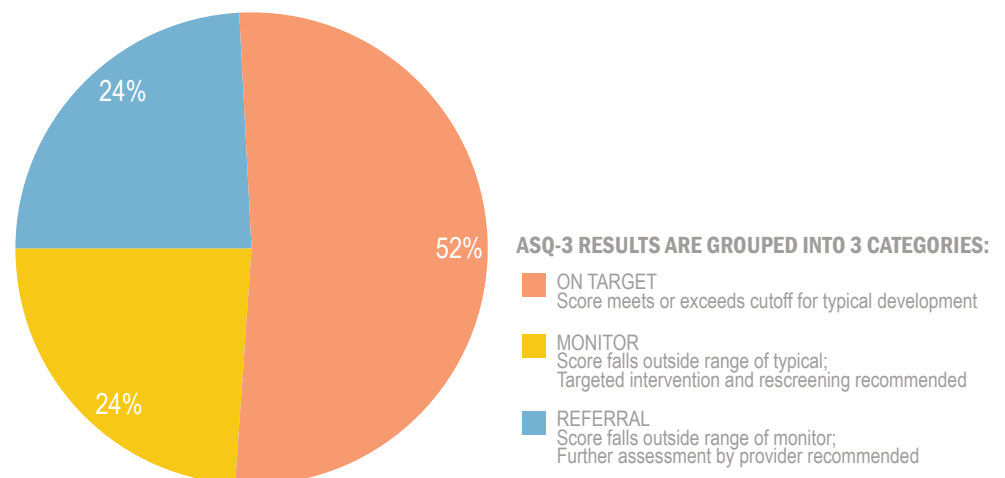


Children enrolled in Mississippi’s Early Learning Collaborative Pre-Kindergarten programs were screened to assess the degree to which these preschool children may be exhibiting delays in development. This brief summarizes the results of the screening study and outlines policy considerations. A detailed report of study findings can be found on the Center’s web site at [mshealthpolicy.com](http://mshealthpolicy.com).

In 2013, the Mississippi legislature passed the Early Learning Collaborative Act which set up Mississippi’s first state-funded Pre-Kindergarten (Pre-K) programs for four year olds. Eleven Early Learning Collaboratives were established around the state as a result of this law. In fall 2014, the Center for Mississippi Health Policy (C4MHP) contracted with Mississippi State University’s Social Science Research Center (SSRC) to conduct a study to implement developmental screening in these programs, in collaboration with the Mississippi Department of Education. The goal of the study was to determine what the developmental concerns of children entering Pre-K in Mississippi are, and what policy implications these needs have for the state.

The project utilized the Ages and Stages Questionnaires, Third Edition (ASQ-3) and the Ages and Stages Questionnaire: Social-Emotional (ASQ-SE). These widely used instruments are considered valid and reliable for assessing developmental progress for children ages 1 month to 5 years. Of the 1,786 children who attend the Pre-K collaboratives, approximately 1,350 children were screened using the ASQ-3 and the ASQ-SE. Findings from the ASQ-3 screenings indicate that nearly one quarter (24%) of children screened scored in the “Referral” range. Another quarter (24%) had scores in the “Monitor” range. The remaining half (52%) scored into the “On Target” group.

**FIGURE 1. RESULTS FROM THE ASQ-3 SCREENINGS, MISSISSIPPI PRE-K COLLABORATIVE PROJECT (2015)**



**ASQ-3 DOMAINS**

**COMMUNICATION**

Language skills

e.g. Can name three items from a common category (Names of some animals, food the child likes to eat)

**GROSS MOTOR**

Use of arms, legs, and large muscles

e.g. Can hop on one foot

**FINE MOTOR**

Coordinated use of hands and fingers

e.g. Can cut paper in half using scissors

**PROBLEM SOLVING**

How the child plays with toys and solves problems

e.g. Can count five objects, can name five colors

**PERSONAL SOCIAL**

Self-help skills and interactions with others

e.g. Can dress self, including buttons

Source: *Ages & Stages Questionnaires, Third Edition (ASQ-3)*. (2009). Squires & Bricker Paul H. Brookes Publishing Co.

