STATE OF MARYLAND
DHMH
Maryland Department of Health and Mental Hygiene
Larry Hogan, Governor - Boyd Rutherford, Lt. Governor - Dennis R. Schrader, Secretary

January 4, 2017

The Honorable Edward J. Kasemeyer
Chair
Senate Budget & Taxation Committee
3 West Miller Senate Office Bldg.
Annapolis, MD 21401-1991

The Honorable Maggie McIntosh
Chair
House Appropriations Committee
121 House Office Bldg.
Annapolis, MD 21401-1991

Re: 2016 Joint Chairmen's Report (p. 77) – Report on Lead Screening of Children in Medicaid

Dear Chairmen Kasemeyer and McIntosh:

In keeping with the requirements of the 2016 Joint Chairmen's Report (p. 77), enclosed is the Department of Health and Mental Hygiene's report on lead screening of children in Medicaid. This report provides an overview of lead and lead exposure and describes the national status of childhood lead exposure. It explains the history of Maryland's efforts to decrease elevated BLL through legislation, testing, and reporting and gives overview of current regulations. The report summarizes the roles of different State agencies, highlights some challenges in working with existing resources, and provides recommendations on areas of improvement.

Thank you for your consideration of this information. If you have questions or need more information on the subjects included in this report, please contact Webster Ye, Director of Governmental Affairs at (410) 767-6480.

Sincerely,

Dennis R. Schrader
Secretary

Enclosure

cc: Shannon McMahon
Tricia Roddy
Susan Tucker
Rosemary Murphey
Alyssa Brown
Webster Ye

Lead Screening of Children in Medicaid

Submitted by the Department of Health and Mental Hygiene
November 15, 2016

2016 Joint Chairmen's Report
Page 77

Executive Summary

The Maryland Department of Health and Mental Hygiene (DHMH) Medicaid agency was requested as part of the 2016 Joint Chairmen's Report (JCR) to submit a report on lead screening for children enrolled in Medicaid and ways to further incentivize Medicaid Managed Care Organizations (MCOs) to increase the level of lead screening. Further, the JCR requested suggestions on how Medicaid can work with other State agencies to maximize access to existing funding for lead remediation activities in the homes of children identified by MCOs as having elevated blood lead levels (BLL). Medicaid was also tasked with looking at other funding sources for remediation activities and providing data on the number of children identified with elevated BLL and those that receive a secondary confirmatory screening. Finally, the JCR requested that Medicaid explore the possibility of pursuing a waiver for lead remediation activities, similar to the waiver requested by the State of Michigan.

Recent unrest in the City of Baltimore drew attention to areas of the state that have pockets of extreme poverty and unemployment. As a result, there is a renewed interest in finding solutions to break the cycle of poverty. For example, a recent proposal seeks to create community-based jobs that can contribute to improved community health as well as hospital jobs that create employment opportunities in economically-challenged areas.[1] Maryland has many regulations and State agencies focused on lead screening, testing, reporting and remediation. However, interventions are also needed to ensure the long term well-being of Maryland's youngest residents. Lead poisoning is a significant childhood health hazard, occurring through ingestion or inhalation of a substance with lead, such as paint, dust, or food.[2] Both adults and children can suffer adverse health effects as a result of lead exposure. Lead exposure, even at low levels, can have lifelong consequences for children because there is no threshold BLL below which harm does not occur. Evidence shows that children who are qualified for Medicaid, living in poverty, and living in older housing are more likely than other children to have an elevated BLL. Early screening for lead exposure in children is one key to breaking the cycle of poverty by eliminating or mitigating the lifelong negative impacts of lead exposure.

This report provides an overview of lead and lead exposure and describes the national status of childhood lead exposure. It then explains the history of Maryland's efforts to decrease elevated BLL through legislation, testing, and reporting and gives overview of current regulations. The report summarizes the roles of different State agencies, highlights some challenges in working with existing resources, and provides recommendations on areas of improvement.

The Maryland Medicaid program engages in a variety of efforts to improve lead screening rates and reduce lead exposure. As part of a larger strategy to ensure children enrolled in Medicaid receive quality care, the Maryland Medicaid program developed a quality incentive program, the Value-Based Purchasing (VBP) Program, for HealthChoice, Maryland's Medicaid managed care program. One VBP measure is lead screening in children aged 12 to 23 months. In addition to

[1] Final Report of Health Services Cost Review Commission: Regarding Population Health Work Force Support for Disadvantaged Areas. 9 December, 2015. <http://www.hscrc.maryland.gov/documents/commission-meeting/2015/12-09/Final-Report-Population-Health-Workforce-Support-121515.pdf>

[2] Healthwise. "Lead Poisoning Topic Overview" 20 November 2015. Web. http://ship.md.networkofcare.org/ph/library/article.aspx?hwid=hw119898&search=lead.

VBP, the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) Program promotes access to and ensures availability of quality health care for children, teens, and young adults under age 21 enrolled in Medicaid. EPSDT requires primary care providers (PCPs) to complete a lead risk assessment at every preventive visit from six months to six years of age. To further support BLL reduction for children enrolled in Medicaid, Maryland obtained a State Plan Amendment (SPA) in 2009 that permits Medicaid to reimburse for environmental lead investigation activities as part of the EPSDT benefit for child beneficiaries.

Within DHMH, several other departments and programs focus on lead screening and reporting. The Environmental Health Bureau (EHB) within DHMH's Prevention and Health Promotion Administration is responsible for coordinating activities related to lead poisoning screening. EHB works closely with Childhood Lead Poisoning Prevention Program at MDE on aspects of lead poisoning prevention, including surveillance, case management and coordination with the Department of Housing and Community Development (DHCD) on housing issues. EHB also works with a Baltimore-based nonprofit, Green and Healthy Homes Initiative (GHHI) to connect families to resources such as grants and loans for lead abatement in the home.

Across the state, the Maryland Department of the Environment (MDE) works closely with blood testing laboratories to collect and maintain the Statewide Childhood Lead Registry (CLR), which provides state-level surveillance on elevated BLLs in children. MDE receives reports of all blood lead tests performed on Maryland children aged zero to six years. MDE's 2015 Annual Report, made public in October 2016, shows that the overall proportion of children with elevated BLL (greater than or equal to five micrograms per deciliter (μg/dL)) declined in Calendar Year (CY) 2015. However, incidence of BLL greater than or equal to 10μg/dL remained the same, from 0.2 percent in 2014 to 0.2 percent in 2015. To improve lead testing VBP scores and decrease an MCO's likelihood of being assessed a penalty, Medicaid provides MCOs with quarterly reports of the CLR to help MCOs conduct outreach.

Maryland has also looked to the example of other states, most notably Michigan. In 2014, testing showed the City of Flint, Michigan's drinking water contained elevated lead levels, directly harming its residents and children. In February 2016, Michigan filed for a waiver with the Centers for Medicare and Medicaid Services (CMS) to expand Medicaid coverage to children up to age 21 and pregnant women exposed to the Flint Water System since April 2014. CMS approved the waiver in March 2016.

Medicaid proposes several different options as a way to improve lead screening rates and reduce lead exposure. These recommendations include:

- Implementing a Performance Improvement Project (PIP) with the Medicaid MCOs in the coming year to increase the percentage of children receiving blood lead tests;
- Submitting the Health Services Initiative (HSI) SPA to leverage Children's Health Insurance Program (CHIP) funding for lead abatement in homes of Maryland children;
- Encouraging MDE-accredited vendors to enroll as Medicaid providers and bill for environmental lead investigations for Medicaid recipients;

- Improving data collection for the CLR, including collection of required information and addition of new fields, such as Medicaid ID number, payer, and sequential value of test, to improve data integrity and easily track children with multiple tests;
- Enhancing communication between MCOs, PCPs and families to increase the percentage of children tested at required times and to ensure appropriate follow-up; and
- Distributing lead registry information on monthly basis, instead of the current quarterly basis, to allow for a more frequent evaluation of the data.

I. Introduction and Methodology

Pursuant to the requirements of the 2016 Joint Chairmen's Report (p. 77), this report addresses:

1. Ways to further incentivize MCOs to increase the level of lead screening for children enrolled in Medicaid;
2. Ways to encourage MCOs to take advantage of existing services available under Medicaid that are not being used;
3. How DHMH can work with other State agencies to maximize access to existing funding for lead remediation activities in the homes of children identified by MCOs as having elevated BLLs;
4. Other funding sources for remediation activities;
5. Data on the number of children identified with elevated BLLs and those that receive a second confirmatory screening; and
6. Whether DHMH might be able to pursue a waiver for lead remediation activities, similar to the waiver recently requested by the state of Michigan.

Medicaid collected existing data on lead testing rates for children enrolled in HealthChoice and all children living in Maryland. Medicaid also researched the practices of other DHMH units, local nonprofits, and other states. Medicaid surveyed the MCOs to identify activities to screen children for elevated BLLs and to collect their suggestions to improve the testing and follow-up process. These strategies inform Medicaid's recommendations for further action on decreasing children's lead exposure through improved testing rates and follow-up.

