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Lead Screening for Children Enrolled in Medicaid: State Approaches

by Carrie Farmer

Each year, thousands of children are affected by lead poisoning. According to the Centers for Disease Control and Prevention (CDC), between 1991 and 1994, 4.4 percent[1] of children between the ages 1 and 6 had blood lead levels (BLLs) high enough to be considered dangerous. In fall 2000, the Forum for State Health Policy Leadership at the National Conference of State Legislatures (NCSL) conducted a national survey on state policies and practices for screening Medicaid-enrolled children for lead poisoning. (Appendix A contains the survey method.) This paper describes the seriousness of the issue, the difficulties involved in implementing screening programs, and results from the survey about state approaches to improving their screening practices.

Long-Term Effects of Lead Poisoning

Children with low levels of lead poisoning are not likely to look or act sick in any way that is noticeable to a parent or even to a doctor. However, elevated blood lead levels are associated with developmental delays, learning disabilities and behavioral problems, including attention deficit disorder[2] and juvenile delinquency. [3] There is also a strong correlation between mental ability and lead levels: for every 10mg/dL increase in blood lead levels, a child's IQ is lowered by four to seven points.[4] In pregnant women, elevated lead levels can cause low birth weight[5] or miscarriage. [6] High levels of lead poisoning can cause seizures, coma, severe brain and kidney damage and death.

Young children under age 6 are more susceptible to lead poisoning than are older children or adults. There are several reasons for this.

Lead poisoning defined

Blood lead levels are measured in weight per volume. The CDC considers 10 micrograms of lead per deciliter of blood (mg/dL) to be "lead poisoning." As the weight-per-volume ratio increases, the damaging effects of lead increase exponentially.

States often use this ratio to define eligibility for their lead poisoning programs. The state may, for example, pay for various remedial services if the BLL is over a certain threshold. These BLL thresholds vary from state to state and from service to service provided. For example, according to a recent Alliance to End Childhood Lead Poisoning survey, 20 states will provide inspections of a lead-poisoned child's home to determine the source of lead if the child's BLL is at or above 20mg/dL.

- Children's small bodies absorb lead at a much higher rate relative to their body weight than adults' bodies do.
- Their developing brains have not yet completely formed the crucial blood-brain barrier, the " selective gate" that helps block toxins from the brain in adults, so lead can pass directly from the bloodstream into the brain.
- Children have a higher prevalence of iron deficiency, which causes increased absorption of lead.[7]
- They are more likely to play in areas where they can be exposed to lead and are more likely to put contaminated hands and fingers into their mouths.

Sadly, the effects of lead poisoning are irreversible.

Sources of Lead

Lead-based paint is the number one source of lead poisoning today. Found in most homes built before 1950—and in many built before 1978—this paint wears down into flakes, chips and dust as it ages or if it is not properly maintained. In addition, renovation or maintenance projects that disturb lead-based paint can create a lead dust hazard. The dust is especially treacherous because it can be found almost anywhere—on toys, walls, floors, tables, carpets or fingers. Because young children are apt to put almost anything they come across into their mouths, they quickly ingest the lead-contaminated dust. Dust that is in the air can be inhaled, and the absorption rate of lead that enters the body through the lungs is close to 100 percent. Some very young children may chew or suck on paint that is found on accessible surfaces such as windowsills, banisters and steps. Sometimes children will eat paint that is chipping or peeling because it tastes sweet or because they have pica (a condition characterized by eating non-food items). Outside the house, lead paint chips or dust can settle into the soil. When children play in the dirt (and often eat it), they are again exposed.

In addition, lead can be found in aging water pipes, non-glossy vinyl window blinds made before 1996, some lead-soldered canned foods imported from other countries, and some playground equipment painted before 1978. Parents whose occupation involves working with or around lead (car repair, industry machinery, bridge construction, etc.) can unknowingly bring lead dust or scraps from their jobs to the house. Certain ethnic, traditional or home remedies also involve lead ingestion. For example, some Latino cultures—unaware of the risks of lead poisoning—use the powders *Azarcon* and *Greta*, both almost 100 percent lead, to relieve diarrhea.

Certain Groups Are High-Risk

Low-income and minority—especially African-American and Mexican-American—children are much more at risk for lead poisoning than are children in middle or high-income families or white children. The CDC's 1991-1994 National Health and Nutrition Examination Survey (NHANES) found that 8 percent of low-income children have lead poisoning, compared to 1 percent to 2 percent of middle or high-income children. More than 11 percent of African-American children and 4 percent of Mexican-American children have lead poisoning, compared to 2.3 percent of white children.

The General Accounting Office (GAO) found that the prevalence of lead poisoning in children who are enrolled in Medicaid is nearly five times that of non-Medicaid children. In fact, 60 percent of all children with lead poisoning (with BLLs greater than 10mg/dL) are enrolled

in Medicaid, and 83 percent of all children with BLLs greater than 20mg/dL are enrolled in Medicaid.[8]

Treatments for Lead Poisoning

The treatment for children with lead poisoning who have BLLs between 10mg/dL and 45mg/dL is usually environmental abatement to eliminate or control the source of lead in the child's environment. For children with BLLs greater than 45mg/dL, the recommended treatment is *chelation therapy*, a procedure that flushes excess lead from the body. Chelation uses drugs, given either orally or intravenously, to "grab onto" lead particles in the blood and then excrete them. Environmental abatement is a necessary part of the treatment to prevent additional lead from entering the body.