**RESULTS FROM ASQ-3 SCREENINGS  
 NUMBER OF CHILDREN WITH  
 SCORES INDICATING POSSIBLE DELAY**

Communication: 173 children

Fine motor: 124 children

Gross motor: 103 children

Problem solving: 89 children

Personal social: 78 children

Source: Southward, L, McKee, C, Hanna, H, & Bell, L. (2015). *Mississippi Pre-K Collaboratives: A Study of Developmental Screenings*

## Overview of Developmental Screening

### SURVEILLANCE

The informal process of using clinical judgment to recognize children who may be at risk for developmental delay.

### SCREENING

The use of a standardized tool to evaluate if a child is reaching benchmarks within a desired period of time.

### EVALUATION

The complex process aimed at identifying specific developmental disorders that are affecting a child. While some prefer the term “evaluation” to “assessment,” the words are frequently used synonymously, and should be considered so for the purposes of this brief.

Children grow in a variety of ways beginning at birth. Physical, mental, emotional and social development all factor into a child’s maturity. While the pace at which children advance through development may vary to a certain degree, there are ranges of achievement that are considered appropriate or typical. Developmental screening is the use of a standardized tool to evaluate if a child is reaching these benchmarks within a certain period of time.

The term “developmental delay” is used when a child under the age of five does not meet the expected milestones in a timely manner. A distinction must be made between developmental delay and developmental disability: A delay may lead to or indicate a disability, or not. With appropriate intervention and instruction, many developmental delays can be resolved before developing into a lifelong condition.

Risk factors associated with a developmental delay are particularly relevant to Mississippi. These include poverty, minority status, low-parental education, and low birthweight. There are a number of poor outcomes associated with an untreated developmental delay. Speech and language delays have been associated with an increased risk of learning disabilities, difficulty reading in later school years, a higher degree of academic under-achievement, and more behavioral problems, and possibly contribute to lower IQ scores. A sibling study indicates that speech problems in childhood may be linked with obtaining lower-skilled jobs as adults.

Research shows that physicians tend to rely on clinical judgment, rather than the use of standardized screening tools, which contributes to the low rate of children with developmental delay being identified and referred to services. As a result of low screening rates, only 10 percent of children with delays are linked to the appropriate intervention needed. Between 12 and 16 percent of children in the U.S. are estimated to experience a developmental delay, but up to half of these are not identified before entering kindergarten. In Mississippi, approximately 18 percent of children under six years of age have received a standardized screening for developmental or behavioral problems, compared with 31 percent nationwide, although Mississippi children are at greater risk of delay.

The results from the SSRC study of the children enrolled in the Pre-K collaboratives share similarities with other recent findings. Data from Mississippi’s statewide Kindergarten Readiness Assessment in the fall of 2014 indicate that 65 percent of students are not ready for kindergarten. By third grade, 50 percent of students are scoring below proficient on standardized reading tests. It is possible that early identification of and intervention for developmental delays might impact these later outcomes. North Carolina has documented success in using early childhood education to significantly decrease placement in special education. One study in that state showed a reduction of 39 percent in the likelihood of a student being placed in special education in third grade. A key to the program’s success was raising preschool developmental screening rates to 98 percent. The same study found that certain early childhood programs might benefit children by reducing the disparities in special education placement associated with income and racial background.

*With appropriate treatment, many developmental delays can be resolved before developing into a lifelong condition.*

*In Mississippi, approximately 18 percent of children under six years of age have received a standardized screening for developmental or behavioral problems, compared with 31 percent nationwide, although Mississippi children are at greater risk of delay.*

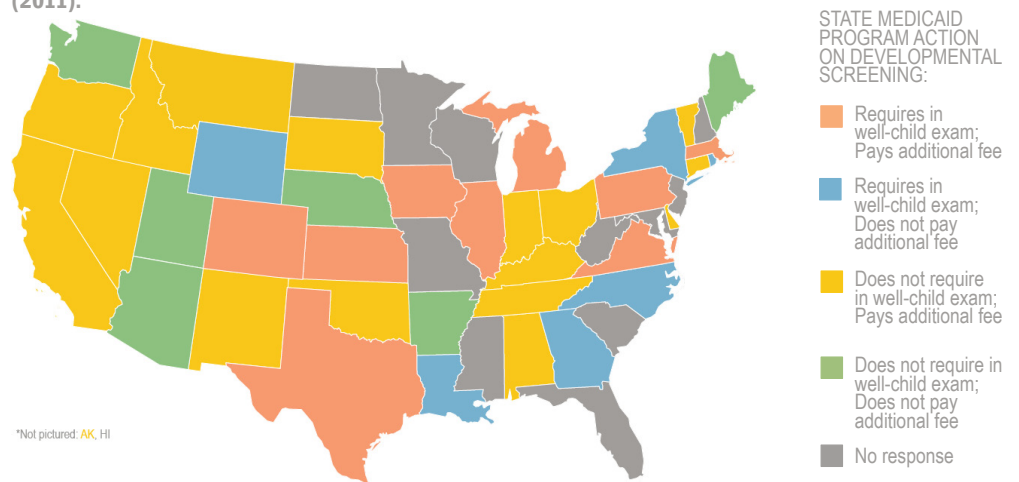
## Policy Options for Improving Developmental Screening