II. Background & History

Overview of Lead and Lead Exposure

Lead, an element naturally found in the earth's crust, is used in paint, toys, and certain cosmetics. Lead's health effects were first identified in the United States in the 1920s due to widespread use of lead in paint and gasoline. However, initial state-level efforts to control lead use and warn people of health effects were largely suppressed by the lead industry.[3] In 1971, Congress passed legislation banning the use of lead-based paint in public housing. National bans on lead emerged after the establishment of the Environmental Protection Agency (EPA). In 1973, the EPA required a reduction in the lead content of gasoline, eventually leading to the full adoption of

[3] Environmental Protection Agency. "Lead Poisoning: A Historical Perspective." Web. https://www.epa.gov/aboutepa/lead-poisoning-historical-perspective.

unleaded gasoline in the 1980s.[4] By 1978, the federal government banned nearly all sale of lead-based paint, but this did not change the existing lead hazards in homes painted before that time.[5]

Lead poisoning occurs through ingestion or inhalation of a substance with lead, such as paint, dust, or food.[6] Both adults and children can suffer adverse health effects as a result of lead exposure. Lead exposure, even at low levels, can have lifelong consequences for children because there is no threshold BLL below which harm does not occur.[7] Furthermore, children's small body masses and their still-developing nervous systems absorb more lead per pound, leading to greater adverse health effects at lower levels of exposure than adults would experience. Young children, pregnant women, and unborn fetuses are most at risk due to elevated BLLs. Children are prone to ingest lead through water contaminated due to pipe corrosion, ground water, lead-based paint chips or dust, and imported toys made with lead. House paint in buildings built prior to 1978 is the most common source of exposure among children with elevated BLL. Certain foods, imported ayurvedic and other medications, pottery glazes, and cosmetics may also contain lead.[8] At higher levels, symptoms may include anemia, seizures, coma, and death. At lower exposure levels, children typically do not show visible symptoms until they reach elementary school.[9] Health effects of lead exposure include decreased IQ, Attention Deficit/Hyperactivity Disorder (ADHD), asthma, and hearing impairment, even at low levels.[10] Unborn children are also vulnerable to their mother's BLL. Side effects of exposure to lead during pregnancy include gestational hypertension, low birth weight, and impaired fetal neurological development.[11]

Lead testing can take place in a doctor's office or at a lab. There are two primary ways to test for BLL, a finger prick or heel prick test (capillary) and drawing blood from a vein (venous). Either test can detect a child's BLL as measured in micrograms per deciliter (µg/dL). If the initial capillary test returns an elevated BLL (BLL greater than five µg/dL)[12], a confirmatory test is conducted using blood from a vein. If the initial venous test returns an elevated BLL, that test alone is considered "confirmatory." Depending on the confirmatory test results, a child might require additional medical treatment, more frequent testing, follow-up with a provider, or follow-up to mitigate lead exposure. Any first venous test that returns an elevated BLL triggers

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[4] Ibid.
[5] Markowitz, Gerald and Rosner, David. "Why It Took Decades of Blaming Parents Before We Banned Lead Paint." 22 April 2013. Web. http://www.theatlantic.com/health/archive/2013/04/why-it-took-decades-of-blaming-parents-before-we-banned-lead-paint/275169.
[6] Healthwise. "Lead Poisoning Topic Overview" 20 November 2015. Web. http://ship.md.networkofcare.org/ph/library/article.aspx?hwid=hw119898&search=lead.
[7] Centers for Disease Control and Prevention. "Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention." 2002. Web. https://www.cdc.gov/nceh/lead/casemanagement/managingEBLLs.pdf
[8] Centers for Disease Control and Prevention. "Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention" January 4, 2012. Web. http://www.cdc.gov/nceh/lead/acclpp/final_document_030712.pdf
[9] Centers for Disease Control and Prevention. "Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention." 2002. Web. https://www.cdc.gov/nceh/lead/casemanagement/managingEBLLs.pdf.
[10] Centers for Disease Control and Prevention. "Lead Toxicity: What Are the Physiologic Effects of Lead Exposure?" *Agency for Toxic Substances & Disease Registry*. 20 Aug. 2007. Web. 13 July 2016. http://www.atsdr.cdc.gov/csem/csem.asp?csem=7.
[11] The American College of Obstetricians and Gynecologists. "Lead Screening During Pregnancy and Lactation." *Lead Screening During Pregnancy and Lactation*. 2016. Web. 13 July 2016. http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Lead-Screening-During-Pregnancy-and-Lactation
[12] https://www.cdc.gov/nceh/lead/data/definitions.htm.

notification to MDE and the provision of certain case management services by local health departments (LHDs).

There are methods for mitigating lead exposure in the home, including lead Renovation, Repair, and Painting (RRP) and lead abatement.[13] RRP is used to mitigate lead hazards temporarily, but does not permanently eliminate lead from a property. Abatement is a permanent measure to remove lead hazards, including paint and pipes, from a home. This report uses terminology consistent with industry standards for managing lead exposure: RRP and abatement.

National Context

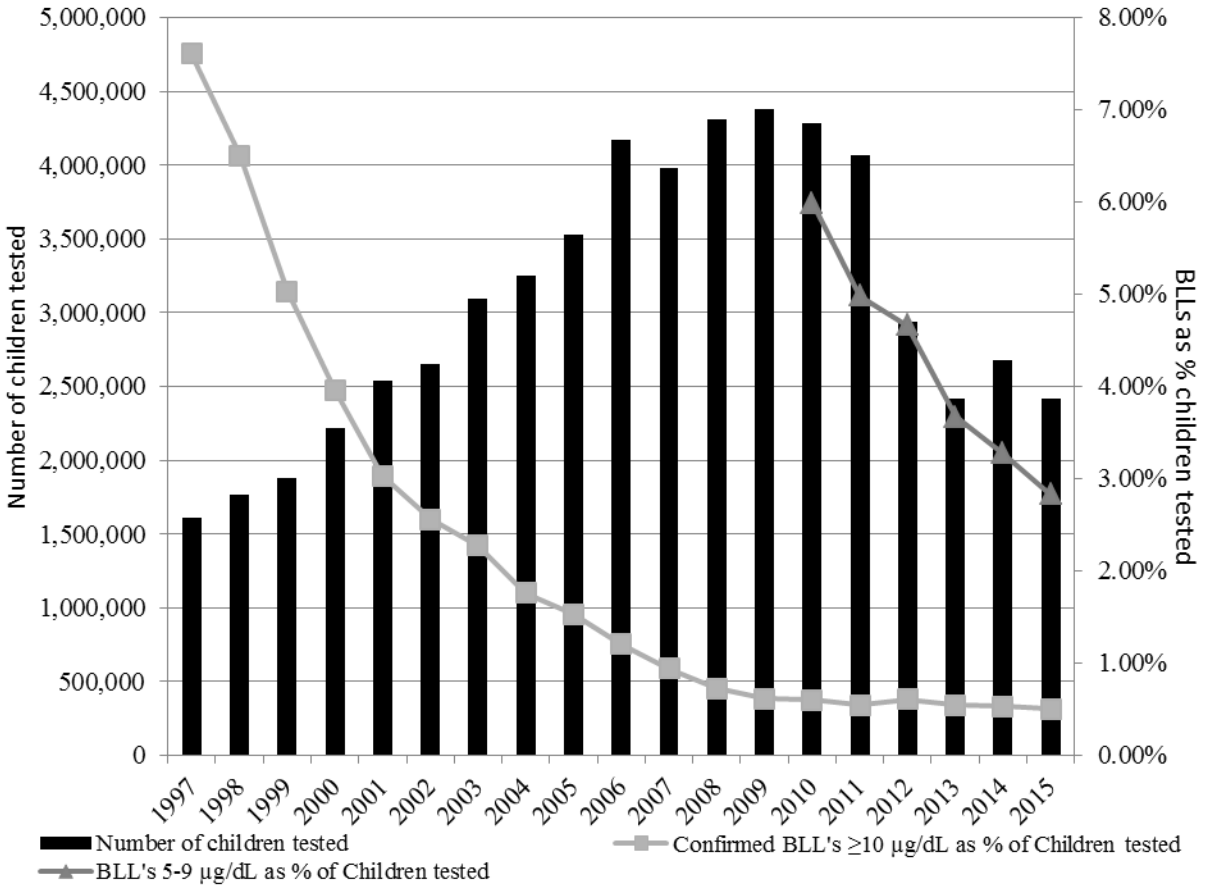
Nationally, lead remains a childhood health hazard. About 24 million homes nationally contain a lead hazard; children live in approximately four million of those households. Nearly 500,000 U.S. children aged one to five years have BLLs greater than or equal to 5µg/dL, the reference level at which the Centers for Disease Control and Prevention (CDC) recommends initiating public health actions. Lead poisoning is also costly; it can cost approximately $5,600 in medical and education resources for each child with lead poisoning and an estimated $50.9 billion in productivity lost per year because of lower cognitive potential caused by lead poisoning.[14]

The CDC's Childhood Lead Poisoning Prevention program adopted the goal of eliminating BLLs greater than or equal to10 µg/dL in children as part of the Healthy People 2020 initiative. The CDC began tracking BLL data in 1995, using data from state health departments (Figure 1). Not all health departments are required to report data, but the national trend reflects that the incidence of tests returning a confirmed elevated BLL (defined as a BLL greater than or equal to10 µg/dL) decreased between 1997 and 2009. Since 2010, the percentage of children with a confirmed elevated BLL remains at approximately 0.5 percent of all children tested. The CDC estimates that half a million children currently have a BLL greater than or equal to 5µg/dL.[15]

Figure 1 below presents CDC's National Chart of Children aged Zero to 72 months Tested and Confirmed Elevated BLL Rates by Year.

