication**: babbling, vocalizations, listening, and understanding
- **Gross motor**: arms, body, legs
- **Fine motor**: hands, fingers
- **Personal – Social**: solitary social play and playing with toys and others
- **Problem-solving**: learning and use of toys
- **Parental concerns**
### ASQ-3 30 Month Questionnaire

#### GROSS MOTOR

<table>
<thead>
<tr>
<th>Item</th>
<th>Normal</th>
<th>Concerned</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your child can walk up one flight of stairs without help</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>2. Your child can run, hop, or jump on a hard surface</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>3. Your child can throw a ball, throw your child</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>4. Your child can do the headstand</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>5. Your child can do the headstand</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

**GROSS MOTOR TOTAL**: 0 / 25

#### FINE MOTOR

<table>
<thead>
<tr>
<th>Item</th>
<th>Normal</th>
<th>Concerned</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your child can print his name</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>2. Your child can draw simple shapes</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>3. Your child can make a puzzle with blocks</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>4. Your child can make a puzzle with blocks</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>5. Your child can make a puzzle with blocks</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

**FINE MOTOR TOTAL**: 0 / 10

#### PROBLEM SOLVING

<table>
<thead>
<tr>
<th>Item</th>
<th>Normal</th>
<th>Concerned</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your child can follow simple directions</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>2. Your child can follow simple directions</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>3. Your child can follow simple directions</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>4. Your child can follow simple directions</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>5. Your child can follow simple directions</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

**PROBLEM SOLVING TOTAL**: 0 / 15
ASQ-3  30 Month Questionnaire

PERSONAL-SOCIAL

1. Does your child have any of the following patterns, does your child say things that are out of context or inappropriate?
   - No
   - Sometimes
   - Not at all

2. Your child ever gets her hands on anything you don’t want her to.
   - No
   - Sometimes
   - Not at all

3. How do you feel when your child hits you?
   - Not at all
   - Sometimes
   - No

4. Your child ever puts his or her arm or hand into a object.
   - No
   - Sometimes
   - Not at all

5. Your child ever sat on your lap or in a child’s chair and while sitting, your child ever put your hands or feet on your lap?
   - No
   - Sometimes
   - Not at all

6. How do you feel when your child ever put something in his or her mouth or in his or her nose?
   - Not at all
   - Sometimes
   - No

7. Your child ever put his or her hands on your face or in your face?
   - Not at all
   - Sometimes
   - No

8. Your child ever put his or her hands on your face or in your face?
   - Not at all
   - Sometimes
   - No

9. How do you feel when your child ever throw something?
   - Not at all
   - Sometimes
   - No

10. How do you feel when your child ever throw something?
    - Not at all
    - Sometimes
    - No

PERSONAL-SOCIAL TOTAL: 45

Scoring

1. SCORE AND TRANSFER TOTALS TO CHART BELOW: See ASQ-3 User’s Guide for details, indicating how to adjust scores if item responses are missing. Score each line (YES = 10, Sometimes = 5, NOT AT ALL = 0). Add item scores, and record each area total. In the chart below, transfer the total scores, and fill in the circles corresponding with the total scores.

<table>
<thead>
<tr>
<th>Area</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>50-190</td>
</tr>
<tr>
<td>Gross Motor</td>
<td>50-180</td>
</tr>
<tr>
<td>Fine Motor</td>
<td>25-115</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>0-70</td>
</tr>
<tr>
<td>Personal-Social</td>
<td>15-60</td>
</tr>
</tbody>
</table>

ASQ – SE - 2

- Supplement to ASQ – 3
- 9 questionnaires age 2-60 months
  screening ages 1-66 months

- Completed by caregiver with 15-20 hours per week of contact with a child
- Questions are not arranged by constructs/domains
Special Considerations

- Prematurity:
  - If a child is <24 months at the time of screening AND was born >3wks premature, you need to correct
  - Subtract # weeks premature from current age to get corrected age and the appropriate ASQ-3 form

- Unanswered Questions:
  - Do NOT score section if more than 2 items are left unanswered
  - If 1 or 2 items skipped, can create an adjusted total score
  - Take total score divided by # of questions answered to get average score.
  - Add average score for omitted item to total score for adjusted total area score

ASQ-3 30 Month Questionnaire

ASQ – SE - 2

- 16-36 items/questions; 3 open-ended questions per screening tool
- One single score only, cutoff score above which a child requires further evaluation.

