



Issue Brief

Hearing Services for Children on Medicaid: A Review of EPSDT Services

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Hearing loss affects many low-income children in the United States. Despite the proliferation of hospital-based newborn hearing screening programs, a significant number of children with possible hearing loss are not receiving prompt diagnosis and treatment. The Medicaid program, which offers low-income children a comprehensive array of preventive, diagnostic, and treatment services, called Early and Periodic Screening, Diagnostic, and Treatment (EPSDT), is in a unique position to address the problem. Federal law places affirmative obligations on states to make sure that Medicaid-eligible children and their families are aware of EPSDT and have access to EPSDT benefits. At a minimum, EPSDT must include age-appropriate hearing screening, as well as services needed to correct or ameliorate hearing problems, including hearing aids.

This brief discusses: (1) the scope of the problem of hearing loss in children; (2) standards and guidelines for screening children for hearing loss; (3) the EPSDT benefit; (4) how states are implementing EPSDT requirements related to hearing screening; and (5) recommendations for EPSDT that, if adopted, will help ensure that children with hearing loss are identified early, receive early intervention services, and avoid the negative developmental consequences associated with the condition.

I. Hearing Loss in Children – The Scope of the Problem

A. Background

Many children in the United States experience hearing loss, which can range from mild to profound.¹ Two to three out of every 1000 children are born with hearing loss, and additional

¹ The lowest degree of hearing loss is sometimes referred to as slight. Because most of the literature on childhood hearing loss focuses on mild or greater hearing loss, this issue brief does the same.

children develop hearing loss during later stages of childhood.² Approximately three percent of children have mild or greater unilateral or bilateral hearing loss, and one percent of children have mild or greater bilateral hearing loss.³ In addition, recent research suggests that the prevalence of hearing loss among adolescents is increasing.⁴ Across all age groups, hearing impairment is more common in male than female children.⁵

There are three primary types of hearing loss – conductive, sensorineural, and mixed. Conductive hearing loss occurs when sound does not move from the outer ear canal to the eardrum and the bones of the middle ear. It can often be corrected with medical or surgical intervention. Sensorineural hearing loss is the most common form of hearing loss and occurs when the inner ear or the nerve running from the inner ear to the brain are damaged. Most often, sensorineural hearing loss cannot be corrected. Conductive and sensorineural hearing loss can occur in combination – this is called mixed hearing loss.⁶

In children with moderate or worse bilateral sensorineural hearing loss, the cause of the hearing loss is unknown in 56 percent of cases, genetic in 23 percent of cases, and acquired in 20 percent of cases.⁷ Hearing loss can be acquired due to infections, trauma, exposure to loud noise, and other causes.⁸

B. Prevalence of Hearing Loss Among Low-Income Children

Research shows that children and adolescents from low-income households experience hearing loss at a greater rate than children and adolescents from more affluent families.⁹ The disparity could be due to unequal access to prenatal care and pediatric health care. Or, it could be that children from low-income households have more frequent exposure to environmental

² NIH, Newborn Hearing Screening, <http://report.nih.gov/nihfactsheets/ViewFactSheet.aspx?csid=104> (last visited Sept. 26, 2014).

³ Saral Mehra et al., *The Epidemiology of Hearing Impairment in the United States: Newborns, Children, and Adolescents*, 140 *OTOLARYNGOLOGY – HEAD AND NECK SURGERY* 462, 468 (2009). These figures are based on audiometric screening studies. According to studies based on self-reporting, 1.9 percent of children and adolescents have “hearing trouble.” *Id.*

⁴ See Josef Shargorodsky et al., *Change in Prevalence of Hearing Loss in U.S. Adolescents*, 302 *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* 775 (2010). Data collected between 1988 and 1994 showed that 3.5 percent of adolescents had mild or greater hearing loss, whereas data collected between 2005 and 2006 showed that 5.3 percent of adolescents had mild or greater hearing loss. The percentages are much higher when slight hearing loss is taken into account. *Id.* at 774-75.

⁵ Mehra et al., *supra* note 3, at 469.

⁶ AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION, <http://www.asha.org/public/hearing/Types-of-Hearing-Loss/> (last visited Sept. 26, 2014).

⁷ Mehra et al., *supra* note 3, at 466.

⁸ Allen D. Buz Harlor, Jr. and Charles Bower, *Hearing Assessment in Infants and Children: Recommendations Beyond Neonatal Screening*, 125 *PEDIATRICS* 1252, 1253 (2009).

⁹ See Mehra et al., *supra* note 3, at 465, 469; Shargorodsky et al., *supra* note 4, at 777.

factors that can lead to hearing loss.¹⁰ Further research is needed to pinpoint the reasons for the disparity.

C. Developmental Consequences of Untreated Hearing Loss

The disproportionate number of low-income children with hearing loss is even more troubling given the developmental consequences associated with the condition. If left undetected and untreated, hearing loss can have a profound impact on a child's language and speech development and well-being. Scientific literature shows that failure to treat hearing loss can lead to "lifelong deficits in speech and language acquisition, poor academic performance, personal-social maladjustments, and emotional difficulties."¹¹ This is true for children with mild and moderate hearing loss, as well as children with severe and profound hearing impairment.¹²

Research demonstrates that early intervention can prevent some of these adverse consequences.¹³ One study examined the language skills of children who ranged in age from one to three years old and who had mild to profound congenital bilateral hearing loss.¹⁴ All of the children in the study received early intervention services to improve their communication and language skills. The children who were identified as having hearing loss before six months of age demonstrated more advanced receptive and expressive language skills than the children who were identified after six months of age.¹⁵ A subsequent study found that children with mild to profound bilateral hearing loss who enrolled in an early intervention program before eleven months of age had more advanced language skills at five years of age than children who enrolled after eleven months of age.¹⁶ These results suggest that to be effective, early intervention "must truly occur early."¹⁷

D. Hospital-based Newborn Screening Increases Screening Rates but Problems Persist

In 1993, the National Institutes of Health endorsed universal hearing screening for newborns before they leave the hospital. Six years later, Congress passed the Newborn and Infant

¹⁰ Mehra et al., *supra* note 3, at 469.