Health Care Financing Administration (HCFA) policy requires state Medicaid programs to pay for an environmental inspection of a Medicaid child's home upon notification of lead poisoning. A 1999 GAO report found that states had interpreted previous HCFA policy to make this coverage optional;[9] as a result, HCFA clarified the requirement in 1999. NCSL's survey on state lead screening programs and policies found that 22 state Medicaid programs now cover environmental inspection (table 1).

Environmental inspections serve only to determine the source of the lead poisoning; however, the financial burden for controlling or removing the source falls to the parents or the property owner, depending on state and local laws. Rhode Island is the only state where the Medicaid program covers a type of abatement. Through a Section 1115 waiver, the state will pay for window replacement in homes of lead-poisoned children.

Controlling children's exposure to lead can be difficult. Complete removal of lead paint from a house is usually impractical because it can be very expensive and carries with it the risk of increased lead exposure from dust if the removal is not done correctly. Certified experts are available to undertake lead hazard evaluation and control activities in most states, providing services including risk assessments, abatement and other less intensive interventions. In most cases, the best way to prevent lead poisoning is to ensure that properties are maintained so that lead-based paint is intact and to use lead-safe work practices for repairs and renovation to prevent the creation of lead dust hazards. In addition, parents must be extremely vigilant about cleaning areas of the house where there is lead paint or dust. Appendix B contains the Environmental Protection Agency's (EPA) recommendations for reducing childhood exposure to lead.

Screening Children for Lead Poisoning

A vital step in preventing the tragedy of lead poisoning is testing or screening children for elevated BLLs. Screening is a relatively simple procedure that can be conducted in a physician's office, public health clinic or other primary care site. It typically requires that a blood sample be collected from a child through *venipuncture* (inserting a needle into a vein and collecting a vial of blood). The blood then is analyzed by a laboratory. A capillary (fingerstick) blood sample also may be used, but as the procedure occasionally results in a false positive; any elevated BLL found through this method usually is double-checked by the venipuncture method. The U.S. Food and Drug Administration (FDA) recently approved a hand-held blood lead testing device that can provide results immediately; to use this device, however, physicians' offices or public health clinics must be certified by the FDA's Clinical Laboratory Improvement Amendments (CLIA). [10]

Table 1. Medicaid Coverage of Case Management, Environmental Assessment or Abatement

State/ Jurisdiction	None	Case Management[1]	Environmental Assessment	Abatement	No Response
Alaska		◆			
Alabama		◆	◆		
Arkansas	◆				
Arizona	◆				
California					◆
Colorado					◆
Connecticut		◆			
Delaware	◆				
District of Columbia					◆
Florida		◆	◆		
Georgia		◆	◆		
Hawaii		◆			
Iowa		◆	◆		
Idaho	◆				
Illinois			◆		
Indiana	◆				
Kansas	◆				
Kentucky			◆		
Louisiana			◆		
Massachusetts		◆			
Maryland		◆			
Maine		◆	◆		
Michigan					◆
Minnesota	◆				
Missouri		◆	◆		
Mississippi	◆				
Montana	◆				
North Carolina			◆		
North Dakota			◆		
Nebraska			◆		
New Hampshire	◆				
New Jersey			◆		
New Mexico	◆				
Nevada	◆				
New York					◆
Ohio			◆		
Oklahoma	◆				
Oregon	◆				
Pennsylvania		◆	◆		
Rhode Island		◆	◆	◆	
South Carolina		◆	◆		
South Dakota	◆				
Tennessee			◆		
Texas					◆
Utah		◆			
Virginia		◆	◆		
Vermont		◆	◆		
Washington	◆				
Wisconsin			◆		
West Virginia		◆	◆		
Wyoming		◆			
Totals	**16**	**12**	**2**	**1**	**6**

Note

[1] In some states, coverage of case-management is limited—for example, coverage applies only under specific circumstances and only within Medicaid managed care.

The CDC recommends that states develop statewide screening plans for their jurisdictions based on an analysis of risk data, preferably state or local data and an inclusive planning process. The CDC provided a sample targeted screening recommendation for use as an interim measure until a state plan is developed, which calls for screening of children at ages 1 and 2, as well as children between the ages of 36 months and 72 months who have not been previously screened, if they meet one of the following criteria:[11]

- The child resides in a zip code where greater than 27 percent of housing was built before 1950;
- The child receives services from public assistance programs for the poor, such as Medicaid or the Supplemental Food Program for Women, Infants, and Children (WIC); or
- The child's parent or guardian answers "yes" or "I don't know" to any of the following three questions:
    1. *Does your child live in or regularly visit a house that was built before 1950?*
    2. *Does your child live in or regularly visit a house built before 1978 with recent or ongoing renovations or remodeling (within the last six months)?*
    3. *Does your child have a sibling or playmate who has or did have lead poisoning?*

In the absence of screening recommendations from the health department, the CDC recommends that universal screening (i.e., of all young children) be done.