[13] Environmental Protection Agency. "Lead Abatement vs. Lead RRP." Web. https://www.epa.gov/lead/lead-abatement-vs-lead-rrp
[14] Centers for Disease Control and Prevention. "Prevent Childhood Lead Poisoning." 2013. Web. http://www.cdc.gov/nceh/lead/infographic.htm
[15] Centers for Disease Control and Prevention. "National Surveillance Data (1997-2015)." September 1, 2016. Web. https://www.cdc.gov/nceh/lead/data/national.htm

Figure 1: U.S. Totals Blood Lead Surveillance, 1997-2015[16]



In 2014, the city of Flint, Michigan switched to a new water source to save money but failed to implement corrosion controls, resulting in lead-tainted drinking water. Despite complaints from Flint residents, no immediate steps were taken, supply pipes sustained major corrosion, and lead leached into the tap water used in homes, schools, and businesses, creating a public health crisis. As a result, Michigan received approval to expand Medicaid access to certain groups of people living in Flint at the time of the water contamination, including exposed children and pregnant women.

In response to the Flint water crisis, investigations focused on the effects and presence of lead poisoning in different parts of the country, and several states are now taking a proactive approach to mitigating lead exposure. In September 2016, New York Governor Andrew Cuomo signed a law that requires schools to test their drinking water for lead contamination.[17] The measure mandates testing every five years and cutting off water sources with lead levels above 15 parts

[16] Ibid.
[17] New York State. "Governor Cuomo Signs Landmark Legislation to Test Drinking Water in New York Schools for Lead Contamination." 6 September 2016. Web. https://www.governor.ny.gov/news/governor-cuomo-signs-landmark-legislation-test-drinking-water-new-york-schools-lead.

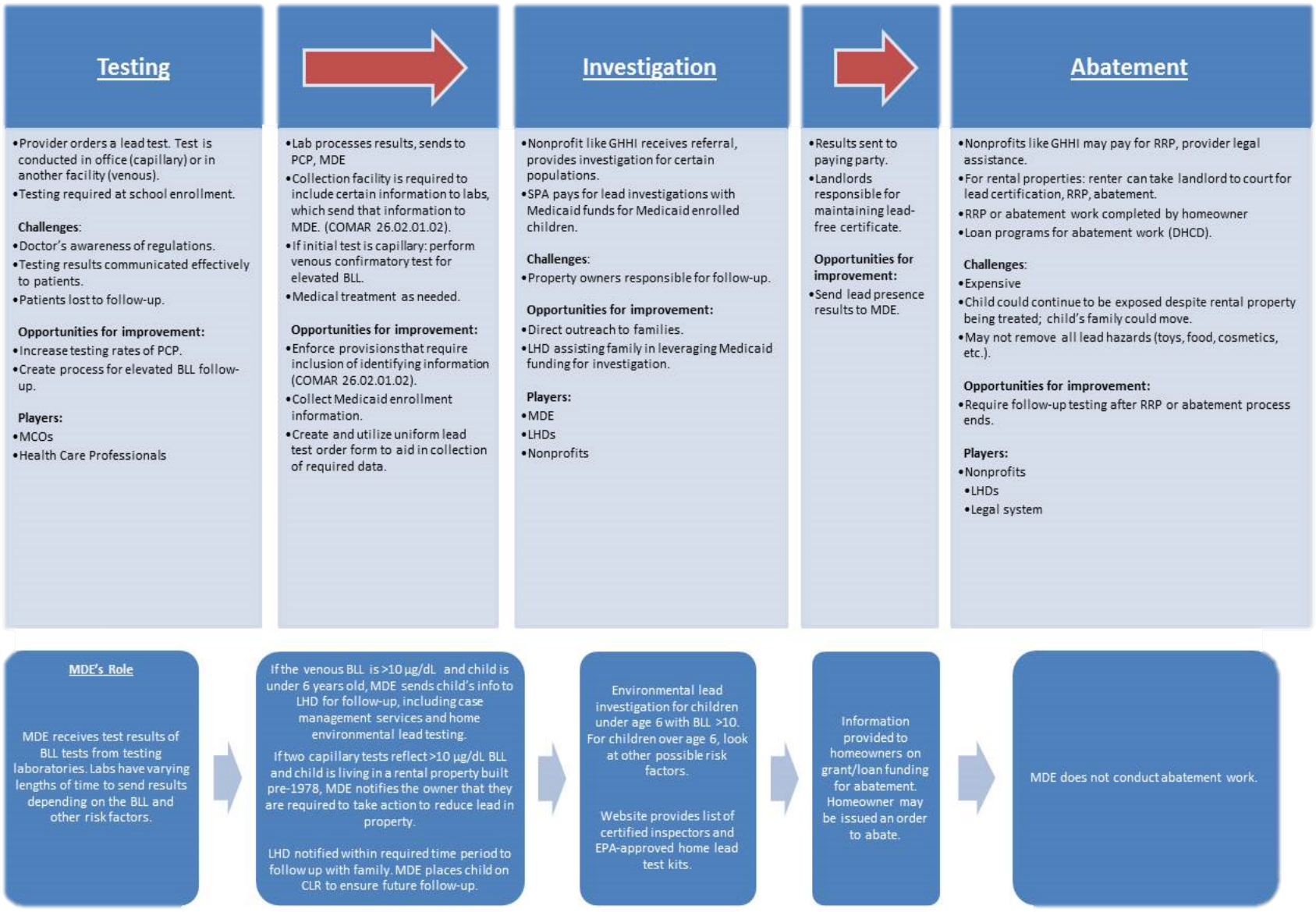
per billion.[18] No other state has a mandate for school testing, but many schools—including those in Pennsylvania, Georgia and Oregon—follow guidelines from their own LHDs.

Maryland: Testing and Reporting

Figure 2 displays the continuum of care for a child living in Maryland receiving a blood lead test and the process of addressing an elevated BLL through investigation and abatement. This section will further detail the process of testing and reporting, along with the role of MDE. MDE's Statewide CLR performs childhood blood lead surveillance for Maryland.[19] MDE receives the reports of all blood lead tests performed on Maryland children aged zero to 18 years from testing laboratories.[20]

[18] Ibid.
[19] Ibid.
[20] COMAR 26.02.01.02.

Figure 2: Review of Lead Care Continuum



After a physician orders a blood lead test, a child may have "point of care" (POC) testing in the ordering physician's office (capillary) or be sent to a facility to collect a blood sample (venous). Any facility that collects a blood sample is required to collect and include identifying information along with the sample, including name, date of birth, home address, telephone number, parent or guardian information, type of sample (capillary or venous), draw site address, testing laboratory name and phone number, resulting BLL, and any other required information.[21] If the testing laboratory is missing any required information, the laboratory is required to request that information from the facility that collected the sample and send the name of the facility to MDE. To identify and monitor childhood lead exposure in the Maryland Medicaid program, The Hilltop Institute at the University of Maryland, Baltimore County—which warehouses Medicaid claims data—matches HealthChoice-enrolled children with information from the CLR based on available information, including name and birthday. However, this information is often incomplete or may match to several children. Certain information, including Medicaid ID number, insurer/payer, and sequential value of test is not currently required.

Laboratories are required to provide results of all blood lead tests on children aged 18 years or younger to both the ordering physician and MDE, with additional reporting requirements for Baltimore City. If the child lives in Baltimore City, the lab must also send all results to the Commissioner of the Baltimore City Health Department. If a sample results in BLL greater than or equal to 20µg/dL, labs must report within two business days of obtaining final results. All other BLL must be reported within two weeks of final results.[22]

MDE is required to report results of BLL greater than or equal to 10µg/dL to the child's LHD and DHMH. Test results greater than or equal to 15µg/dL must be reported within 1 business day following receipt of results and results greater than or equal to 10-14µg/dL within two weeks.[23]

Upon receipt of a test result for a child under age six living in a rental property built before 1978 with BLL greater than or equal to 10µg/dL, MDE automatically conducts an environmental lead investigation in the child's home.[24] After the investigation, property owners and tenants are given information about lead abatement grant and loan programs. To ensure compliance, MDE may give an order to conduct abatement to the property owner.

For children enrolled in Medicaid, lead risk assessment is part of the EPSDT benefit, and all EPSDT providers are required to order lead tests for enrolled children at ages 12 months and 24 months. Recent regulatory changes implemented in 2016—discussed in the next section of this report—extend this requirement to all children in the state. New guidance for the state also permits additional screenings after 24 months if certain indications are met: parent/guardian request; possible lead exposure or symptoms of poisoning; follow-up testing after previously elevated BLL; or a missed screening.

[21] COMAR 26.02.01.02-.03.
[22] COMAR 26.02.01.04.
[23] COMAR 26.02.01.05.
[24] A 2009 State Plan Amendment (SPA) allows LHDs to bill Medicaid for environmental lead investigations for child Medicaid recipients. This SPA is further discussed later in the report.

Since 1995, MDE has released the Annual Surveillance Report of the CLR, along with various "Supplementary Data Tables," which include detailed breakdowns of blood lead data by age, jurisdiction, BLL, incident and prevalent cases, and the trends of BLL for all children in Maryland.

Table 1 presents the MDE report data on the number and percentage of children enrolled in HealthChoice aged 12 to 23 months and 24 to 35 months who received a lead test in CY 2015. The measure includes children who are continuously enrolled in the same HealthChoice MCO for at least 90 days during the CY. Age is calculated as of December 31 of the CY. Children who disenrolled from their MCO before their first birthday are excluded from analysis. Table 1 indicates that 59.3 percent of HealthChoice children aged 12 to 23 months received a lead test and 63.6 percent of children in Baltimore City received a test in CY 2015. During that time, approximately 56 percent of children aged 12 to 35 months enrolled in HealthChoice received a lead screening. The percentage of children who received tests varied by age group and county; some counties tested as many as 78 percent of children aged 12 to 35 months (Allegany) and as few as 29 percent (Calvert). Hilltop used data from the Medicaid Management Information System (MMIS2) and the MDE CLR to report on lead screening rates with a one-year look back.