¹¹ Harlor, Jr., *supra* note 8, at 1253. See also C. Yoshinaga-Itano et al., *Language of Early and Later-Identified Children with Hearing Loss*, 102 PEDIATRICS 1161 (1998).

¹² C. Yoshinaga-Itano et al., *supra* note 11, at 1161.

¹³ See *id.* See also Mary Pat Moeller, *Early Intervention and Language Development in Children Who Are Deaf and Hard of Hearing*, 106 PEDIATRICS e43 (2000), <http://pediatrics.aappublications.org/content/106/3/e43.full.pdf+html>.

¹⁴ See Yoshinaga-Itano et al., *supra* note 11, at 1162-63.

¹⁵ *Id.* at 1165-66, 1169. With respect to children who were identified after six months of age, the study found no correlation between the exact age at which a child was identified as having hearing loss and his or her later language skills. *Id.* at 1165-66.

¹⁶ Moeller, *supra* note 13, at 4.

¹⁷ Yoshinaga-Itano et al., *supra* note 11, at 1170.

Hearing Screening and Intervention Act of 1999 to help coordinate and fund statewide hearing screening programs.¹⁸ As a result, all states have established Early Hearing Detection and Intervention (EHDI) programs.¹⁹ Hospitals across the United States now screen newborns for hearing loss; more than 95 percent of newborns receive a hospital-based hearing screening.²⁰

While near-universal newborn hearing screening represents an enormous public health achievement, such screening cannot detect all cases of hearing loss. It does not detect mild hearing loss, and one of the two technologies used does not detect certain hearing disorders.²¹ Also, as explained above, children can develop hearing loss long after birth. Ongoing screening for hearing loss is critical to ensure that children with hearing loss are identified.

Moreover, detecting possible hearing loss through a screening will not result in better outcomes unless children who fail the screening go on to receive a definitive diagnosis and early intervention services. Unfortunately, data show that a sizeable portion of children who fail a newborn hearing screening do not receive a diagnosis and treatment if necessary. According to the Centers for Disease Control and Prevention (CDC), of the children who did not pass a newborn hearing screening in 2009-2010, only 50 percent were documented as receiving a definitive diagnosis of normal hearing or hearing loss.²² Of the infants who received a diagnosis of hearing loss, only 67 percent were documented as receiving early intervention services, and only 65 percent of those infants were enrolled in early intervention before the recommended six months of age.²³ Moreover, infants born to young mothers, mothers with low educational attainment, or mothers in certain racial groups were less likely to return for follow-up services after failing a newborn hearing screening.²⁴ A survey of newborn hearing screening programs pointed to additional reasons for the high rate of loss to follow-up, including lack of knowledge among primary care providers. Programs reported that providers often did not receive or did not review hearing screening results for their newborn patients,

¹⁸ NIH, Newborn Hearing Screening, <http://report.nih.gov/nihfactsheets/ViewFactSheet.aspx?csid=104> (last visited Sept. 26, 2014).

¹⁹ See Ctrs. for Disease Control and Prevention, <http://www.cdc.gov/ncbddd/hearingloss/ehdi-programs.html> (last visited Sept. 26, 2014).

²⁰ Shirley A. Russ et al., *Preface: Newborn Hearing Screening in the United States: Historical Perspective and Future Directions*, 126 PEDIATRICS Supp.1 S3 (2010).

²¹ Joint Comm. on Infant Hearing, *Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs*, 120 PEDIATRICS 898, 901, 903 (2007). See section II.B. below for further discussion of newborn hearing screening.

²² Marcus Gaffney et al., *Early Hearing Detection and Intervention Among Infants – Hearing Screening and Follow-up Survey, United States, 2005-2006 and 2009-2010*, CENTERS FOR DISEASE CONTROL AND PREVENTION, MORBIDITY AND MORTALITY WKLY. REP., Sept. 2014, at 20, 23.

²³ *Id.*

²⁴ *Id.*

were not aware of the availability of early intervention services, or due to lack of knowledge about hearing loss, took a “wait and see” approach to possible hearing loss in newborns.²⁵

The high rate of loss to follow-up may not be unique to the newborn hearing screening context. Research shows that primary care providers often do not rescreen or refer children who fail or do not complete a hearing screening at a well-child exam.²⁶ In a study of academic and private practices in Alabama, primary care providers took no further action for 73 percent of children between three and nineteen years old who could not complete a routine audiometry test.²⁷ Of the children who failed the screening, only 41 percent were referred to an audiologist or rescreened before their next well-child exam one year later.²⁸ Like the survey of newborn hearing screening programs, the study suggests that some providers may take a “wait and see” approach with respect to possible hearing loss in children.

II. Standards and Recommendations for Screening Children for Hearing Loss

Child health experts have developed standards and recommendations for providers who screen children for hearing loss. This issue brief focuses on the standards and recommendations endorsed by the American Academy of Pediatrics (AAP), which are summarized below.²⁹

A. When to Conduct a Hearing Screening – Periodicity Schedule

The AAP recommends that providers screen children for hearing loss according to the periodicity schedule outlined in Table 1. As the periodicity schedule indicates, providers should perform an objective hearing screening at birth and at four, five, six, eight, and ten years old and a subjective screening (also known as a risk assessment) at all other ages. The differences between subjective screening and objective screening are discussed below.