### EPSDT

EPSDT is a Medicaid service mandated by the federal government to provide comprehensive preventive health care to children from birth through age 21. State Medicaid programs are given flexibility in setting EPSDT services, which must include covered screenings in the following categories: medical, mental health, vision, hearing and dental.

States have implemented a variety of strategies to increase developmental screening rates and identify children with developmental delays. Most have worked through the Medicaid program to provide incentives to screen earlier. One route many states have taken involves using the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. EPSDT screenings are required to be conducted on a regular basis and include developmental screenings (although it is left to state Medicaid programs to define what qualifies as a “developmental screening”). See Figure 2. Some states, like North Carolina, require that EPSDT screening incorporates developmental screenings. Other states, like Illinois, have worked with Medicaid managed care companies to use financial incentives or penalties to ensure children receive appropriate developmental screening.

**FIGURE 2. MEDICAID REQUIREMENTS AND REIMBURSEMENT POLICIES ON DEVELOPMENTAL SCREENING. (2011).**



Source: NASHP. (2011). *State Medicaid Requirements and Reimbursement Policies on Developmental Screening*.

In addition to utilizing Medicaid to implement policy that encourages developmental screening, states can foster partnerships between agencies with programs that relate to screening and referral, like the Title V Maternal and Child Health and Part C Early Intervention programs housed at the Mississippi State Department of Health, or the Child Find program at the Mississippi Department of Education. Strengthening partnerships and coordinating resources are often prioritized in developing a statewide plan to improve developmental screening rates.

The medical community also has a role to play in increasing the early identification of developmental delays. The American Academy of Pediatrics (AAP) has incorporated recommendations on developmental screening into its own program, Bright Futures, an evidence-based guide for preventive care. AAP recommends developmental surveillance be incorporated into all well-child visits throughout infancy and early childhood, and that formal developmental screenings be conducted at 9 months, 18 months, and 30 months, as well as any time developmental surveillance indicates a potential problem. The National Academy for State Health Policy (NASHP) has worked extensively with many states across the country to address increasing developmental screening rates among young children. NASHP emphasizes in its work that while screening is a critical component to addressing healthy child development, subsequent follow up and referral to appropriate treatment is indispensable to the process. Without connecting children whose screens indicate a need for follow up with those services, screening will not improve child health and educational outcomes.

## Summary

Developmental screening is an important tool used to identify developmental delay in infants and children. Screening rates for young children, however, are low, particularly in Mississippi where only 18 percent of children under six are screened. If developmental problems in preschool children can be identified and treated early enough, many can be resolved before the child enters school, improving the child's chance to succeed academically.

Where children in Mississippi's Early Learning Collaborative Pre-Kindergarten programs were screened for developmental delays, the study results documented that nearly one-quarter of children needed a comprehensive evaluation to confirm the presence of one or more developmental delays, another quarter needed targeted intervention and periodic re-screening to monitor for possible delays, and a little more than half of the children exhibited developmental patterns that were on target and typical for their age. These results are not surprising given that many risk factors associated with developmental delay (e.g. poverty, low birthweight, minority status, and low-parental education) are prevalent in Mississippi.

The study's results point to potential opportunities for early identification and treatment of developmental delays in preschool children in order to reduce the percentage of children considered not ready to enter kindergarten (65%) and scoring below proficient levels on standardized reading tests in the third grade (50%). There are a variety of policy options states have used to improve developmental screening rates. North Carolina, for example, which made developmental screening a required component of Medicaid EPSDT screens and achieved a 98 percent screening rate, demonstrated that early identification and treatment as part of early childhood education greatly reduces the likelihood of students later being placed in special education.

## Resources

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