Table 1: Percentage of Children Aged 12-23 Months and 24-35 Months Enrolled in HealthChoice Who Received a Lead Test During CY 2015 by County (Enrolled 90+ Days), MDE Data, One-Year Look Back[25]

	Children Aged 12-23 Months			Children Aged 24-35 Months			All Children
County	HealthChoice Enrollees	Number with Lead Tests	Percent Tested	HealthChoice Enrollees	Number with Lead Tests	Percent Tested	Percent Tested
Allegany	435	344	79.1%	453	346	76.4%	77.7%
Anne Arundel	2,602	1,550	59.6%	2,530	1,290	51.0%	55.3%
Baltimore Co.	5,064	3,315	65.5%	4,819	2,777	57.6%	61.6%
Calvert	331	116	35.0%	335	78	23.3%	29.1%
Caroline	290	192	66.2%	302	198	65.6%	65.9%
Carroll	550	256	46.5%	545	178	32.7%	39.6%
Cecil	610	310	50.8%	647	257	39.7%	45.1%
Charles	836	496	59.3%	816	421	51.6%	55.5%

[25] The Hilltop Institute CY 2015 Lead Annual Report to MDE.

	Children Aged 12-23 Months			Children Aged 24-35 Months			All Children
County	HealthChoice Enrollees	Number with Lead Tests	Percent Tested	HealthChoice Enrollees	Number with Lead Tests	Percent Tested	Percent Tested
Dorchester	288	147	51.0%	261	148	56.7%	53.7%
Frederick	1,102	567	51.5%	1,055	362	34.3%	43.1%
Garrett	174	96	55.2%	181	87	48.1%	51.5%
Harford	1,026	504	49.1%	1,058	428	40.5%	44.7%
Howard	1,054	540	51.2%	1,013	395	39.0%	45.2%
Kent	108	52	48.1%	112	57	50.9%	49.5%
Montgomery	5,365	3,464	64.6%	5,216	2,899	55.6%	60.1%
Prince George's	7,548	4,302	57.0%	7,023	3,487	49.7%	53.5%
Queen Anne's	202	118	58.4%	195	96	49.2%	53.9%
St. Mary's	586	314	53.6%	549	239	43.5%	48.7%
Somerset	180	120	66.7%	216	132	61.1%	63.6%
Talbot	227	156	68.7%	188	132	70.2%	69.4%
Washington	1,086	494	45.5%	1,086	505	46.5%	46.0%
Wicomico	865	419	48.4%	834	458	54.9%	51.6%
Worcester	318	158	49.7%	254	141	55.5%	52.3%
Baltimore City	5,881	3,739	63.6%	5,909	3,512	59.4%	61.5%
Out of State	34	15	44.1%	52	16	30.8%	36.0%
Total	36,762	21,784	59.3%	35,649	18,639	52.3%	55.8%

As part of MDE's Annual Surveillance Report of the Childhood Lead Registry (CLR), Table 2 shows the number of children aged zero to five years in Maryland who received lead testing in the state by age, gender, BLL, and type of test. Overall, the proportion of children with elevated BLL (greater than or equal to 5µg/dL) declined in 2015. Further, among those tested incidence of BLL between 10µg/dL and 14µg/dL remained the same, at 0.2 percent in both 2014 and 2015. According to MDE's CY 2015 report, 20.6 percent of the 535,094 children between ages zero to five were tested for lead.

Table 2: CY 2015 Statistical Report for Lead Testing in Maryland for Children Ages 0-72 Months[26]

Item	Number	Percent
All Children		
Number of tests	127,730	
Number of children	120,962	
Children 0-72 Months		
Number of tests	116,646	
Number of children	110,217	
Age		
Under One Year	11,037	10.0%
One Year	40,289	36.6%
Two Years	31,364	28.5%
Three Years	9,856	8.9%
Four Years	10,369	9.4%
Five Years	7,302	6.6%
Sex		
Female	53,767	48.8%
Male	56,093	50.9%
Undetermined	357	0.3%
Highest BLL (ug/dL)		
≤4	108,051	98.0%
5-9	1,789	1.6%
10-14	234	0.2%
15-19	70	0.1%
≥20	73	0.1%
Mean BLL (Geometric mean)	1.41	
Blood Specimen		
Capillary	31,365	28.5%
Venous	70,157	63.7%
Undetermined*	8,695	7.8%

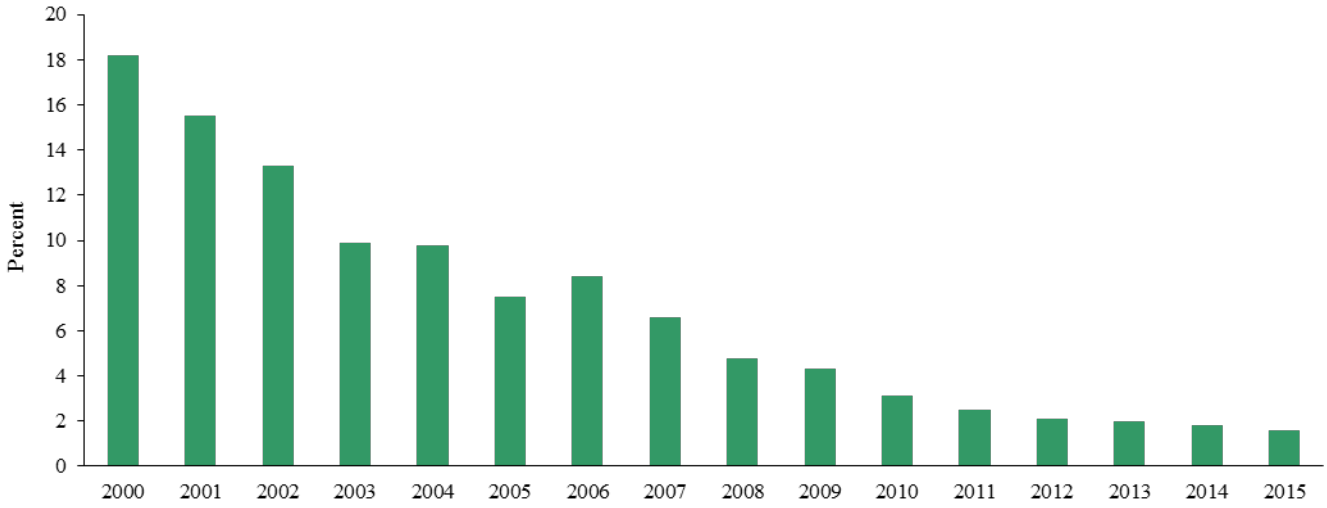
** Blood tests with sample type unknown were counted as capillary*

[26] Maryland Department of the Environment. "Childhood Blood Lead Surveillance in Maryland Annual Report 2015" October 2016.

Table 2 indicates that all children (aged zero to 5 years) received 127,730 BLL tests. The children most vulnerable to harmful effects of lead poisoning (aged zero to 72 months) received the majority of the tests (110,217 tests).

Additionally, both Figures 3 and 4 show the decline of incidence of BLL 5-9µg/dL and BLL greater than or equal to 10µg/dL statewide, respectively. Though the number of children with an elevated BLL has declined, evidence shows that children who are qualified for Medicaid, living in poverty, and living in older housing are more likely than other children to have an elevated BLL.[27]

Figure 3: Percent of All Maryland Children Aged 0 to 72 Months Tested for Lead with the Highest BLL 5-9 µg/dL: 2000-2015, MDE Data, One-Year Look Back[28]



[27] Centers for Disease Control and Prevention. "Morbidity and Mortality Weekly Report" 12 September 2014. http://www.cdc.gov/mmwr/preview/mmwrhtml/su6302a6.htm.

[28] Lead Report CLR 2015, MDE Web. http://www.mde.state.md.us/programs/Land/Documents/LeadReports/LeadReportsAnnualChildhoodLeadRegistry/LeadReportCLR2015.pdf.

Figure 4: Number of All Maryland Children Aged 0 to 72 Months Tested for Lead and Number Reported to Have BLL Greater than or Equal to 10µg/dL: 2000-2015, MDE Data, One-Year Look Back[29]