²⁵ Shanna Shulman et al., *Evaluation of the Universal Newborn Hearing Screening and Intervention Program*, 126 PEDIATRICS Supp. 1 S19, S22 (2010). See also Joint Comm. on Infant Hearing, *supra* note 21, at 915 (noting that “there is often a lack of timely referral for diagnosis of, and intervention for, suspected hearing loss in children.”)

²⁶ See Donna R. Halloran et al., *Hearing Screening at Well-Child Visits*, 159 ARCHIVES OF PEDIATRICS AND ADOLESCENT MED. 949 (2005).

²⁷ *Id.* at 952. The author noted that most of the children who could not complete the screening were three years old, and the American Academy of Pediatrics no longer recommends that providers perform an objective hearing screening at this age. It could have been that the providers did not take further action in these cases because they do not find audiometry testing to work well for three-year-olds. *Id.* at 953.

²⁸ *Id.* at 952.

²⁹ See, e.g., BRIGHT FUTURES/AMERICAN ACADEMY OF PEDIATRICS, RECOMMENDATIONS FOR PREVENTIVE PEDIATRIC HEALTH CARE (2014), available at http://www.aap.org/en-us/professional-resources/practice-support/Periodicity/Periodicity%20Schedule_FINAL.pdf; Harlor, Jr., *supra* note 8; Joint Committee on Infant Hearing, *supra* note 21.

Table 1 – Bright Futures/AAP Periodicity Schedule³⁰

AGE	OBJECTIVE	SUBJECTIVE
Newborn	X	
3 to 5 days		X
By 1 month		X
2 months		X
4 months		X
6 months		X
9 months		X
12 months		X
15 months		X
18 months		X
24 months		X
30 months		X
3 years		X
4 years	X	
5 years	X	
6 years	X	
7 years		X
8 years	X	
9 years		X
10 years	X	
11 years		X
12 years		X
13 years		X
14 years		X
15 years		X
16 years		X
17 years		X
18 years		X
19 years		X
20 years		X
21 years		X

B. Objective Hearing Screening – Newborns

The Joint Committee on Infant Hearing (which consists of representatives from a number of national organizations, including the AAP and the American Speech-Language-Hearing Association) recommends screening all newborns for hearing loss before one month of age.³¹

³⁰ BRIGHT FUTURES/AMERICAN ACADEMY OF PEDIATRICS, *supra* note 29.

³¹ See Joint Comm. on Infant Hearing, *supra* note 21, at 898, 900. The U.S. Preventive Services Task Force has made the same recommendation. See U.S. PREVENTIVE SERVS. TASK FORCE, UNIVERSAL SCREENING FOR HEARING LOSS

There are two widely used methods for screening newborns – auditory brainstem response (ABR) and otoacoustic emission (OAE). In broad terms, OAE measures the status of the inner ear, and ABR measures the status of the inner ear, the nerve running from the ear to the brain, and the brain itself.³² Because OAE cannot detect certain hearing disorders, and these disorders most often affect infants who require NICU care, the Joint Committee encourages providers to use ABR for infants who spend more than five days in the NICU.³³ Providers should refer infants who do not pass the ABR screening to an audiologist for rescreening, and if indicated, a comprehensive evaluation.³⁴ In well-infant nurseries, newborn hearing screening programs use ABR, OAE, or a combination of the two technologies. Infants who fail the screening protocol should be referred for audiological and medical evaluation to confirm the hearing loss before three months of age.³⁵ Given the demonstrated importance of truly early treatment, the Joint Committee recommends that all infants with confirmed hearing loss receive early intervention services as soon as possible, but in no case later than six months of age.³⁶ In addition, primary care providers should continue to monitor infants who pass the newborn hearing screening for hearing impairment.³⁷

C. Subjective Hearing Screening – All Ages

During a subjective hearing screening, providers evaluate the child for the presence of risk indicators associated with hearing loss. The Joint Committee on Infant Hearing has identified one dozen such risk indicators. These include a family history of permanent childhood hearing loss, certain in utero infections, certain physical findings, and chemotherapy.³⁸ Another one of the risk indicators – caregiver concern about hearing, speech, or language development – is of particular importance, as research reveals that parents often detect potential hearing loss in children earlier than providers.³⁹ As a result, if a caregiver expresses concern, the provider should refer the child to an audiologist and a speech-language pathologist for further evaluation.⁴⁰ In addition, the Joint Committee recommends that all infants with one of the risk indicators receive an audiological evaluation at least once before twenty-four to thirty months

IN NEWBORNS RECOMMENDATION STATEMENT (2008), *available at* <http://www.uspreventiveservicestaskforce.org/uspstf08/newbornhear/newbhearrs.htm>.

³² Joint Comm. on Infant Hearing, *supra* note 21, at 903.

³³ *Id.* at 898, 901.

³⁴ *Id.* at 898, 904.

³⁵ *Id.* at 900-05.

³⁶ *Id.* at 901.

³⁷ *Id.*

³⁸ *Id.* at 921.

³⁹ Harlor Jr., *supra*, note 8, at 1254.