- Scored: Often or Always, Sometimes, Rarely or Never
- Intermediate score which requires either monitoring, further evaluation, or referral.
Concern = 5

Self-regulation: child’s ability or willingness to calm or settle down, or adjust to physiological or environmental conditions/stimulation

Compliance: child’s ability or willingness to conform to the direction of others and follow rules

Communication: child’s ability or willingness to respond to or initiate verbal or nonverbal signals to indicate feelings, affective, or internal states

Adaptive functioning: child’s success or ability to cope with physiological needs (e.g., sleeping, eating, elimination, safety)

Autonomy: child’s ability or willingness to self-initiate or respond without guidance (i.e., moving to independence)

Affect: child’s ability or willingness to demonstrate his or her own feelings and empathy for others

Interaction with people: child’s ability or willingness to respond to or initiate social responses to parents, other adults, and peers

Parental concern
Billing for Developmental Screening

**Developmental screen & score**
- Includes MCHAT R/F, ASQ-3
  - 96110 or G0481
  - MCOs paid: 52-61 for MD/DO/PA, 52 for NP
  - Private insurance paid: 52-61 for MD/DO/PA, 52 for NP

**Brief Emotional/Behavioral Assessment & scoring**
- Includes ASQ-SE2, PHQ-9
  - 96127
  - MCOs paid: 52-61 for MD/DO/PA, 52 for NP
  - Private insurance paid: 52-61 for MD/DO/PA, 52 for NP

- Medicaid: “25” modifier to preventive service or E&M code
- Example: Z00.129/25, 96110
- Attach “59” modifier if using more than one screen
  - Example: developmental screen and autism screen
  - Check with your payer!

Things To Do Before Referral

- M-CHAT-R/F, ASQ-3, ASQ-SE-2
- Vision & Hearing evaluation
- Review Newborn screening results & Growth chart
- Review PMH, family history, social, environmental factors
- Metabolic testing & Lead levels

The tool is NOT the challenge in implementing the screening process in the office. It is changing the workflow.
Implementation of Screening Process in Primary Care Office

- Approach as Q/I project
- Present as a revenue generating process - BUSINESS CASE
- Champion and Implementor of change
- Decide best method for your office
  - paper with EHR documentation summary
  - fully integrated into EHR
  - online autism screening - Autism Speaks
  - pay third party: Child Health and Development Interactive System (CHADIS)
- Screening tool to begin to implement: start with one patient and one provider
- Design and define workflow and roles and responsibilities

Office Implementation: workflow

Design and Define office workflow and roles/ responsibilities (Tasks)

- Pre-visit: Registry and patient notification
- Visit: Receptionist/Scheduler Nursing Clinician Billing
- Post Visit: NEXT STEPS
  - additional/repeat testing
  - Referral
  - care coordination

Next Steps for YOUR practice

- If not already doing developmental surveillance at all Well Child visits, start using Bright Futures tools
- If already doing surveillance but no screening, contact your 1st Five Site Coordinator to schedule a session for her to walk you and your staff through the ASQs and/or MCHATs.
Next Steps, continued

♦ If familiar with ASQs and/or MCHATs but are not sure how you are going to fit these screens into your busy workflow, please reach out to your Site Coordinator who can connect you to the 1st Five Peer Consultants
  ♦ Medical consultants:
    ♦ Dr. Steven Wolfe-Family Practice
    ♦ Cheryl Jones, ARNP-Pediatric Nurse Practitioner
    ♦ Dr. Meredith Fishbane-Gordon-Pediatrician

Referral Options

♦ 1st Five
  • www.idph.iowa.gov/1stfive

♦ Early Access
  • www.earlyaccessiowa.org

♦ Blank Children’s Hospital
  • www.unitypoint.org/blankchildrens/default.aspx

♦ ChildServe
  • www.childserve.org/services

♦ Child Health Specialty Clinics
  • www.chsciowa.org

♦ UI Center for Disabilities and Development
  • www.uichildrens.org/cdd/

♦ University of Iowa Children’s Hospital
  • www.uichildrens.org

References

♦ Bright Futures:
  https://brightfutures.aap.org/Pages/default.aspx

♦ Iowa Early And Periodic Screening Diagnosis And Treatment: http://www.Iowaepsdt.org

♦ Child Health And Development Interactive System: http://www.chadis.com

♦ Modified Checklist for Autism in Toddlers, Revised with Follow-up (M-CHAT-R/F):
  http://www.mchatscreen.com
References


References

- The Adverse Childhood Experiences Study: www.acestudy.org
- ACEs 360 Iowa: www.iowaaces360.org
- Center for the Developing Child at Harvard University: http://developingchild.harvard.edu