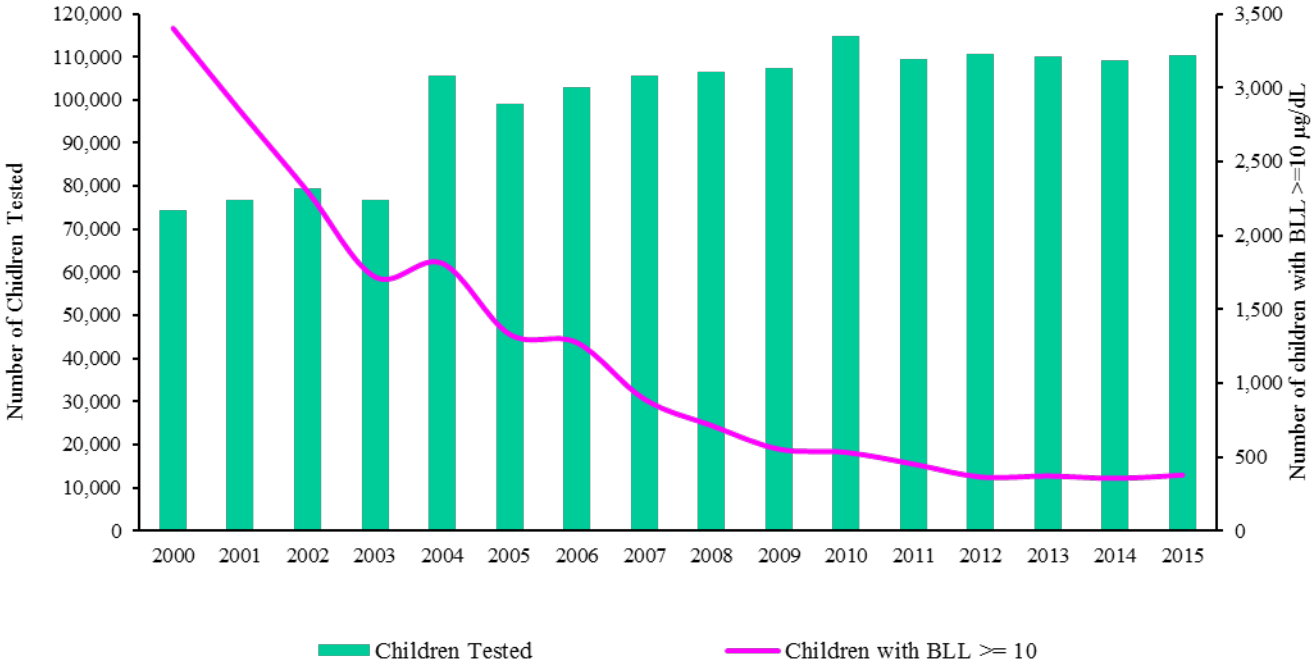


Table 3 provides county-level breakdowns for all children, including breakouts by historic data and incidence. The table shows that for CY 2015 only, approximately 20 percent of all Maryland children received a blood lead test (capillary or venous). Testing indicated that 1,789 children had a BLL ranging from 5-9µg/dL, and 377 children had a BLL greater than or equal to 10µg/dL in CY 2015.

[29] Ibid.

Table 3: Population of Children Tested in Maryland: Blood Lead Testing of Children 0-72 Months by Jurisdiction in 2015 [A, 30]

County	Population of Children [B]	Children Tested		Blood Lead Level 5-9 µg/dL						Blood Lead Level ≥ 10 µg/dL					
				Old Cases [C]		New Cases [D]		Total		Old Cases [E]		New Cases [F]		Total	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Allegany	5,096	1,285	25.2	4	0.3	19	1.5	23	1.8	1	0.1	4	0.3	5	0.4
Anne Arundel	50,640	9,308	18.4	6	0.1	46	0.5	52	0.6	1	0.0	8	0.1	9	0.1
Baltimore County	70,539	16,410	23.2	33	0.2	162	1.0	195	1.2	6	0.0	24	0.1	30	0.2
Baltimore City	59,474	17,222	29.0	280	1.6	624	3.6	904	5.2	60	0.3	144	0.8	204	1.2
Calvert	7,520	648	8.6	0	0.0	5	0.8	5	0.8	0	0.0	0	0.0	0	0.0
Caroline	3,396	685	20.2	3	0.4	9	1.3	12	1.8	0	0.0	4	0.6	4	0.6
Carroll	13,702	1,453	10.6	4	0.3	16	1.1	20	1.4	0	0.0	2	0.1	2	0.1
Cecil	9,496	1,435	15.1	5	0.3	24	1.7	29	2.0	0	0.0	2	0.1	2	0.1
Charles	13,913	2,233	16.0	0	0.0	15	0.7	15	0.7	0	0.0	3	0.1	3	0.1
Dorchester	2,937	630	21.5	5	0.8	9	1.4	14	2.2	0	0.0	1	0.2	1	0.2
Frederick	22,021	3,407	15.5	5	0.1	27	0.8	32	0.9	1	0.0	4	0.1	5	0.1
Garrett	2,339	394	16.8	0	0.0	1	0.3	1	0.3	0	0.0	0	0.0	0	0.0
Harford	22,148	3,001	13.5	3	0.1	20	0.7	23	0.8	0	0.0	4	0.1	4	0.1
Howard	25,937	2,594	10.0	3	0.1	27	1.0	30	1.2	2	0.1	2	0.1	4	0.2
Kent	1,478	252	17.1	1	0.4	6	2.4	7	2.8	1	0.4	0	0.0	1	0.4
Montgomery	93,606	19,989	21.4	13	0.1	134	0.7	147	0.7	6	0.0	26	0.1	32	0.2
Prince George's	85,265	20,809	24.4	21	0.1	149	0.7	170	0.8	15	0.1	39	0.2	54	0.3
Queen Anne's	4,063	626	15.4	1	0.2	8	1.3	9	1.4	0	0.0	0	0.0	0	0.0
Saint Mary's	11,147	1,343	12.0	1	0.1	6	0.4	7	0.5	1	0.1	1	0.1	2	0.1
Somerset	1,863	514	27.6	1	0.2	8	1.6	9	1.8	1	0.2	2	0.4	3	0.6
Talbot	2,781	632	22.7	2	0.3	3	0.5	5	0.8	0	0.0	1	0.2	1	0.2
Washington	13,323	2667	20.0	5	0.2	35	1.3	40	1.5	1	0.0	5	0.2	6	0.2
Wicomico	9,007	1945	21.6	5	0.3	29	1.5	34	1.7	1	0.1	4	0.2	5	0.3
Worcester	3,403	735	21.6	0	0.0	6	0.8	6	0.8	0	0.0	0	0.0	0	0.0
Total	535,094	110,217	20.6	401	0.4	1,388	1.3	1,789	1.6	97	0.1	280	0.3	377	0.3

A. The table is based on the selection of the highest blood lead test for each child in calendar year 2014 in the order of venous, unknown, or capillary.
B. Adapted from Maryland census population 2010 provided by the Maryland Data Center, Maryland Department of Planning, www.planning.maryland.gov/msdc
C. Children with the blood lead level of 5-9 µg/dL in 2014 and with a history of blood lead level greater than or equal to 5 µg/dL in the past.
D. Children with the very first blood lead level of 5-9 µg/dL in 2014. These children were either not tested in the past or all their tests had blood lead levels <5 µg/dL.
E. Children with a history of blood lead level greater than or equal to10 µg/dL. These children may have carried from 2013 or had a blood lead test with blood lead levels greater than or equal to10 µg/dL in the previous years.
F. Children with the very first blood lead level greater than or equal to10 µg/dL. These children may not have been tested in the past or all their blood lead tests had blood lead levels <10 µg/dL. This criterion may not match the criteria for the initiation of case management.

[30] Ibid.

III. A Look Back and Current Landscape—Changes in Maryland's Lead Regulations

Maryland has had success reducing the number of children with lead exposure. In many ways, Maryland is a national leader in ensuring that state regulations stay up to date with recommendations for reducing lead poisoning.

Historically, Maryland pioneered regulations to limit use of lead-based paint. In 1949, Maryland's House of Delegates passed a bill that banned the use of lead-based paint on toys and furniture; however, this was repealed the following year.[31] Beginning in the 1950s, the Baltimore City Health Department required lead-based paint for consumers to carry a warning label.[32] Baltimore City banned the use of lead-based paint in 1950, and Maryland followed suit in 1977. However, many Maryland homes already used the paint, and means to remove it safely were limited. In particular, Baltimore's economic decline in the 1970s meant that few people could afford abatement in homes.[33] On January 1, 2015, an expansion of a law that had previously only regulated owners of rental properties built prior to 1950 was implemented, to include all rental properties built prior to 1978. This increased the regulated community to include an additional 250,000 rental properties built between 1950 and 1978. Today, the 2015 Targeting Plan's call to action, "Lead Has No Boundaries," reflects the State's renewed commitment to reducing and ultimately eliminating lead exposure, particularly in children.

Table 4: Timeline of Maryland's Lead Regulations: Brief Overview

Year	Action
1950	Baltimore City banned the use of lead-based paint.
1977	Maryland banned the use of lead-based paint.
1997	Maryland General Assembly passes emergency bill directing DHMH to establish the Childhood Lead Screening Program.
2000	First State Targeting Plan developed identifies specific geographic areas in Maryland that were "at-risk" for childhood lead poisoning. "At-Risk" is identified by specific ZIP codes.[34]
2000	Baltimore City enacts an ordinance requiring universal testing of minor children and requires reporting to the childhood lead registry.

[31] David Rosner and Gerald Markowitz, "Why it Took Decades of Blaming Parents Before We Banned Lead Paint" Web http://www.theatlantic.com/health/archive/2013/04/why-it-took-decades-of-blaming-parents-before-we-banned-lead-paint/275169/.
[32] Lead Report CLR 2015, MDE Web. http://www.mde.state.md.us/programs/Land/Documents/LeadReports/LeadReportsAnnualChildhoodLeadRegistry/LeadReportCLR2015.pdf .
[33] Barry-Jester, Anna Marie. "Baltimore's Toxic Legacy of Lead Paint" 7 May 2015. Web. http://fivethirtyeight.com/features/baltimores-toxic-legacy-of-lead-paint/ .
[34] "Maryland Targeting Plan for Areas At Risk for Childhood Lead Poisoning" October 15, 2015. DHMH. Web. http://phpa.dhmh.maryland.gov/IDEHASharedDocuments/MD%202015%20Lead%20Targeting%20Plan.pdf .