⁴⁰ Joint Comm. on Infant Hearing, *supra* note 21, at 912.

of age, even if the child passed the newborn hearing screening.⁴¹ The presence of certain high risk indicators should prompt ongoing audiological assessments.⁴²

D. Objective Hearing Screening – Starting at Four Years Old

Research has shown that subjective risk assessment is a useful tool for detecting hearing loss, but that it misses up to half of all children with hearing loss.⁴³ As a result, the AAP recommends that providers perform an objective hearing screening at four, five, six, eight, and ten years old. The testing method must be age-appropriate, and the child must be comfortable with the testing situation.⁴⁴

The AAP notes that there are a number of tools available for objective hearing screening, and the appropriate tool will depend on the child's age and degree of cooperation, as well as the provider's available resources.⁴⁵ For children four years old and older, providers can use conventional screening audiometry.⁴⁶ The test should occur in a quiet environment using earphones, and each ear should be tested at the following frequencies: 500, 1000, 2000, and 4000 Hertz.⁴⁷ The inability to detect one of these frequencies at twenty decibels indicates possible hearing loss. If a child is unable to complete the test due to a developmental delay or a behavioral problem, the provider should refer the child to an audiologist.⁴⁸ If a child does not pass the test, the provider should repeat the instructions to the child, reposition the earphones, and perform the test again. If the child fails the rescreening, the provider should refer the child for definitive audiological testing and diagnosis, especially if a physical examination reveals no abnormality of the middle ear.⁴⁹ The AAP suggests that primary care providers do more than simply refer a child to a specialist – providers should arrange and confirm appropriate follow-up testing and treatment.⁵⁰

III. Medicaid Requirements for Screening and Treating Children for Hearing Loss

Medicaid is a federal-state partnership program designed to make health care affordable and accessible to certain low-income individuals. States are not required to participate in the

⁴¹ *Id.* at 906, 912.

⁴² *Id.*

⁴³ Harlor Jr., *supra* note 8, at 1254.

⁴⁴ *Id.* at 1255.

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Id.* at 1258.

⁴⁸ *Id.* at 1258-59.

⁴⁹ *Id.*

⁵⁰ *Id.* at 1259.

Medicaid program, but all do. Federal law establishes minimum standards that states must meet to receive federal Medicaid funding. For example, with respect to eligibility, states must provide Medicaid coverage to certain groups of children, including children under age nineteen whose household income is less than 133 percent of the federal poverty level.⁵¹ States have the option to cover other categories of children.⁵²

With respect to services, states must provide a comprehensive array of health care services for children and youth under age twenty-one called Early and Periodic Screening, Diagnostic, and Treatment (EPSDT). In addition to providing screening, diagnostic, and treatment services, states must conduct outreach to inform children and their caregivers about EPSDT benefits, ensure adequate provider participation in EPSDT, coordinate EPSDT with related programs (e.g., education programs, nutritional support, housing), and report to the federal Centers for Medicare & Medicaid Services (CMS) annually on EPSDT performance.⁵³

A. Requirements for Screening

Under EPSDT, states must provide four separate kinds of screening – medical, dental, vision, and hearing.⁵⁴ Children are entitled to receive both periodic and interperiodic screening services.

States must establish separate periodicity schedules for medical, vision, dental, and hearing screening, and each periodicity schedule must meet reasonable standards of medical practice.⁵⁵ Before developing a periodicity schedule, states must consult with “recognized medical organizations involved in child health care.”⁵⁶ With respect to medical screening, Congress and CMS have directed states to the AAP periodicity schedule.⁵⁷ (See Table 1 for the current periodicity schedule for hearing screening.)

Under EPSDT, children are also entitled to receive screening services, including hearing screening, outside of the periodicity schedule. Children can receive this “interperiodic” screening when “medically necessary, to determine the existence of a suspected illness or

⁵¹ See 42 U.S.C. §§ 1396a(a)(10)(A)(i), 1396a(l).

⁵² See *id.* § 1396a(a)(10)(A)(ii). For detailed information about Medicaid eligibility criteria, see NAT’L HEALTH LAW PROGRAM, THE ADVOCATE’S GUIDE TO THE MEDICAID PROGRAM 3.1-3.29 (2011).

⁵³ 42 U.S.C. §§ 1396a(a)(10)(A), 1396a(a)(43), 1396d(a)(4)(B), 1396d(r). See also CMS, EPSDT – A GUIDE FOR STATES: COVERAGE IN THE MEDICAID BENEFIT FOR CHILDREN AND ADOLESCENTS 1-2 (2014), available at http://www.medicare.gov/Medicare-CHIP-Program-Information/By-Topics/Benefits/Downloads/EPSDT_Coverage_Guide.pdf.

⁵⁴ 42 U.S.C. § 1396d(r); 42 C.F.R. § 441.56(b).

⁵⁵ 42 U.S.C. § 1396d(r); CMS, STATE MEDICAID MANUAL §§ 5123.2.F, 5140.

⁵⁶ 42 U.S.C. § 1396d(r)(4)(A)(i); 42 C.F.R. §§ 441.56(b), 441.58(a).

⁵⁷ See, e.g. H.R. REP. NO. 101-247, at 399 (1989); The AAP periodicity schedule is reproduced in Table 1.

condition.”⁵⁸ A health, developmental, or educational professional who comes into contact with the child can determine that an interperiodic screening is medically necessary.⁵⁹

Whether periodic or interperiodic, the hearing screening must be an age-appropriate assessment. In determining standards for how health care providers should conduct the screening, states must “obtain consultation and suitable procedures for screening and methods of administering them from audiologists, or from State health or education departments.”⁶⁰

A doctor, a provider qualified under state law to furnish the services, or someone working under the supervision of the doctor or provider can perform the hearing screening.⁶¹ For Medicaid to cover the cost of the screening, the health care provider must be participating in the Medicaid program. But, if a provider who is not participating in Medicaid performs a screening within the scope of his or her normal practice, it still qualifies as an interperiodic screening.⁶² This is critical, as the child is entitled to treatment services through EPSDT as long as the hearing loss was identified during a periodic or interperiodic screening.⁶³

B. Requirements for Diagnostic and Treatment Services

At a minimum, children are entitled to “treatment for defects in hearing, including hearing aids.”⁶⁴ When a health care provider diagnoses a child with hearing loss, the state must arrange for, directly or through contractors, corrective treatment.⁶⁵ EPSDT broadly covers treatment “necessary to correct or ameliorate defects and physical and mental illnesses and conditions,” even if the state Medicaid program does not cover the treatment for adults.⁶⁶ For example, states are required to cover cochlear implants as an EPSDT benefit if the child needs the implants to correct or ameliorate a hearing condition.⁶⁷

⁵⁸ 42 U.S.C. § 1396d(r)(4)(A)(ii).