Screening is Mandatory for Children Enrolled in Medicaid

Current federal law requires that all children enrolled in Medicaid be screened for lead at age 12 months and 24 months (or through 72 months if the child has not been previously screened) as part of Medicaid's early and periodic screening, diagnosis and treatment (EPSDT) requirement.

However, as a recent GAO report highlighted, this requirement often is not met. In fact, the GAO's analysis of Medicaid billing data from 1994 to 1995 showed that only 18 percent of all Medicaid children received a lead toxicity screening.[12] The GAO's analysis of national data from NHANES 1991-1994 showed similar rates, estimating that only 19 percent of Medicaid children had been screened. The GAO report, published in January 1999, found several possible explanations for this, including the following.

- *Federal and state agencies do not monitor or ensure the implementation of federal screening policies.* The report found that HCFA did not regularly audit state Medicaid programs for compliance with EPSDT lead screening policies and that state Medicaid programs likewise did not monitor screening by providers to determine whether children were being screened. In addition, the report faulted the Health Resources and Services Administration (HRSA) for not identifying federal health centers that do not follow screening guidelines.
- *The perception of the problem's seriousness varies from place to place.* The report found that physicians often perceive that there is not a lead poisoning problem in their communities and therefore do not believe that screening is worth the costs associated with it.
- *There are general difficulties in providing preventive care to the Medicaid population.* It is difficult for health officials to convince parents that preventive care is important when their children are not sick, especially when these parents have many competing priorities. Labora tory tests such as lead screening often require an additional trip, separate from the provider visit, which is difficult because many parents of Medicaid-enrolled children lack transporta tion and child care and have difficulty in taking time off work. In addition, these parents may not understand the importance of the tests.[13]

There has been federal response to the GAO report. HCFA has tightened its reporting requirements (Form HCFA-416) to ensure that screenings are being administered. Now, each state must report the number of screening blood lead tests that are given each year. April 2000 was the deadline for the first round of collection of this data; HCFA officials expect return rates to improve in 2001 as states devise mechanisms and data systems to collect and manage this information. Data from the 2000 forms will be distributed in HCFA's annual report, due to be published in winter 2001.

In October 1999, HCFA also sent out a "Dear State Medicaid Director" letter, which outlined the findings of the GAO report and described the department's initiatives to increase the rate of screening in Medicaid children. This letter also reminded state Medicaid directors of HCFA's screening requirements and reiterated the importance of screening this population. HCFA is working with the CDC and with the Health Resources and Services Administration (HRSA) on additional initiatives. They also have contracted with the Alliance to End Childhood Lead Poisoning to develop state and provider education programs.

State Practices

Results from NCSL's survey show that individual states identify barriers to screening consistent with the ones described in the GAO report: provider noncompliance, lack of access to laboratories, lack of funding, transient population, and problems with parental follow-through. Of the 44 states that responded, almost every state highlighted provider noncompliance as the most significant barrier. Twenty-one states reported that providers felt that "lead poisoning isn't a problem in their state" and 14 states reported that providers were not aware of the risks for lead poisoning nor of the federal screening requirements. Nine states reported that the method of screening (capillary or venipuncture) was a significant barrier because it was difficult, required training and was time-intensive. (Table 2 contains complete results).

Most states (37) report that blood lead screening of Medicaid children happens regularly as a part of EPSDT visits at ages 12 months and 24 months. In three states—Massachusetts, New Jersey and Rhode Island—state law mandates screening of all children younger than age 6, regardless of Medicaid status. Three states reported that screening was left to the discretion of the provider and was not required by the state (table 3).

Medicaid agencies or state departments of health are responsible for ensuring that Medicaid children are screened in many states (23). Eight states either contract with a third party or use some other means of ensuring compliance. In 18 states, however, no agency or other entity has direct responsibility for this, though six states are in the process of developing compliance plans (table 4).

Table 2. Barriers to Screening Children Enrolled in Medicaid

[illegible]	[illegible]	[illegible]	Provider Noncompliance			Paren[illegible]Non[illegible] compliance	[illegible]anien[illegible] Popla[illegible]on	[illegible]	No [illegible]pone[illegible]
			Percepi[illegible]n o[illegible] No Prol[illegible]m[illegible]	[illegible]co[illegible] [illegible]rene[illegible]	[illegible]reenin[illegible] [illegible]od				
Alaska	◆	◆							
Alagg				◆					
Algagas				◆					
Ag	◆	◆	◆			◆			
glg									◆
lgg									◆
g							◆		
lagg	◆			◆					
gg lg			◆						◆
lg			◆						
g			◆			◆	◆		
ggg			◆				◆		
g			◆	◆					
gg			◆						
lg							◆		
gg	◆					◆		◆	
ggas				◆					
lgg	◆			◆					
gag	◆								
assagg									◆
glng				◆	◆	◆			
gg	◆			◆					
gg									◆
gg		◆	◆				◆		
gsg			◆	◆					
gsgsg gg						◆			
gg			◆		◆			◆	
glg			◆	◆				◆	
gkg					◆				
gska			◆						
g gg sg				◆					
g gg	◆			◆	◆				
g g			◆		◆				
g ag	◆							◆	
g									◆
g			◆	◆					
glag			◆						
g							◆		
glg ag			◆						
glag							◆		
glg		◆		◆	◆		◆		
gkg					◆				
gsg		◆				◆	◆	◆	
g as									◆
gg			◆		◆				
g			◆						
g	◆				◆				
gsg			◆						
ggg							◆		
gg			◆			◆			
g			◆						
oal									

Notes

[1] Many laboratories are off-site, requiring parents to travel to have their children tested. Alaska has extremely remote villages. Louisiana does not have enough EPSDT providers.