Year	Action
2003	Maryland General Assembly requires parents to provide proof of lead testing within 30 days of school enrollment for pre-kindergarten, kindergarten, or first grade.
2004	Maryland revises and amends the 2000 State Targeting Plan and issues the 2004 Targeting Plan, which adds 78 additional "at risk" ZIP codes. (Appendix A).
2008	Regulations requiring childcare facilities to be a lead-safe environment went into effect.
2012	MDE endorses the CDC's recommendation to remove the level of concern language from 10μg/dL and replace it with "reference level" 5μg/dL and recommends clinicians follow the new CDC guidance. Maryland General Assembly passes a bill expanding the universe of rental properties monitored for lead to include properties built before 1978. The amended law, which previously required monitoring of properties built before 1950, took effect on January 1, 2015. Maryland's Reduction of Lead Risk in Housing law requires owners of rental properties built before 1978 to register their units with MDE, distribute specific educational materials, and meet specific lead paint risk reduction standards at certain triggering events.
2014	MDE begins accepting registration applications for rental properties built before 1978.
2015	MDE revises and updates the 2004 Targeting Plan and issues the 2015 Targeting Plan, which formally adopts the 2012 CDC recommendation, stating that there is no safe level of lead exposure and requiring universal statewide testing for a three-year period for all children under six at 12 and 24 months.[35]
2016	DHMH announces the "Lead-Free Maryland Kids" campaign and issues new guidance for healthcare providers about who needs to be tested. Additionally, the entire state is considered at-risk—testing requirements are no longer bound to specific geographic locations—a provision in the 2015 Targeting Plan.

The Maryland General Assembly enacted House Bill (HB) 1138 in 1997, directing DHMH to establish a Childhood Lead Screening Program with a goal to increase awareness of lead poisoning and to ensure testing of children under age six in areas identified as "at risk" statewide.

In 2000, DHMH collaborated with various organizations and the University of Maryland to develop the first State Targeting Plan ("2000 State Targeting Plan"), identifying geographic areas in Maryland that were at increased risk for childhood lead poisoning (Appendix A). DHMH used several variables to determine "at risk" ZIP codes across the State, including:

(1) The percentage of pre-1950 housing;
(2) Median housing value;
(3) Poverty index; and
(4) The percentage of homes built between 1950 and 1979.

[35] Ibid.

The 2000 Targeting Plan resulted in legislation requiring testing of children at 12 and 24 months of age residing in these "at risk" areas of the state.[36] The regulation also required all children to receive a lead exposure risk assessment questionnaire at their 12- and 24-month doctors' visits, regardless of their place of residence. Additionally, all children receiving Medicaid services, regardless of their place of residence, were designated as "at risk," thus requiring testing. At the same time, Baltimore City passed City Ordinance No. 20, Lead Poisoning Screening in Baltimore City. This ordinance requires universal testing of minor children living in Baltimore City and requires reporting to the CLR.[37] While the ordinance lists measures for enforcement of the screening's implementation, such as civil penalties for parents and guardians, it is unclear if any such measures have ever been applied.[38]

In 2003, the Maryland General Assembly passed a law that required the parent of a child that either previously or currently resided in an "at risk" area to provide documentation of lead testing within 30 days of first enrollment into pre-kindergarten, kindergarten, or first grade with Form 4620.[39]

In early 2004, DHMH reevaluated the 2000 Targeting Plan and its model requirements. DHMH issued the amended 2004 Targeting Plan. The new plan identified an additional 78 "at risk" ZIP codes.[40] The plan also prioritized outreach and education efforts to increase childhood lead testing among Medicaid recipients and in areas at greatest risk, including Baltimore City.

Since 2008, regulations have required child care providers to create a lead-safe environment. Childcare providers in both facilities and residential properties must submit a copy of a lead risk reduction or lead-free certificate if a home was built before 1950.[41] For homes built before 1978 that are not lead-free, the provider must ensure that the child care area is free of chipping or flaking paint.[42] The Maryland State Department of Education's Office of Childcare in the Early Childhood Development maintains a list of lead safety violations at childcare facilities and homes. Violations are available for view on a public website. From January 1, 2010 through September 26, 2016, there were 137 violations on open child care venues and 63 violations on closed child care venues.[43] Most violations were for inspector-observed chipping, peeling, or flaking paint in child care areas.

Before 2012, according to the CDC's definitions, children were identified as having a blood lead "level of concern" if the test result was 10µg/dL or higher.[44] As of 2012, the CDC adopted the Advisory Committee on Childhood Lead Poisoning Prevention's recommendation and no longer uses the term "level of concern." Instead, CDC indicates a reference value to identify children

[36] Maryland Code Annotated Health-General Article § 18-106, Maryland 2015 Lead Targeting Plan, page 5.
[37] Baltimore City Ordinance, No. 20, Subtitle 6 Lead Poisoning Part I. Screening Required; Section 4-601. Parental responsibility
[38] Section 4-604(b), citation under the Environmental Control Board of the City Code for parents/guardians. Section 4-604(c), lists enforcement for providers, which lists a civil penalty of not more than $100.00.
[39] Maryland Code Annotated, Family Law Article § 5-556.1.
[40] See Appendix A.
[41] COMAR 13A.15.05.02.
[42] Ibid.
[43] Maryland State Department of Education. "Lead Safety Violation Report." 26 September 2016. Web. http://www.checkccmd.org/PublicReports/LeadSafetyViolationReport.aspx.
[44] "What do Parents Need to Know to Protect Their Children? Web. https://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm.

who have been exposed to lead and who require case management. Thus, CDC's new definition is "reference level" (5µg/dL) to reflect that there is no safe level of lead exposure. DHMH endorsed this recommendation and issued a letter to clinicians on June 7, 2012, recommending that clinicians follow the new CDC guidelines and re-test children with BLLs of 5- 9µg/dL within three months. DHMH also committed to following up on these guidelines with further guidance in the future.

In 2012, the Maryland General Assembly passed a bill expanding the universe of rental properties monitored for lead to include rental properties built before 1978. The change was effective on January 1, 2015. Owners must register their units with MDE, distribute specific educational materials, and meet specific lead paint risk reduction standards at certain triggering events. Property owners of the rental units are also urged to contact an accredited Lead Paint Inspection Contractor who has been approved by MDE to conduct lead paint surveys. An accredited Lead Paint Inspector Technician or Risk Assessor who is employed by that contractor will perform a detailed survey of all painted surfaces to determine that there is no lead paint. There are three types of inspections for rental housing: Lead-Free Certification, Full Risk Reduction Certification, and Modified Risk Reduction Certification.[45] The number of properties affected by the change in the law (rental properties built from 1950 up to 1978) is estimated at more than 250,000. Registration costs $30 per year per rental unit.

Failure to register, certify or follow approved lead-safe work practices may subject property owners to thousands of dollars in fines and potential lawsuits.[46] In January 2016, MDE reported that they were investigating the validity of lead-free certifications issued by one inspector affiliated with American Homeowner Services. According to MDE, the investigation was launched after officials determined that seven properties certified as lead-free actually had lead paint or were not properly tested.[47] MDE sent letters to residents and owners of the 384 properties certified as lead-free from 2010 to 2014, when the unnamed inspector's accreditation expired.[48] The investigation is ongoing.

In October 2015, DHMH issued the 2015 Targeting Plan, which formally adopted the CDC's 2012 recommendation and provided additional guidance on testing requirements. Following adoption of the revised 2015 Targeting Plan, DHMH also revised its lead poisoning screening regulations in March 2016, contained in Code of Maryland Regulations (COMAR) 10.11.04. Under the revised regulations, children in Maryland born on or after January 1, 2015 should be tested for lead exposure at 12 and 24 months of age, regardless of where they reside. Children born before that date are tested under the previous rules, which require testing for children enrolled in Medicaid, children in ZIP codes listed in the 2004 Targeting Plan, and children with any risk factors for lead exposure.

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[45] MDE, "Inspection For Rental Housing" Web. http://www.mde.state.md.us/programs/Land/LeadPoisoningPrevention/RentalPropertyOwners/Pages/Programs/LandPrograms/LeadCoordination/rentalowners/rentalowners_inspections.aspx.

[46] MDE's opens registration for rental properties built before 1978. Web. http://news.maryland.gov/mde/2014/07/01/maryland-lead-program-opens-registration-for-rental-properties-built-before-1978/.

[47] Broadwater, Luke, "Maryland launches investigation into 'invalid' lead-paint certificates." January 28, 2016. The Baltimore Sun. Web. http://www.baltimoresun.com/news/maryland/bs-md-lead-investigation-20160128-story.html .

[48] Ibid.

The key recommendations in the revised Targeting Plan and COMAR 10.11.04 are:

1. Testing of all Maryland children ages 12 and 24 months: For a period of three years, all Maryland children born on or after January 1, 2015 should be tested for lead exposure at 12 and 24 months of age, based on a determination by DHMH that all ZIP codes and census tracts in the State should be considered "at risk" (Maryland Code Annotated, Health-General Article, § 18-106, and COMAR 10.11.04).

2. Re-evaluation of recommendations based on surveillance findings: At the end of three years, DHMH will re-evaluate these recommendations, based on the analysis of blood lead testing data developed over the three year period.

3. Clinical management: Like children with higher BLLs, children with BLLs of 5 to 9µg/dL should have a confirmatory test, an assessment of possible sources of lead exposure, an assessment of other vulnerable individuals in the home, and a repeat blood test until it is clear that they do not have ongoing lead exposure.

While the 2015 Targeting Plan changes who must get tested in 2016, it does not change:

1. Testing requirements for children born before January 1, 2015 as providers continue to follow the 2004 Targeting Plan, which listed specific ZIP codes in Maryland; or

2. Testing requirements for children with Medicaid EPSDT benefits who are already required to have testing at 12 and 24 months.