⁵⁹ CMS, STATE MEDICAID MANUAL § 5140.B. For example, if a teacher suspects that a child has a hearing problem, he or she can refer the child to the school nurse. If the nurse suspects a problem, he or she can refer the child to an appropriate provider to conduct further screening and follow-up.

⁶⁰ *Id.* § 5123.2.F.2.

⁶¹ *Id.* § 5123.1C.

⁶² Memorandum from Director, HCFA Medicaid Bureau, to Region III Administrator, Health Care Financing Administration (Apr. 12, 1991).

⁶³ See EPSDT – A GUIDE FOR STATES: COVERAGE IN THE MEDICAID BENEFIT FOR CHILDREN AND ADOLESCENTS, *supra* note 53, at 6.

⁶⁴ 42 U.S.C. § 1396d(r)(4)(B); 42 C.F.R. § 441.56(c)(1).

⁶⁵ 42 U.S.C. § 1396a(a)(43)(C).

⁶⁶ *Id.* § 1396d(r)(5).

⁶⁷ Memorandum from U.S. Dep’t of Health & Human Servs., Region V, to State Agencies Administering Approved Medicaid Assistance Plans, Subject: Cochlear Implants (Feb. 23, 1995) (on file with authors).

Treatment must be provided with “reasonable promptness.”⁶⁸ States “must employ processes to ensure timely initiation of treatment, if required, generally within an outer limit of 6 months after the request for screening services.”⁶⁹

C. Requirements for Informing

States must use a combination of written and oral methods to inform eligible individuals about the benefits of preventive care, the services available through EPSDT, that the services are generally available without charge, and that transportation and appointment scheduling assistance are available upon request. States should assure that transportation and appointment scheduling are offered prior to the due dates of the child’s periodic examinations.⁷⁰

IV. State Implementation of EPSDT Hearing Screening Requirements

A. Methodology

We assessed the degree to which each state’s Medicaid laws and policies address the provision of effective hearing screening services to Medicaid-eligible children. Working with a team of attorneys from the law firm of Hogan Lovells, we conducted a document review of all 50 states’ and the District of Columbia’s policies. Using a uniform assessment tool, we reviewed state statutes, regulations, and EPSDT manuals to determine if state EPSDT coverage includes: (1) a separate periodicity schedule for hearing screening; (2) guidelines for the content of a hearing screening; (3) provider qualifications; and (4) a system for monitoring hearing screening services. We also determined the extent to which written policies direct state Medicaid agencies to coordinate with other state agencies to implement EPSDT hearing requirements. The review was conducted during 2012-2013, and the results were verified in 2014. The findings are summarized below.

B. Separate Periodicity Schedule for Hearing Screening

Federal EPSDT law requires states to adopt a separate periodicity schedule for hearing screening services after consulting with medical organizations involved in child health care.⁷¹ According to the Bright Futures/AAP periodicity schedule, children should receive an objective hearing screening at birth and four, five, six, eight, and ten years old. In addition, providers

⁶⁸ 42 U.S.C. § 1396a(a)(8).

⁶⁹ 42 C.F.R. § 441.56(e).

⁷⁰ *Id.* § 441.62; CMS, STATE MEDICAID MANUAL § 5150. See also EPSDT – A GUIDE FOR STATES: COVERAGE IN THE MEDICAID BENEFIT FOR CHILDREN AND ADOLESCENTS, *supra* note 53, at 16-19.

⁷¹ CMS, STATE MEDICAID MANUAL §§ 51.23.2.F, 5140.

should conduct a subjective risk assessment for hearing loss at a number of other specific ages, as detailed in Table 1 above.⁷² Frequent screening is of particular importance during this period, as early detection and treatment of hearing loss can prevent children from developing lifelong speech and language deficits.

The vast majority of states have established a separate periodicity schedule for hearing screening. Over half of these states mandate that EPSDT providers follow the Bright Futures/AAP periodicity schedule for hearing screening.⁷³ Rhode Island does not explicitly reference the Bright Futures/AAP periodicity schedule, but has adopted an identical periodicity schedule.⁷⁴ A few states appear to be using written policies that adopt outdated versions of the Bright Futures/AAP guidelines.⁷⁵ And, a handful of states have not established a separate periodicity schedule for hearing screening. For example, Washington has a general periodicity schedule for health screening services, but no separate periodicity schedule for hearing screening.⁷⁶ Utah's Medicaid provider manual recommends certain hearing screening protocols based on age groups (birth to six months, six months to four years, and four years to twenty-one years), but it does not explain when providers should perform a hearing screening.⁷⁷ Although North Dakota has not clearly established a separate periodicity schedule for hearing screening, the state Medicaid provider manual does advise providers to consult the Bright Futures/AAP guidelines for a description of the content of the well-child visits.⁷⁸

Several states have adopted conflicting or inadequate periodicity schedules for hearing screening services. For example, Tennessee regulations include a periodicity schedule for hearing screening that differs from the periodicity schedule issued by the Tennessee EPSDT Screening Guidelines Committee.⁷⁹ New Jersey has a periodicity schedule that calls for providers to administer a hearing screening annually to children through eight years old and

⁷² BRIGHT FUTURES/AMERICAN ACADEMY OF PEDIATRICS, *supra* note 29.