[2] Other barriers include lack of cultural sensitivity and low reimbursement rates for the test.

Table 3. When Screening of Medicaid-Enrolled Children Occurs

State/ Jurisdiction	EPSDT visits at ages 12 months and 24 months[1]	Required by state for all children <6[2]	At the discretion of providers	When recommended by the state	At WIC clinics or other sites[3]	No Response
Alaska						◆
Alabama	◆					
Arkansas	◆					
Arizona	◆					
California						◆
Colorado						◆
Connecticut	◆				◆	
Delaware	◆					
District of Columbia						◆
Florida	◆				◆	
Georgia	◆					
Hawaii	◆			◆		
Iowa	◆				◆	
Idaho			◆			
Illinois	◆				◆	
Indiana	◆				◆	
Kansas	◆				◆	
Kentucky	◆					
Louisiana	◆					
Massachusetts		◆				
Maryland	◆					
Maine	◆					
Michigan						◆
Minnesota				◆	◆	
Missouri	◆					
Mississippi	◆		◆		◆	
Montana	◆				◆	
North Carolina	◆					
North Dakota	◆				◆	
Nebraska	◆					
New Hampshire	◆				◆	
New Jersey	◆	◆				
New Me?ico	◆				◆	
Nevada	◆			◆		
New York						◆
Ohio	◆				◆	
Oklahoma	◆					
Oregon	◆					
Pennsylvania	◆			◆		
Rhode Island		◆				
South Carolina	◆				◆	
South Dakota	◆					
Tennessee	◆					
Te?as						◆
Utah	◆					
Virginia						◆
Vermont	◆			◆	◆	
Washington			◆			
Wisconsin	◆					
West Virginia	◆					
Wyoming	◆					
Totals	**38**	**3**	**3**	□	□□	**8**

Notes

[1] Required by state, in compliance with HCFA requirements.

[2] Required for all children regardless of Medicaid status.

[3] Other sites include county and public health departments, federal and state health clinics and HeadStart classes.

Table 4. Who Ensures that Providers Are Complying with Screening Regulations?

State	No one	Medicaid / Dept. of Health	Medicaid-contracted third party	Other[1]	Plan to ensure compliance in development	No Response
Alaska	◆					
Alabama	◆					
Arkansas	◆				◆	
Arizona		◆				
California						◆
Colorado						◆
Connecticut			◆			
Delaware		◆				
District of Columbia						◆
Florida		◆				
Georgia				◆		
Hawaii		◆				
Iowa	◆				◆	
Idaho	◆					
Illinois				◆		
Indiana	◆					
Kansas		◆				
Kentucky		◆				
Louisiana		◆				
Massachusetts		◆				
Maryland		◆				
Maine		◆				
Michigan						◆
Minnesota		◆				
Missouri		◆	◆		◆	
Mississippi		◆		◆		
Montana	◆					
North Carolina		◆				
North Dakota	◆					
Nebraska	◆					
New Hampshire	◆					
New Jersey		◆	◆		◆	
New Mexico	◆					
Nevada						◆
New York						◆
Ohio	◆				◆	
Oklahoma	◆					
Oregon		◆				
Pennsylvania		◆	◆			
Rhode Island		◆		◆		
South Carolina		◆				
South Dakota	◆					
Tennessee		◆				
Texas						◆
Utah	◆					
Virginia		◆			◆	
Vermont	◆					
Washington	◆					
Wisconsin		◆				
West Virginia		◆				
Wyoming	◆					
Totals	**18**	□□	□	□	□	□

Note

[1] Local health departments (Georgia and Mississippi); requirement for admission to day-care, pre-school or kindergarten (Illinois and Rhode Island).

What Can States Do to Increase Screening Rates?

States can use several avenues to increase their screening rates. In a December 2000 report, the CDC's Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) outlined some of these options vis a vis a set of recommendations for states,[14] which include the following.

1. *Establish a statewide data system that allows tracking of blood lead screening and prevalence of elevated BLLs among young children enrolled in Medicaid.*

Having good data about lead screening rates is imperative. Reliable data can show states where the "hot spots" are—neighborhoods or other sections of cities or towns where there are numerous cases of lead poisoning. States then can use this information to focus lead poisoning prevention resources on areas that most need it. Secondly, good data is necessary to ensure that the state is effectively screening high-risk children, monitoring physicians and clinics who are responsible for providing the screening, and providing follow-up care to those children who have lead poisoning.

For states that have low incidences of lead poisoning, reliable data can direct development of targeted screening plans—screening only those children who live in certain high-risk zip codes, for instance. Recently, Alaska and Utah requested a waiver from HCFA to conduct targeted screening of Medicaid children, rather than the currently mandated universal screening. HCFA denied these requests but is working with the CDC's ACCLPP to develop criteria for such waivers. It is anticipated that states will need to have reliable and representative data about which children are lead poisoned, where (geographically) the lead poisoning is occurring and a plan for targeted screening (hot spots must be identified).