Since April 13, 2015, new regulations make it easier to do POC testing for Clinical Laboratory Improvement Amendments (CLIA)-waived tests.[49] This regulation also addresses issues of training, reimbursement, proficiency testing, and reporting with POC tests. Parents are required to document lead tests for childcare and school entry using Form 4620 if they ever lived in an "at risk" area, unless schools can access the lead test information electronically. Schools request these records for new enrollees.

In 2016, DHMH introduced the "Lead-Free Maryland Kids" campaign as part of the revised targeting plan titled "Lead-Free Maryland Kids: Lead Has No Boundaries." Maryland issued new guidance and promulgated regulations for health care providers regarding who needs to be tested and what follow-up actions are needed based on the test result. Currently, all areas in Maryland are considered "at risk." This means that all children born on or after January 1, 2015, must be tested for lead exposure at 12 months and 24 months. Under the new regulation, COMAR 10.11.04.B(8), a high blood test result is defined as a BLL of 5µg/dL or greater for a blood test performed after March 28, 2016. Children born before January 1, 2015 will not be affected and will still use the regulations in the 2004 Targeting Plan.

In July 2016, the U.S. Geological Survey reviewed national corrosiveness of groundwater and found that untreated groundwater in several states, including Maryland, carries a "very high" risk of being so corrosive as to contaminate drinking water by leaching lead from pipes.

[49] COMAR 10.10.03.02.

Approximately one million people in Maryland use wells as primary water sources; regions particularly at risk are homes on the Eastern Shore and parts of the western shore along the Chesapeake Bay. Unlike public sources of water, private wells are not subject to federal regulations for periodic testing, and Maryland regulations currently do not require regular testing.[50]

IV. Medicaid-Led Initiatives

Medicaid's efforts to ensure children living in Maryland receive lead tests and timely, quality care are ongoing. Medicaid employs a diverse set of strategies in pursuit of this objective and the State's goal to make Maryland lead-free. In addition to EPSDT benefits and lead investigation and testing, in 1999, as part of the larger strategy to combat elevated lead levels, Medicaid developed a VBP program for HealthChoice. These initiatives and others are discussed in further detail below.

Medicaid Reimbursement for Environmental Lead Investigation

In 2009, Maryland obtained a SPA to permit Medicaid to reimburse for environmental lead investigation activities performed by MDE-accredited vendors as part of the EPSDT benefit for child beneficiaries. The SPA allowed for one on-site lead inspection per primary dwelling for enrollees under age 21 with a BLL greater than or equal to 10µg/dL, billable by LHDs.[51] To date, the SPA has seen limited use, indicating a need to increase awareness among PCPs and MCOs to ensure it is utilized to its full extent. The SPA will be updated in 2016 to align the BLL thresholds with current CDC guidelines, to 5µg/dL.

EPSDT

The EPSDT Program promotes access to and ensures availability of quality health care for children, teens, and young adults under age 21. In Maryland, the preventive care component of the EPSDT Program is known as the Healthy Kids Program. Preventive health care services allow for early identification and treatment of health problems before they become medically complex and costly to treat. A required EPSDT component is to complete a lead risk assessment at every preventive visit from six months to six years of age.

Each year, Medicaid conducts an EPSDT review to examine whether HealthChoice recipients receive required services in a timely manner. Specifically, the review assesses HealthChoice provider compliance with five EPSDT components: Health and Developmental History, Comprehensive Physical Examination, Laboratory Tests/At-Risk Screenings, Immunizations, and Health Education/Anticipatory Guidance. As part of the Laboratory Tests/At-Risk Screenings component, the review checks whether providers have conducted a lead risk assessment for every preventive care visit from six months to six years of age, whether providers

[50] Dance, Scott. "Untreated Maryland groundwater carries 'very high' risk of lead contamination, USGS finds." July 13, 2016. The Baltimore Sun. Web. http://www.baltimoresun.com/features/green/blog/bs-md-corrosive-water-20160713-story.html.
[51] State Plan for Medical Assistance Under Title XIX of the Social Security Act TN NO 09-05. July 1 2009. Available at https://www.medicaid.gov/State-resource-center/Medicaid-State-Plan-Amendments/Downloads/MD/MD-09-05-Att.pdf.

documented their referrals to laboratories for children to receive lead screening, and whether providers documented timely lead screening results for children in their care.

Table 5: HealthChoice MCO Aggregate Composite Scores for the Laboratory Tests/At-Risk Screenings Component of the EPSDT Review, CY 2010-CY 2014

EPSDT Component	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014
Laboratory Tests/At-Risk Screenings	82%	79%	80%	77%	76%

As demonstrated in Table 5, the current aggregate composite score for Laboratory Tests/At-Risk Screenings has declined from CY 2010 to CY 2014 but remained above the minimum compliance score of 75 percent. In response to these declines, beginning in CY 2015, the EPSDT review minimum compliance score changed to 80 percent. Medicaid has also recommended that the MCOs focus their provider education efforts on improving how providers conduct and document procedures, including lead screenings. MCOs are also encouraged to utilize the Healthy Kids Program nurse consultants to assist in re-educating providers and support staff on current standards of preventive health care.

HealthChoice VBP Program

The VBP program is the quality incentive component of Medicaid's managed care program. The VBP Program currently includes 13 measures—three encounter-based measures and 10 Healthcare Effectiveness Data and Information Set (HEDIS) measures.[52] MCOs that perform well on the VBP measures are eligible for an incentive payment, while those who perform poorly are required to pay a penalty. Medicaid provides MCOs with quarterly reports of the CLR to help MCOs conduct outreach to improve the VBP score for lead testing.

One of the encounter-based measures is lead testing. The lead testing VBP measure calculates the percentage of children aged 12 through 23 months who received a lead test during the CY o*r the year prior to the CY*. By focusing on children under two years old, the measure is designed to align with the EPSDT requirement to perform an initial lead test at 12 months and to incentivize lead testing of children at an age when they are most vulnerable to the negative impacts of lead exposure and preventive measures can have the greatest impact.

Table 6 presents the CY 2015 final lead VBP results by MCO and includes the number and percentage of children aged 12 through 23 months who received a blood lead test during CY 2015 or CY 2014. These results reflect the claims and encounters reported to the MMIS2 as of June 24, 2016. Of the eight HealthChoice MCOs, Jai had the highest score (74 percent), and Riverside had the lowest score (44 percent). Table 7 presents the final results from CY 2011 through CY 2015.

[52] COMAR 10.09.62-10.09.75 and 10.09.86.

In early CY 2013, one MCO, Coventry (also known as Diamond Plan), withdrew while a new MCO, Riverside Health of Maryland, joined the program. In CY 2014, Kaiser Permanente of the Mid-Atlantic States joined the HealthChoice program. Due to limited time to get new enrollees into care and challenges with initial data submissions to the Medicaid Management Information System (MMIS2), these new MCOs have reported lower scores on certain VBP and other performance measures collected by Medicaid, including lead testing.

Table 6: Lead VBP: Percentage of HealthChoice Children Aged 12-23 Months Receiving a Blood Lead Test, CY 2015 (Enrolled 90+ Days), Two-Year Look Back[53]

MCO	Numerator: Number of Children 12-23 Months with Lead Test	Denominator: Number of Children 12-23 Months	Percentage of Children 12-23 Months with Lead Test
Amerigroup	6,744	10,505	64%
JAI Medical Systems	269	363	74%
Kaiser*	375	741	51%
Maryland Physicians Care	3,452	6,033	57%
MedStar Family Choice	1,232	2,054	60%
Priority Partners	5,949	9,283	64%
Riverside*	433	983	44%
UnitedHealthcare	3,853	6,800	57%
Total	22,307	36,762	61%

**Riverside was added as a HealthChoice MCO in February 2013, and Kaiser was added in June 2014.*

Table 7: Lead VBP: Percentage of HealthChoice Children Aged 12-23 Months Receiving a Blood Lead Test, CY 2011 to CY 2015 (Enrolled 90+ Days), Two-Year Look Back[54]

MCO	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Amerigroup	60%	61%	63%	63%	64%
Coventry*	54%	52%	-	-	-
JAI Medical Systems	75%	75%	79%	78%	74%
Kaiser*	-	-	-	56%	51%
Maryland Physicians Care	56%	56%	58%	59%	57%
MedStar Family Choice	64%	62%	63%	58%	60%
Priority Partners	56%	59%	57%	62%	64%

[53] Hilltop Institute, 2015 Final VBP Chart.
[54] Ibid.

MCO	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Riverside*	-	-	-	43%	44%
UnitedHealthcare	54%	51%	53%	55%	57%
Total	57%	58%	59%	60%	61%

**Coventry was removed as a HealthChoice MCO in October 2013. Riverside was added as a HealthChoice MCO in February 2013, and Kaiser was added in June 2014.*

Data from Table 7 indicates that there is a leveling off of VBP results in each MCO, with the total percentage receiving a lead test growing by approximately one percent annually. As previously highlighted in Table 5, the aggregate composite score for Laboratory Test/At-Risk Screenings has declined from CY 2010 to CY 2014. To encourage improved performance, the EPSDT review minimum compliance score will change to 80 percent. Other options for improvement include implementing a PIP to support compliance with existing requirements to test BLL of all children enrolled in Medicaid, and the recent changes in regulation to test all Maryland children born after January 1, 2015.

The Healthcare Effectiveness Data and Information Set (HEDIS®) also includes a lead measure, Lead Screening in Children (LSC). Beginning with HEDIS 2015 (CY 2014 data), Medicaid required HealthChoice MCOs to report all HEDIS measures applicable to a Medicaid line of business, except where the measure is exempted by Medicaid or carved out for services rendered to HealthChoice enrollees. The HEDIS measure assesses the percentage of children two years of age who had any blood test for lead poisoning by their second birthday. Table 8 shows the HEDIS 2015 scores of each MCO—the first year the HEDIS score was reported in Maryland—and HEDIS 2016. Because of NCQA restrictions, national HEDIS means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS mean, while a "-" sign indicates that Maryland's rate is below the national mean.