⁷³ See, e.g., KAN. MED. ASSISTANCE PROGRAM, KAN BE HEALTHY PROVIDER MANUAL 8-1 (2011), available at https://www.kmap-state-ks.us/Documents/Content/Provider%20Manuals/KBH_06212011_11068.pdf; S.D. Admin. R. 67:16:11:04.01 (2014).

⁷⁴ See R.I. DEP'T OF HUMAN SERVS., EPSDT (2006), http://www.dhs.ri.gov/Portals/0/Uploads/Documents/Public/Families%20with%20Children/epsdt_1pager.pdf.

⁷⁵ See, e.g., Ohio Admin. Code 5160-14-03(B) (2014); N.H. Code Admin. R. Ann. He-W 546.05 (2014).

⁷⁶ WASH. STATE HEALTH CARE AUTH., MEDICAID PROVIDER GUIDE: EARLY AND PERIODIC SCREENING, DIAGNOSIS, AND TREATMENT (EPSDT) PROGRAM 7 (2014), available at http://www.hca.wa.gov/medicaid/billing/Documents/guides/epsdt_bi.pdf.

⁷⁷ DIV. OF MEDICAID AND HEALTH FIN., UTAH MEDICAID PROVIDER MANUAL, SECTION 2: CHILD HEALTH EVALUATION AND CARE SERVICES 7 (2010), available at <https://medicaid.utah.gov/Documents/manuals/pdfs/Medicaid%20Provider%20Manuals/Child%20Health%20Evaluation%20And%20Care%20%28CHEC%29/CHEC7-10.pdf>.

⁷⁸ N.D. MED. SERVS. DIV., GENERAL INFORMATION FOR PROVIDERS: MEDICAID AND OTHER MEDICAL ASSISTANCE PROGRAMS 110 (2012), available at <http://www.nd.gov/dhs/services/medicalserv/medicaid/docs/gen-info-providers.pdf>.

⁷⁹ See Tenn. Comp. R. & Regs. 1240-01-40-.01 (2014); TENNCARE, RECOMMENDATIONS OF THE EPSDT SCREENING GUIDELINES COMMITTEE (April 2004), available at <http://www.tn.gov/tenncare/tenndercare/hearingguidelines.pdf>.

semi-annually for older children.⁸⁰ As a point of comparison, the Bright Futures/AAP periodicity schedule recommends that providers perform a hearing screening eleven separate times during the first two years of life.⁸¹

C. Guidelines for the Content of a Hearing Screening and When to Refer a Child for Further Testing

Federal EPSDT law requires an age-appropriate hearing screening, and states must consult with audiologists or state health or education departments when developing standards regarding the content of an EPSDT hearing screening.⁸² As described in Section II above, the AAP and the Joint Committee on Infant Hearing have issued recommendations for providers who perform hearing screening services.

1. State EPSDT Requirements on Content

A few states have no requirements regarding the content of an age-appropriate EPSDT hearing screening.⁸³ As a result, these states do not differentiate between an objective hearing screening and a subjective risk assessment in their periodicity schedule. In addition, about half of all states acknowledge the need for objective hearing screening and subjective risk assessment, but give little or no further guidance to participating providers.

The remaining states offer more descriptive guidance to health care providers regarding the content of an EPSDT hearing screening. A number of states require that providers use conventional screening audiometry to conduct an objective hearing screening for children four years old and older, a practice endorsed by the AAP. Some of these states, including Louisiana, have outlined the testing frequencies that providers should use, as well as acceptable hearing threshold levels.⁸⁴ In contrast, few states provide specific guidance to providers regarding the content of a subjective hearing screening. This lack of guidance is worrisome, as research suggests that a substantial percentage of providers are not aware of the risk factors associated with late-onset hearing loss.⁸⁵ At least one state – Virginia – refers providers to an AAP

⁸⁰ N.J. Admin Code § 10:54-5.13(a)-(b) (2014).

⁸¹ BRIGHT FUTURES/AMERICAN ACADEMY OF PEDIATRICS, *supra* note 29.

⁸² CMS, STATE MEDICAID MANUAL § 5123.2.F.

⁸³ See, e.g., MO. HEALTHNET, PROVIDER MANUAL SECTION 9: HEALTHY CHILDREN AND YOUTH PROGRAM 10 (2012), available at http://manuals.momed.com/collections/collection_hear/General_Section9.pdf.

⁸⁴ See LA. DEP'T OF HEALTH AND HOSPS., KIDMED PROVIDER TRAINING 8 (2007), available at https://www.lamedicaid.com/provweb1/ProviderTraining/packets/2007ProviderTrainingMaterials/20071015_20KIDMED_20Provider_20Training.pdf.

⁸⁵ Mary Pat Moeller et al., *Primary Care Physicians' Knowledge, Attitudes, and Practices Related to Newborn Hearing Screening*, 118 PEDIATRICS 1357, 1361 (2006).

publication on hearing screening, which in turn cites to the Joint Committee's list of risk indicators associated with hearing loss.⁸⁶

2. State EPSDT Requirements on Referrals

A handful of states, as well as the District of Columbia, provide specific guidance to providers regarding when to refer a child to an audiologist or another specialist.⁸⁷ However, over half of all states provide no instruction on referrals. Guidance from state EPSDT programs could fill a critical gap, as research shows that providers need and want more information on what to do when a child does not pass a hearing screening.⁸⁸ Without this information, providers may adopt a dangerous "wait and see" approach with respect to possible hearing loss.

However, simply referring a child with possible hearing loss for further testing is not enough. Providers should also arrange and confirm appropriate follow-up testing and treatment.⁸⁹ Moreover, under EPSDT, states have an affirmative obligation to ensure that children receive a diagnosis and timely treatment.⁹⁰ To meet this obligation, states could require managed care organizations or participating providers to follow-up with children who have been referred to an audiologist or elsewhere and monitor their progress. In the alternative, the states themselves could take on these responsibilities.