In developing a data tracking system, one option states have is to use a system that already has been constructed. For example, the CDC developed a software application—STELLAR, the Systematic Tracking of Elevated Lead Levels and Remediation—that is provided free of charge to states that are working to build a lead screening and poisoning tracking system. States can use STELLAR to track screening rates, elevated BLLs, case management and abatement activities. State and local childhood lead poisoning prevention programs (CLPPPs) can use STELLAR to report this data to the CDC.[15]

Results from the NCSL survey show that most of the states that responded to the survey (24) track the number of Medicaid children who are screened through Medicaid claims and encounter data. Eleven states have developed data-matching systems, which compare data from the state's lead screening registry with Medicaid enrollment data to determine which children have and have not been screened. Nine states are in the process of developing a tracking system, and one state (Washington) does not collect or track this information. (Table 5 contains specific results.)

North Carolina has a comprehensive tracking system. In 1997, the North Carolina General Assembly mandated that all laboratories that do business in the state must report results of all blood lead tests to the state's Department of Health and Human Services. [16] This requirement ensures that all data about lead screening are reported to and are managed by one central state database.

Having centralized data has allowed the department to compile surveillance reports, which are routinely sent to all clinics in the state to remind them that they need to conduct follow-up visits for children who have elevated BLLs. In addition, the department has used the data to identify high prevalence areas (hot spots) in the state, measure improvement in screening rates, and analyze the effectiveness of provider follow-up.

Table 5. How Is Screening of Medicaid-Enrolled Children Tracked?

State/ Jurisdiction	None	Medicaid claims or encounter data	Labs report data to Dept. of Health[1]	Other state-managed system[2]	Data-matching[3]	Tracking system in development	No Response
Alaska		◆					
Alabama		◆	◆				
Arkansas		◆					
Arizona		◆					
California							◆
Colorado							◆
Connecticut		◆			◆		
Delaware					◆		
District of Columbia							◆
Florida		◆				◆	
Georgia		◆					
Hawaii			◆	◆			
Iowa					◆		
Idaho		◆					
Illinois		◆					
Indiana						◆	
Kansas		◆					
Kentucky		◆					
Louisiana		◆			◆		
Massachusetts			◆		◆		
Maryland		◆			◆		
Maine			◆				
Michigan							◆
Minnesota			◆				
Missouri		◆				◆	
Mississippi		◆					
Montana				◆			
North Carolina					◆		
North Dakota			◆				
Nebraska		◆					
New Hampshire					◆		
New Jersey			◆			◆	
New Mexico		◆					
Nevada		◆					
New York							◆
Ohio		◆		◆	◆		
Oklahoma			◆			◆	
Oregon		◆			◆		
Pennsylvania		◆		◆			
Rhode Island				◆			
South Carolina		◆				◆	
South Dakota		◆					
Tennessee			◆				
Texas							◆
Utah					◆		
Virginia		◆				◆	
Vermont			◆			◆	
Washington	◆						
Wisconsin		◆				◆	
West Virginia		◆					
Wyoming				◆			
Totals	**1**	**6**	**16**	**6**	**11**	**6**	**6**

Notes

[1] Laboratories report all results of lead screens to health departments, but often do not specify which children are enrolled in Medicaid.

[2] Montana and Ohio use STELLAR.

[3] Usually between Medicaid enrollment databases and lead screening registries.

Recently, the state linked its tracking system with the Medicaid data system. This effort allowed the state to see that only 50 percent of Medicaid children who received a preventive health visit in 1999 were screened for lead poisoning. The department plans to conduct this type of data matching every year and will work with Medicaid to identify children who have not been screened. In addition, the department is planning to link its system to the state's women, infants and children (WIC) data system so it can track other high-risk children who are receiving lead screens at local WIC sites.

2. *Ensure that state Medicaid managed care contracts explicitly include federal requirements for blood lead screening.*

During the past 20 years, many states have moved from being health care providers to being health care purchasers. When states purchase private insurance to cover their Medicaid beneficiaries, they carefully construct a contract that specifies exactly what type of care the managed care organization (MCO) is responsible for providing. It generally has been true that if a specific service is not included in the contract, the MCO will not provide that service.

A 1998 report by the Center for Health Services Research and Policy at the George Washington University Medical Center examined 42 state Medicaid managed care contracts and found that only half of these contracts included provisions requiring MCOs to conduct lead screenings. Furthermore, the report found that only 10 of these contracts required MCOs to report either the results of the screenings or "encounter data" documenting that the MCOs had conducted the screening.[17]

Wisconsin is one of 10 states with a contract that requires both screening and reporting. Its Medicaid HMO contract requires MCOs to conduct and report on lead screenings of all Medicaid children at age 1 and age 2. In addition, the contract holds MCOs responsible for not meeting certain screening goals—if the number of children screened falls below a specified percentage (65 percent in 2000), the MCO must take action to remedy the situation.

Wisconsin Managed Care Contract Language

"The HMO must develop and implement programs that address…specific performance improvement measures…"

"…[T]he Department may specify minimum performance levels and require that the HMOs develop action plans to respond to performance levels below the minimum performance levels."

