Developmental Screening: Using Evidence-Based Protocols to Enhance Care Quality

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Overview

• Why screen for developmental delays?
• A practical approach to developmental screening (AAP Policy Statement/Algorithm)
• Quality standards for developmental screening
• Our experience
Why is early identification/intervention important?

• All parents have some questions or concerns about their child’s development
• Developmental delays might be a clue to underlying treatable medical condition
• Evidence that early intervention is effective in improving developmental outcome
• Should be a goal for quality medical care
Much supporting data

- The Abecedarian Project generated a total benefit-cost ratio of 4:1 at age 21

- The Chicago Child-Parent Centers produced benefit-cost ratios of 7:1 total and 4:1 public at age 22

- Perry Preschool follow-up data at age 40 indicate a total benefit-cost ratio of 17:1 [4:1 for participants and 13:1 for the public]
More data

- 39% of 119 preschool teachers reported expelling at least one child from their program in the preceding 12 months. (Gilliam, 2004)

- 54% of 104 children under age 3 with newly opened child protection cases who received formal developmental assessments had delays that met eligibility criteria for early intervention services (MECLI, 2004)
The Challenge

- Over 15% of children have some form of developmental-behavioral problem
- Evidence that early diagnosis and intervention is effective
- Only 20 – 30% of children with disabilities are identified before school entrance
- Only 50% of families report developmental assessment by their doctors

The Challenge cont.

• Clinical assessment alone detects <30% of children with dev disabilities
• Only 23% of 664 pediatricians in a survey reported utilizing a standardized system for developmental screening (majority used Denver Developmental Screening Test)

Developmental Domains

- Motor – Gross and Fine Motor
- Language
  - Receptive
  - Expressive
- Cognitive
- Social-Emotional
- Self-help
General Principles

• Development occurs in an orderly and predictable manner
• Progress from generalized reactions to stimuli, to specific, goal directed actions and reactions that become increasingly precise
• Differing rates of development in the various domains
• Spurts and plateaus; “Touchpoints”
General Principles cont.

- Some skills develop independently (Intrinsic – e.g. reflexes; motor dev.), others are dependent on experience (Extrinsic – e.g. language)
- Behavioral experiences can “alter the wiring”
Definitions

• Developmental delay: not developing skills in expected time frame
• Developmental disorder/disability: mental or physical impairment resulting in functional limitations
• Deviations: skills developed out of usual sequence
• Dissociation: differing rates of development in different spheres
• Regression: loss of skills
Okay – But why change what we do already?

- Informal screening can be inaccurate
- Subtle delays can be missed
- An office-wide system can be more efficient
- Switching to EHR provides an opportunity for change
Identifying infants and young children with developmental disorders in the medical home: An algorithm for developmental surveillance and screening

AHRQ – National Guideline Clearing House

- Continuous developmental surveillance
- Periodic developmental screening
- Further medical and developmental evaluation if delays identified
- Early developmental intervention
- Chronic-condition management

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Developmental Surveillance

- Flexible, longitudinal, continuous and cumulative process
- Knowledgeable health care professionals identify children who may have developmental problems
- Outcomes
  - Appropriate referrals
  - Patient education
  - Support of healthy development
Developmental Surveillance cont.

• Eliciting and attending to parents’ concerns
  – “Do you have any concerns about your child’s development/behavior/learning?

• Documenting and maintaining a developmental history
  – “What changes have you seen in your child’s development since our last visit?”
  – Watch for – deviance; dissociation; regression
Developmental Surveillance cont.

- Making accurate observations
  - Physical and developmental examination; observation of parent-child interactions
- Identifying risk and protective factors
  - Environmental; genetic; biological; social; demographic
- Maintaining an accurate record
  - “Developmental growth chart”; EHR
Developmental Screening

• Administration of a brief standardized tool that aids the identification of children at risk for developmental disorder
• Identifies areas in which a child’s development differs from same-age norms
• Repeated screening more effective in identifying delays – especially later-developing skills such as language
Developmental Screening Instruments

- Parents Evaluation of Developmental Status
- Ages and Stages Questionnaire
- Child Development Inventories
- Bayley Infant Neurodevelopmental Screener
- Brigance Screens
- Battelle Developmental Inventory Screening Test
- Pediatric Symptom Checklist
PEDS RESPONSE FORM

Child's Name: ___________________________ Parent's Name: ___________________________
Child's Birthday: __________ Child's Age: __________ Today's Date: __________

1. Please list any concerns about your child's learning, development, and behavior:

2. Do you have any concerns about how your child talks and makes speech sounds?
   Circle one: No   Yes   A little   COMMENTS:

3. Do you have any concerns about how your child understands what you say?
   Circle one: No   Yes   A little   COMMENTS:

4. Do you have any concerns about how your child uses his or her hands and fingers to do things?
   Circle one: No   Yes   A little   COMMENTS:

5. Do you have any concerns about how your child uses his or her arms and legs?
   Circle one: No   Yes   A little   COMMENTS:

6. Do you have any concerns about how your child behaves?
   Circle one: No   Yes   A little   COMMENTS:

7. Do you have any concerns about how your child gets along with others?
   Circle one: No   Yes   A little   COMMENTS:

8. Do you have any concerns about how your child is learning to do things for himself/herself?
   Circle one: No   Yes   A little   COMMENTS:

9. Do you have any concerns about how your child is learning preschool or school skills?
   Circle one: No   Yes   A little   COMMENTS:

10. Please list any other concerns:

   COMMENTS:

   COMMENTS:

   COMMENTS:

   COMMENTS:

   COMMENTS:

   COMMENTS:

   COMMENTS:

   COMMENTS:
Ages and Stages Questionnaire

- Parent completed
- 4 - 60 months
- 30 items
- 10 - 15 minutes
- Cut-off scores in 5 dev. domains indicating need for further evaluation
Modified Checklist for Autism in Toddlers (MCHAT)

• 23 items – 6 critical (18 – 30 months)

– Does your child take an interest in other children?
– Does your child ever use his/her index finger to point, to indicate interest in something?
– Does your child ever bring objects over to you (parent) to show you something?
– Does your child imitate you?
– Does your child respond to his/her name when you call?
– If you point to a toy across the room, does your child look at it?
Positive Results on Developmental Screening?

• Refer for Early Developmental Intervention or Early Childhood Education Services

• Developmental Evaluation
  – Comprehensive process to identify specific developmental disorders affecting the child

• Medical Diagnostic Evaluation
  – Review of risk factors; medical eval; special investigations as indicated (neuroimaging; genetic and metabolic testing etc.)
Chronic Condition Management

- Pro-active Care
- Patient and parent education
- Condition-related office visits
- Care plans
- Co-management with specialists
- Tracking and Monitoring
Further recommendations

• Document all surveillance, screening, evaluation, and referral activities in the child’s health chart
• Establish working relationships with state and local programs, services, and resources
• Use a quality-improvement model to integrate surveillance and screening into office procedures and to monitor their effectiveness and outcomes
EHR and Developmental Screening Measures

• **Measure 1: Screening Occurrence**
  • Proportion of children who have had a standardized, validated developmental screening assessment at their 9- (8-10) month, 18- (15-24) month, or 30- (30-40) month well-child visit

• **Measure 2: Abnormal Screening Result**
  • Proportion of children with an abnormal screening result (as defined by the cut-off specified by the screening tool used) documented on their problem list within the past 12 months

• **Measure 3: Specialist Follow-up**
  • Proportion of children seen by a specialist (for consultation or referral) for developmental concerns within the past 12 months who had their specialist note reviewed by their primary clinician
A Measurable Quality Standard

• Screening Occurrence
  • Proportion of children who have had a standardized, validated developmental screening assessment at their 9- (8-10) month, 18- (15-24) month, or 30- (30-40) month well-child visit
Our Experience – An Option

• PRIDE Program
• Help Me Grow South Carolina
Promoting Resources in Developmental Education (PRIDE) Program

• 6 year project funded by Duke Endowment in Greenville County and Upstate

• Partnership of Children’s Hospital, Center for Developmental Services, BabyNet, School District, Family Connection (Parent-to-Parent Mentoring)

• GOAL – Earlier identification and intervention for children with developmental delays
PRIDE

• Targeting key players in lives of infants and toddlers
  – Parents
    • Education; milestone cards
  – Primary Care Physicians
    • Nurse Practitioner acting as physician office liaison (using model of pharmaceutical reps – “academic detailing”)
    • Training and provision of PEDS dev screening questionnaire
    • Resource Guide with referral information
  – Child care providers
    • Training sessions in assoc. with Success By Six and First Steps programs
PRIDE

- Primary Care Physicians
  - 67 practices in 8 counties
- Families
  - Over 11,000 families receiving Mind Your Milestones Cards
  - Parenting Programs
- Child Care Providers
  - Continuing Professional Development Programs
PRIDE Outcomes

- Majority of pediatric practices in Greenville County initially implemented use of standardized screening instruments
- Referrals to early intervention services increased almost 100%
- Referral to school district’s childfind program increased 30%
- Challenges recently
  - Integration with EHR
Next Steps

• Development of a community-wide, tiered system of developmental surveillance, screening and diagnosis
• Communication and collaboration among providers of services to children at risk for developmental disorders as well as those with established disabilities
• Improved access to service coordination
• Child Development Infoline

= Help Me Grow South Carolina
Help Me Grow South Carolina

1. **Central telephone access point** for connection to care coordination and services

2. **Community outreach** to identify resources, promote use of HMG call line, and provide networking opportunities among service providers.

3. **Physician outreach** to support early detection of developmental-behavioral problems

4. **Data collection** which includes identification of service gaps and barriers
Well-Child Visit

1. Solicit Parent Opinions

2. Provider Gets Feedback

3. Contact Help Me Grow

4. Physician Care Pathway

5. Parent Connected to Resource

6. Help Me Grow

Care Coordinator provides resources

Help Me Grow
The Primary Care Pediatrician Perspective

- Challenges
- Changes
References

• Dworkin PH. British and American recommendations for developmental monitoring: the role of surveillance. Pediatrics 1989;84:1000