Several states have implemented one of these options. In Massachusetts, the MassHealth Provider Manual instructs EPSDT providers who discover that a child did not receive or did not pass a newborn hearing screening to ensure that the child is screened or referred for further evaluation.⁹¹ Virginia recommends that providers schedule an appointment with a licensed audiologist for a child who did not receive or did not pass a newborn hearing screening or who is otherwise at risk of hearing loss.⁹² Alabama requires providers to follow-up on all referred cases and document if the child in fact saw a specialist.⁹³

⁸⁶ See VA. DEP'T OF MED. ASSISTANCE SERVS., EPSDT MANUAL SUPPLEMENT B – EPSDT g (2012), available at <https://www.virginiamedicaid.dmas.virginia.gov/wps/portal/ProviderManual> (referring providers to Harlor, Jr., *supra* note 8).

⁸⁷ See, e.g., D.C. HEALTHCHECK, <http://www.dchealthcheck.net/trainings/screenings/hearing.html> (last visited Sept. 26, 2014).

⁸⁸ Shulman et al., *supra* note 25, at S22-23. Moeller et al., *supra* note 83, at 1362.

⁸⁹ Harlor, Jr., *supra* note 8, at 1259.

⁹⁰ 42 U.S.C. § 1396a(a)(43)(C).

⁹¹ EXEC. OFFICE OF HEALTH AND HUMAN SERVS., MASSHEALTH PROVIDER MANUAL SERIES, APPENDIX W, EPSDT SERVICES W-3 (2011), available at <http://www.mass.gov/eohhs/docs/masshealth/providermanual/appx-w-all.pdf>.

⁹² VA. DEP'T OF MED. ASSISTANCE SERVS., EPSDT MANUAL SUPPLEMENT B – EPSDT g (2012), available at <https://www.virginiamedicaid.dmas.virginia.gov/wps/portal/ProviderManual>.

⁹³ ALA. MEDICAID AGENCY, ALABAMA EPSDT AGREEMENT, available at http://medicaid.alabama.gov/documents/5.0_Resources/5.4_Forms_Library/5.4.4_Medical_Services_Program_Forms/5.4.4.2_EPSDT/5.4.4.2_EPSDT_Provider_Form_7-23-08.pdf.

D. Provider Qualifications

When establishing qualifications for EPSDT providers, states must ensure that providers have the education and training needed to perform an effective hearing screening and that children have sufficient access to qualified providers of these services. Guidance from CMS indicates that several broad categories of providers can perform a hearing screening, including doctors, other licensed providers qualified under state law to furnish a hearing screening, and providers working under the supervision of the doctor or licensed provider.⁹⁴ At least one state allows hearing aid dealers and fitters to perform hearing screening services. While this may improve some children's access to a screen, such a policy does raise quality concerns.⁹⁵

It has been noted that states need to make it as convenient as possible for children to receive a hearing screening – using school districts and school-based clinics as sites for screening services would help achieve this objective. Depending on the laws in the state, these school sites can be Medicaid enrolled providers, part of a Medicaid managed care network, or work in partnership with Medicaid-participating providers such as a community health center, hospital, or local health department.⁹⁶ In addition, some states have separate school-based hearing screening programs. States with those programs need to coordinate with their Medicaid programs to ensure that EPSDT providers have full information about a particular child and to avoid duplication of effort.⁹⁷ Few states' policies appear to mandate such coordination.

E. Monitoring EPSDT Hearing Screening

States should establish effective mechanisms for monitoring managed care organizations' and providers' adherence to federal EPSDT hearing screening requirements. Unfortunately, in 1999 CMS decided to eliminate a long-standing requirement for states to annually report the number of children who receive an EPSDT hearing screening as part of the uniform EPSDT reporting (CMS Form 416).⁹⁸ As a result, there is no uniform reporting component for hearing screening through EPSDT.

⁹⁴ CMS, STATE MEDICAID MANUAL § 5123.1C.

⁹⁵ MO HEALTHNET, HEARING AID, SECTION 9: HEALTHY CHILDREN AND YOUTH PROGRAM 11 (2012), *available at* http://manuals.momed.com/collections/collection_hear/General_Section09.pdf.

⁹⁶ For additional discussion, *see* EPSDT – A GUIDE FOR STATES: COVERAGE IN THE MEDICAID BENEFIT FOR CHILDREN AND ADOLESCENTS, *supra* note 53, at 20-21; CMS, PAVING THE ROAD TO GOOD HEALTH: STRATEGIES FOR INCREASING MEDICAID ADOLESCENT WELL-CARE VISITS 23-24 (Feb. 2014), *available at* <http://www.medicare.gov/Medicare-CHIP-Program-Information/By-Topics/Benefits/Downloads/Paving-the-Road-to-Good-Health.pdf>.

⁹⁷ CMS, STATE MEDICAID MANUAL § 5123.1C.