LEAD TOXICITY SCREENING PERFORMANCE IMPROVEMENT
"The minimum performance level for calendar year 2000 is 65 percent of all enrollees served under this agreement with their first or second birthday during the reporting period. Two rates must be reported, one for one year olds and one for two year olds. The minimum performance level for calendar year 2001 is 85 percent of all Medicaid/BadgerCare enrollees with their first or second birthday during the reporting period (calendar year)."

Source: *January 2000-December 2001 Contract for Medicaid/BadgerCare HMO Services Between HMO and Wisconsin Department of Health and Family Services.*

Table 6. Effects of Medicaid Managed Care

State/ Jurisdiction	Managed care?	Effects				No Response
		None	Data collection more difficult	Increased screening rate	Unknown	
Alaska	No					
Alabama						◆
Arkansas	Yes			◆		
Arizona	Yes				◆	
California						◆
Colorado						◆
Connecticut	Yes				◆	
Delaware	Yes				◆	
District of Columbia						◆
Florida	Yes	◆				
Georgia	Yes	◆				
Hawaii	Yes	◆				
Iowa	Yes	◆				
Idaho	Yes				◆	
Illinois	Yes				◆	
Indiana	Yes				◆	
Kansas	Yes				◆	
Kentucky	Yes		◆			
Louisiana	Yes				◆	
Massachusetts	Yes		◆			
Maryland	Yes			◆		
Maine	No					
Michigan						◆
Minnesota	Yes			◆	◆	
Missouri[1]	Yes			◆		
Mississippi	Yes				◆	
Montana[1]	Yes					
North Carolina[1]	Yes				◆	
North Dakota	Yes	◆				
Nebraska	Yes		◆			
New Hampshire	Yes				◆	
New Jersey	Yes				◆	
New Mexico	Yes		◆			
Nevada	Yes	◆				
New York						◆
Ohio	Yes	◆				
Oklahoma	Yes		◆			
Oregon	Yes					◆
Pennsylvania	Yes	◆				
Rhode Island	Yes	◆				
South Carolina	Yes	◆				
South Dakota	No					
Tennessee	Yes	◆				
Texas						◆
Utah	Yes			◆		
Virginia	Yes			◆		
Vermont	Yes	◆				
Washington	Yes	◆				
Wisconsin	Yes			◆		
West Virginia	Yes			◆		
Wyoming	No					
Totals	--	**13**	□	□	**13**	□

Note

[1] Missouri, Montana and North Carolina initially experienced a drop in screening rates in either the entire state or part of it.

During the past few years, Wisconsin has seen the benefits of this language in its contract: 40 percent of children in Medicaid managed care were screened, while only 2.8 percent were screened in traditional fee-for-service Medicaid.

Results from the NCSL survey show that 89 percent of the states that responded had some form of Medicaid managed care. When asked whether having managed care had affected screening rates, eight states found that their lead screening rates increased, 13 states reported that there was no change in screening rates, and 12 states were not able to document whether there had been a change. Some states reported more difficulty obtaining information on screening services that were provided. (Table 6 contains complete results.)

3. Provide information to health care providers regarding Medicaid blood lead screening policies and the data that justify them.

Perhaps one of the easiest and most important things that a state can do to improve lead screening rates for Medicaid children is to educate providers about the federal regulations and the need for screening.

Two states—Arizona and Maryland—have innovative and effective provider education.

In Arizona, there is a particular need for provider education. Many providers feel that there is no lead poisoning risk in the state because few houses were built before 1950. Children with the most severe cases of lead poisoning in the state, however, were exposed to lead through two unusual sources: home remedies containing lead and imported pottery. The Arizona Department of Health Services educates providers about these particular risks and others, as well as the need to screen Medicaid children, using several different methods. These include:

- Information packets containing a copy of the state's annual reports on lead poisoning mailed to all physicians: the *Lead Poisoning Surveillance (Year) Annual Report*, the *Screening Policy and Guidance for Preventing Childhood Lead Poisoning in Arizona, and Childhood Prevalence Rates in Children Enrolled in AHCCCS* (Medicaid);
- One-on-one and group meetings between Department of Health officials and providers;
- Newsletters to managed care groups; and
- A concise "Top 10" list of lead poisoning risks and screening reminders that providers can post in their offices.

In Maryland, the state Medicaid office is actively involved in provider outreach and has several programs to ensure that providers are aware of the state's lead screening requirements as well as the risk factors for lead poisoning in the state. These initiatives include the following.

- Maryland requires that all providers who provide EPSDT services undergo training and be certified by the state. Each EPSDT provider receives a comprehensive manual detailing the state's EPSDT requirements, including specific information about lead screening.
- The EPSDT program staff produce and distribute periodic newsletters, which include re minders about lead screening requirements.
- Once a year, the state randomly samples these providers and sends nurses into their offices to examine their records for compliance with all EPSDT components. The nurses then provide on-site technical assistance for the providers, explaining their findings and reviewing any as pect of EPSDT about which the provider is unclear.
- Maryland's Medicaid Director currently is preparing a "Dear Provider" letter, which will re

mind providers about the necessity of lead screening for Medicaid children and will again detail the state's screening requirements. This letter also will clarify any confusing or contradictory messages about the necessity of lead screening that providers receive from various sources and will explain the differences between the CDC's and American Academy of Pediatrics' screening recommendations and Maryland's requirements.

- The Medicaid office also works with public health advocacy groups, which have developed analyses of high-risk zip codes in the state and are educating providers about the risks of lead poisoning for the children they serve.

Conclusion

Childhood lead poisoning, a preventable tragedy, can result in permanent long-term neurological damage, developmental delays, behavioral problems and learning disabilities. Lead-based paint in houses built before 1978 is the major source of lead in this country. Children enrolled in Medicaid are disproportionately more likely to have lead poisoning, in part because they often live in these older houses. By adhering to HCFA's regulation that all Medicaid children must be screened by testing their blood lead levels at age 12 months and age 24 months, states can effectively prevent some of the consequences of lead poisoning. States have available several options to increase screening rates.

- Establish a statewide data system that allows tracking of blood lead screening and prevalence of elevated BLLs among young children enrolled in Medicaid;
- Ensure that state Medicaid managed care contracts explicitly include federal blood lead screening requirements; and
- Provide information to health care providers regarding Medicaid blood lead screening policies and the data that justify them.

Appendix A. National Survey of Lead Screening Programs and Practices

Method

A survey was sent out by electronic mail to lead poisoning prevention contacts in each state and the District of Columbia, which included the following six questions:

1. Please describe lead-screening practices for Medicaid covered children in your state. How does the program or programs operate? Who is screened? Where does screening take place? When are kids screened?
2. Who ensures that doctors and other health care providers are screening these kids? At the state level? At the local level?
3. Does your state have Medicaid managed care? If so, how has this affected whether kids are screened?
4. How does your state keep track of how many Medicaid kids are screened? How is this information shared?
5. What are the barriers to screening Medicaid kids in your state? In which situations do kids fall through the cracks?
6. Does Medicaid cover case management (follow-up to screening, etc.) services in your state? Clean-up, window replacement or other remedial services for residences?

Results

Forty-four states responded to the survey. Texas and Michigan are embroiled in legal battles over the issue of screening Medicaid children for lead poisoning. They were unable to provide this information because it would be potentially relevant to the lawsuits. California, Colorado, Connecticut, New York and the District of Columbia were not able to respond due to time and personnel constraints.

Appendix B.

EPA Recommendations on Reducing Childhood Lead Exposure	
Lead Source	**Actions to Take or Avoid**
Hard Surfaces	▪ Mop floors once a week with soapy water ▪ Clean window sills and wells once a week with soapy water ▪ Use paper towels or set aside a sponge for lead cleaning only ▪ Use separate buckets for wash and rinse water ▪ Lightly spray floors with water before sweeping ▪ Seal wood floors to provide a smooth cleanable surface ▪ Place a blanket or rug on floor when child plays there ▪ Keep children and their belongings away from windows ▪ Open double-hung windows from the top
Carpeted Surfaces	▪ Use a HEPA vacuum for cleaning, if possible ▪ If a HEPA vacuum is not available, use "HEPA-type" or "allergy" filter bags ▪ If these bags are not available, lightly coat new vacuum bags by spreading and vacuuming flour or cornstarch ▪ Use a vacuum with an agitator head ▪ Vacuum for an extended time ▪ When steam cleaning carpets, consider adding sodium hexametaphosphate (found in Calgon®, for example) to the cleaning solution ▪ Use care in removing older carpets that are heavily contaminated with lead dust
Limiting Paint Exposure	▪ Clean up loose paint chips immediately ▪ Wipe off loose paint using damp disposable cloths or rags ▪ Block access to chipping paint with furniture ▪ Put contact paper over chipping paint ▪ Hose off porch or place a blanket down when children play there ▪ Seal off or enclose areas with small amounts of chipping paint ▪ Do not use hazardous methods of removing paint, such as mechanical sanding, open-flame burning, or chemical removal using methylene chloride ▪ Use safer alternatives for removing paint, such as wet scraping and wet sanding ▪ Use a certified abatement contractor if abatement is needed
Limiting Soil Exposure	▪ Cover bare soil with grass, plants, gravel or wood chips ▪ Do not let children play near walls of house or garage or on bare soil ▪ Have children play in grassy area or sandbox that can be covered ▪ Wash children's hands after playing outside, or playing with pets ▪ Remove shoes before entering the house ▪ Use a doormat to reduce track-in of outdoor dust and soil

Source: United States Environmental Protection Agency, *Basis for Educational Recommendations on Reducing Childhood Lead Exposure* (747-R-00-001) (Washington, DC: U.S. EPA, June 2000).

Appendix C. Resources

National Conference of State Legislatures (NCSL)

NCSL's Lead Hazards Project assists states on the issue of lead poisoning prevention by facilitating information exchange among the states and by promoting improved coordination between the states and EPA's Office of Pollution Prevention and Toxins. Major activities undertaken by the project include publication of *Lead Poisoning Prevention*: A Guide for Legislators, numerous articles and memos on lead hazard reduction, summaries of legislation and regulatory programs that address lead hazards, provide technical assistance to state legislatures on lead hazard reduction, a series of meetings between state policymakers and EPA, and promotion of states' interests in the development of federal policies addressing lead poisoning and hazard reduction. NCSL is initiating a series of publications and technical assistance to states and state legislatures to assist them as they develop of policies to address lead and other toxins.