⁹⁸ *See* NAT'L HEALTH LAW PROGRAM, MEDICAID SERVICES FOR CHILDREN: FEDERAL REVISIONS TO REPORTING FORM RAISE MANY QUESTIONS (Oct. 18, 1999), *available at* <http://www.healthlaw.org/issues/child-and-adolescent-health/medicaid-services-for-children-federal-revisions-to-reporting-form-raise-many-questions#.VCMxXhYbuNw>. Currently, states must annually report on the number of children who receive

Some attention is being paid to developing performance measures that track the extent to which hearing services are being provided. The National Quality Forum has endorsed quality measures related to newborn hearing screening, timely diagnostic evaluation of infants who do not pass the newborn hearing screening, and timely referral of infants diagnosed with hearing loss to early intervention services.⁹⁹ The federal government, however, has not included hearing screening among the core set of child health care quality measures for Medicaid and CHIP.¹⁰⁰

Currently, a handful of states have no written policies on monitoring performance in delivering EPSDT hearing services. Most states' written policies simply require providers to document patient visits in a medical chart and make the chart available to the state upon request. Several states, however, have developed a more extensive mechanism for monitoring EPSDT hearing screening services. Hawaii and Minnesota each have a specific form that EPSDT providers must complete and submit to the state Medicaid agency after completing a screening.¹⁰¹ Iowa maintains an online record of EPSDT-eligible children that indicates when the child last received screening services.¹⁰² Such online monitoring assists in conducting and documenting outreach and follow-up. In addition, the Ohio Department of Health has recently started to facilitate the coordination and tracking of hearing screening services for children using the online system design to record and track immunizations.¹⁰³

IV. Conclusions and Recommendations

If left untreated, childhood hearing loss can cause serious developmental difficulties, including speech and language deficits, poor academic performance, and emotional problems.¹⁰⁴ Early detection and treatment of hearing loss can prevent some of these negative consequences.¹⁰⁵ Given that hearing loss is more prevalent among children from low-income households, state

medical and dental screening services, but not vision and hearing screening services. See CMS, FORM CMS-416: ANNUAL EPSDT PARTICIPATION REPORT, available at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html>.

⁹⁹ See NAT'L QUALITY FORUM, MEASURE 1354: HEARING SCREENING PRIOR TO HOSPITAL DISCHARGE (last updated 2013), MEASURE 1360: AUDIOLOGICAL EVALUATION NO LATER THAN 3 MONTHS OF AGE (EHDI-3) (last updated 2014), MEASURE 1361: INTERVENTION NO LATER THAN 6 MONTHS OF AGE (last updated 2014), available at <http://www.qualityforum.org/Qps/QpsTool.aspx#>.

¹⁰⁰ For more information on the core set, see <http://www.medicaid.gov/medicaid-chip-program-information/by-topics/quality-of-care/chipra-initial-core-set-of-childrens-health-care-quality-measures.html>.

¹⁰¹ HAW. DEP'T OF HUMAN SERVS., MED-QUEST DIV., MEDICAID PROVIDER MANUAL, CHAPTER 5: EPSDT 5.3 (2011), available at <http://www.med-quest.us/PDFs/Provider%20Manual/PMChp0511.pdf>; Minn. R. 9505.1709 (2014).

¹⁰² See IOWA DEP'T OF PUB. HEALTH, EPSDT INFORMING AND CARE COORDINATION HANDBOOK 1.6 (2010), available at http://www.idph.state.ia.us/hpcdp/common/pdf/epsdt_handbook.pdf.

¹⁰³ Ohio Dep't of Health, *Ohio Impact Statewide Immunization Information System*, <https://odhgateway.odh.ohio.gov/impact/>.

¹⁰⁴ Harlor, Jr., *supra* note 8, at 1253.

¹⁰⁵ See, e.g., Yoshinaga-Itano et al., *supra* note 11, at 1169; Moeller, *supra* note 13, at 4.

Medicaid agencies have an important role to play to ensure early detection and treatment of hearing loss in children. Our review of states' written EPSDT policies found that many states have not established comprehensive policies to encourage the provision of effective hearing screening services to low-income children. To improve EPSDT coverage, the National Health Law Program recommends:

- *Update periodicity schedules.* The majority of states have established a separate periodicity schedule for hearing screening as required under federal law. But, a sizeable portion of these states have not adopted the Bright Futures/AAP periodicity schedule. States should align their periodicity schedule with the Bright Futures/AAP guidelines.
- *Provide guidance to Medicaid participating providers on the content of age-appropriate hearing screens and when to make referrals for diagnosis and treatment.* Less than half of all states provide sufficient instructions to EPSDT providers regarding how to perform an age-appropriate hearing screening and when to refer a child to an audiologist or other specialist. In addition, few states require or even encourage providers to follow-up after referring a child for a definitive diagnosis and treatment. In developing protocols for hearing screening providers, states should look to the standards and guidelines endorsed by the AAP or by another organization with recognized expertise in child health. Moreover, to avoid children who failed the newborn hearing screening from falling through the cracks, states should require Medicaid-participating health plans and providers to determine if a child did not receive or did not pass a newborn hearing screening and take further action as appropriate.
- *Encourage pathways to hearing services at school-based sites.* States should provide pathways for schools and school-based clinics to provide EPSDT benefits, as doing so would improve access to hearing screening services for school-age children. In addition, states should coordinate with separate school-based hearing screening programs.
- *Establish effective monitoring procedures, including annual reporting to CMS; monitor the provision of EPSDT hearing services; take corrective action when children do not get what the law requires.* Most states have not established an effective process for monitoring managed care organizations' and providers' adherence to EPSDT requirements. States should consider implementing an online database to track EPSDT services. In addition, states should adopt

written policies that address corrective action when health plans and/or participating providers do not provide adequate hearing screening services. For example, states could fine health plans and/or participating providers who do not reach 80 percent compliance with EPSDT requirements. Finally, as the Department of Health and Human Services Office of Inspector General recommended in its 2010 report, CMS should once again require states to annually report the number of children who receive an EPSDT hearing screening.¹⁰⁶ This data would help CMS, states, and advocates determine how states' written policies are operating in practice and target areas for improvement.

¹⁰⁶ DEP'T OF HEALTH AND HUMAN SERVS., OFFICE OF INSPECTOR GEN., OEI-05-08-00520, MOST MEDICAID CHILDREN IN NINE STATES ARE NOT RECEIVING ALL REQUIRED PREVENTIVE SCREENING SERVICES 20 (2010).

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