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Environment, Energy and Transportation
National Conference of State Legislatures
1560 Broadway, Suite 700
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(303) 830-2200
http://www.ncsl.org/programs/esnr/toxics2.htm#lead

Carrie Farmer
Forum for State Health Policy Leadership
National Conference of State Legislatures
444 North Capitol Street, NW
Suite 515
Washington, DC 20001
(202) 624-5400

The Centers for Disease Control and Prevention (CDC)

The CDC produces many publications on lead poisoning and screening, which are available on the CDC Lead Poisoning Prevention Program web site: http://www.cdc.gov/nceh/lead/lead.htm. These include:

- "Recommendations for Blood Lead Screening of Young Children Enrolled in Medicaid: Targeting a Group at High Risk". *MMWR (Morbidity and Mortality Weekly Report)* 49, no. RR-14 (2000).
- *Screening Young Children for Lead Poisoning: Guidance for State and Local Health Officials, November 1997.*
- "Blood Lead Levels in Young Children—United States and Selected States, 1996-1999." *MMWR (Morbidity and Mortality Weekly Report)* 49, no 50 (2000).
- *Preventing Lead Poisoning in Young Children,* October 1991.

The CDC also provides funding to state and local health departments to screen children, provide follow-up treatments, evaluate the extent of the problem and develop prevention programs. Information about these grants also is available on the web site.

Lead Poisoning Prevention Branch
Division of Environmental Hazards and Health Effects
National Center for Environmental Health
1600 Clifton Road Mailstop E25
Atlanta, Ga. 30333
(404) 639-2510

The Alliance to End Childhood Lead Poisoning

The Alliance is a good resource for information about lead poisoning prevention and has published numerous reports that are available on its web site, http://www.aeclp.org. These include:

- *Another Link in the Chain: State Policies and Practices for Case Management and Environmental Investigation of Lead-Poisoned Children*
- *Directory of State and Local Lead Poisoning Prevention Advocacy Organizations*
- *Volume I: Childhood Lead Poisoning: Blueprint for Prevention*
- *Volume II: Childhood Lead Poisoning: Developing Prevention Programs and Mobilizing Resources*
- *Volume III: Childhood Lead Poisoning: Resources for Prevention*

The Alliance to End Childhood Lead Poisoning
227 Massachusetts Avenue, N.E., Suite 200
Washington, D.C. 20002
(202) 543-1147

Notes

1. According to the CDC's Third National Health and Nutrition Examination Survey (NHANES), 1991-1994. More recent NHANES data indicate that this proportion may have decreased slightly in the last few years.

2. M.R. Ellis and K.Y. Kane, "Lightening the lead load in children," *American Family Physician* 62, no. 3 (2000): 545-554.

3. Associated Press, "Study Links Lead Levels to Juvenile Delinquency," *Chicago Tribune*, May 16, 2000.

4. American Academy of Pediatrics Committee on Environmental Health, "Screening for Elevated Blood Lead Levels (RE9185)," *Pediatrics* 101, no. 6 (1998): 1072-1078.

5. "Low Birth Weight Relates to Mother's Lead Burden," National Institute for Environemental Health Sciences, National Institutes of Health, August 1999, URL=http://www.niehs.nih.gov/external/resinits/ri-8.htm; World Wide Web.

6. V.H. Borja-Aburto et al., "Blood Lead Levels Measured Prospectively and Risk of Spontaneous Abortion," *American Journal of Epidemiology* 150, no. 6 (1999): 590-597.

7. Delaware Childhood Lead Poisoning Prevention Program, internal working reference notes, (November 1999).

8. U. S. General Accounting Office, *Lead Poisoning: Federal Health Care Programs Are Not Effectively Reaching At-Risk Children*, report prepared for the Ranking Minority Member, Committee on Government Reform, House of Representatives, GAO/HEHS-99-18 (Washington, D.C.: U.S. GAO, January 1999.

9. Ibid.

10. Ibid.

11. U.S. Department of Health and Human Services, Public Health Services, Centers for Disease Control and Prevention, *Preventing Lead Poisoning in Young Children*, (Washington, D.C.: DHHS, 1991).

12. U.S. General Accounting Office, *Lead Poisoning*.

13. Ibid.

14. Advisory Committee on Childhood Lead Poisoning Prevention, Centers for Disease Control and Prevention, "Recommendations for Blood Lead Screening of Young Children Enrolled in Medicaid: Targeting a Group at High Risk," *Morbidity and Mortality Weekly Report* 49, no. RR14 (December 8, 2000): 1-3.

15. The latest version of STELLAR can be downloaded from the CDC FTP site at the following link: ftp://ftp.cdc.gov/pub/Software/STELLAR/STELLAR3/. For more information or to receive a registration form for STELLAR, call STELLAR Support at (404) 639-5957.

16. N.C. Gen. Statute §§130A-131.5 to 130A-131.9G (Michie 1997).

17. Elizabeth Wehr and Sara Rosenbaum, *Medicaid Managed Care Contracting for Childhood Lead Poisoning Prevention Services* (Washington, D.C.: Center for Health Policy Research, School of Public Health and Health Services, The George Washington University Medical Center, September 1998).

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