Table 8: HealthChoice Organizations HEDIS 2015 and 2016 Results: Lead Screening in Children compared with National HEDIS Mean (NHM)

MCO	2015	2015 NHM	2016	2016 NHM
Amerigroup	77.1%	+	79.4%	+
JAI Medical Systems	87.2%	+	92.1%	+
Kaiser	N/A*	N/A	64.5%	-
Maryland Physicians Care	70.0%	+	73.8%	+
MedStar Family Choice	88.6%	+	82.6%	+
Priority Partners	71.9%	+	75.7%	+
Riverside	53.1%	-	67.7%	+
United Healthcare	68.6%	+	74.9%	+
Maryland Average Reportable	73.8%	+	76.3%	+

MCO	2015	2015 NHM	2016	2016 NHM
Rate				
+: Equal to or Above NHM -: Below NHM * Not Applicable due to an insufficient eligible population (e.g. less than 30 members)				

Historically, some MCOs have requested Medicaid to adopt the HEDIS lead screening measure in place of the VBP encounter-based measure. Specifically, MCOs are concerned with the VBP earlier testing requirement (12 months as compared to 24 months) and believe that the encounter-based measure may miss tests for children who are referred to an off-site collection lab because the VBP denominator includes children who turned one year old at the very end of a calendar year. This, MCOs argue, may create an incomplete picture of their testing successes.

There are several reasons to continue using the encounter-based measure. The HEDIS measure targets whether children have received any lead test by 24 months. However, the VBP measure is tailored to the Maryland Medicaid program. Specifically, the VBP measure aligns with the EPSDT requirement to perform an initial lead test at 12 months and targets early intervention. Additionally, under the new revised regulations, all children in Maryland, not just those enrolled in Medicaid, born on or after January 1, 2015 must be tested for lead exposure at 12 and 24 months of age, regardless of where they reside. Given these considerations, Medicaid has elected to continue to use the encounter-based measurement that focuses on the earlier testing requirement at 12 months.

MCO Activities for Lead Testing

HealthChoice MCOs play an active role in identifying children with elevated BLL, including provider support, testing services, and care coordination. In August 2016, Medicaid distributed a brief survey to the MCOs asking them to provide an overview of the activities they engage in pertaining to lead screening. Specifically, Medicaid asked for details on how MCOs ensure members receive BLL screening to comply with existing regulations; the workflow in the event a child returns an elevated BLL test; and additional information or suggestions for consideration. (See Appendix B for details of MCO responses).

Survey responses highlighted the prevalence of direct communication, the referral process, and the various incentives used to encourage members to complete screening. Most MCOs conduct outreach by mail to children who have not received a lead test by the required date, and six MCOs send a healthcare professional to a noncompliant members' home for testing. Some MCOs send results to a child's PCP, but often the PCP, parent or guardian is responsible for follow-up with a specialist or LHD resources. Active follow-up presents a challenge in ensuring continuity of care, resulting in children being lost to follow-up.

Some MCOs offer incentives to complete testing. Available incentives for participants include gift cards (Maryland Physicians Care, MedStar Family Choice) and diapers (Priority Partners). Other MCOs offer providers financial incentives to encourage testing (Priority Partners, Riverside Health). However, MCOs report that the successes of incentive initiatives are mixed. For example, United Healthcare offered a member incentive of $50 for testing, but the program was discontinued due to ineffectiveness in 2015. Jai Medical offers occasional incentives.

MCOs also offered suggestions on ways to improve the current lead screening and reporting process. Opportunities identified included expansion of the age at which testing can occur and adoption of HEDIS Lead Screening in Children (LSC) measure in lieu of Medicaid's encounter-based lead measure in the VBP program. Medicaid disagrees with the recommendation to adopt the HEDIS measure for VBP purposes for the reasons outlined above.

There are additional opportunities for the MCOs to partner with Medicaid to ensure existing resources are maximized. MCOs, in partnership with PCPs, can take the lead in identifying childhood lead exposure by increasing rates of testing and deliberately integrating existing resources, such as lead abatement, into care. Other relationships, such as coordination with LHDs, can be effectively leveraged to further decrease the number of children with elevated BLL and mitigate further harm to those already exposed.

Review of Process

Testing and treating BLL relies on several parties working in concert, including MCOs, LHDs, and homeowners. Figure 2, displayed previously in this report, outlines this process and the continuum of care from testing to full lead abatement, along with the role of MDE at all phases of care.

When a test is conducted, PCPs send the test samples to labs, at which point the labs play a significant role in communicating the results. Labs send results back to the PCPs as well as to MDE. The testing laboratory is required to send specific information to MDE that it collects from the collection facility (demographic information, etc.); if that information is not present, the lab must request it. If a capillary test returns an elevated BLL, a confirmatory venous test is performed. If the (initial or confirmatory) venous test returns an elevated BLL, MDE triggers certain investigation and action items.

If a child is under six years old and has a venous BLL of greater than 10µg/dL, MDE sends child's information to the LHD for follow-up, which can include case management services and home environmental lead testing. If two capillary tests reflect a BLL of greater than 10µg/dL, and the child is living in a rental property built before 1978, MDE notifies the property owner of their requirement to take action to reduce lead in the property. In both cases, the child's LHD is notified to follow up with family and begin connecting them to services.

MDE includes children with elevated BLL in the CLR and sends all test results to Medicaid. Medicaid receives limited information from lab testing results, and the information is often incomplete or does not include payer data, resulting in difficulty matching children enrolled in Medicaid from the general population. Medicaid sends data on children who have not had a lead test to MCOs to ensure follow-up.

The process of investigating lead presence in a home involves MDE, LHDs, and sometimes nonprofit organizations. Environmental lead investigation is the first step in the abatement process and relies on property owners for follow-up. After an investigation, the results are sent to the paying party. If the property is a rental property, landlords are subject to certain legal obligations to mitigate lead hazards and can be held legally liable if they fail to comply.

The last step in the continuum extends to nonprofit organizations, LHDs, and the legal system. Nonprofit organizations often fill the gap between investigation and actual abatement or RRP work by connecting people to grants and loans. However, the abatement process, which removes all lead hazards from a home, is expensive and time-consuming. Many families, especially in rental properties, may benefit from abatement for short period of time. There is no guarantee that abatement in one property will decrease a child's BLL in the long term; the child could still be exposed to lead in a future home or through another vector.

Limitations of Current Lead Registry Data

The MDE Statewide CLR performs childhood blood lead surveillance for Maryland. The CLR receives the reports of all blood lead tests performed on Maryland children aged zero to 18 years from testing laboratories. Since 1995, MDE has released a comprehensive annual report on statewide childhood blood lead testing along with five supplementary data tables, which include detailed breakdowns of blood lead data by age, jurisdiction, BLL, incident and prevalent cases, and the trends of BLL over the years. The CLR provides blood lead test results to DHMH, including Medicaid, LHDs as needed for case management, and, upon request, to third parties for research and planning. Medicaid uses the CLR data to analyze how many of the individuals are enrolled in Medicaid programs.

While the CLR's annual reports are vital to understanding the progress Maryland has made, there are challenges with the data from the CLR. The CLR often contains differences in the spelling and formatting of names and incorrect dates of birth; it also lacks individual identifiers that can be linked with Medicaid data (for example, Medicaid recipient ID or Social Security Numbers), making direct and accurate matches more difficult. Additionally, the CLR does not contain a payer field, so it is difficult to distinguish when Medicaid is the payer. Additionally, there currently is no way to determine whether a test was initial or confirmatory. Viewing chronological tests for a single child may suggest a secondary screening but may also simply reflect multiple primary screenings with a different provider or in a different location.

For the CLR to be more usable and effective for Medicaid, its fields should be reevaluated. The usability of the available data could enhance the CLR, thus making the data more accurate and useful. Fields such as identification by Medicaid recipient ID, Social Security Number, and payer would be valuable enhancements.

V. DHMH and Other State Initiatives

The Environmental Health Bureau (EHB)

The Prevention and Health Promotion Administration's EHB is responsible for coordinating DHMH's activities related to lead poisoning screening. EHB works closely with Maternal and Child Health (MCH) and the Childhood Lead Poisoning Prevention Program at the MDE regarding development of policies on lead testing. EHB also coordinates with the Maryland State Department of Education's Office of Child Care and Student Health Services regarding lead level reporting to child care facilities and schools. EHB works particularly closely with the

Childhood Lead Poisoning Prevention Program at MDE on all aspects of lead poisoning prevention, including surveillance, case management, coordination with the DHCD on housing matters, and related issues. Outreach to families, communities, and healthcare organizations are done in conjunction with nonprofit organizations—such as the GHHI—through grants. These outreach efforts take the form of presentations, written materials and electronic media. Specifically, GHHI will be creating outreach videos, conduct trainings for healthcare providers and conduct community education sessions on lead poisoning during fiscal year (FY) 2017.

EHB's annual budget for all lead-related activities is $1,389,348; this has been constant for several years. Approximately 75 percent of funds are provided to LHDs, with the balance split between GHHI and EHB. The amount of funding and number of funded LHDs varies each FY. Each LHD that receives lead funding primarily uses it for case management. LHD funding for lead case management, follow-up and education is also initiated by the EHB. EHB does not monitor the specific activities of the LHDs but requires reporting of the following performance measures at the end of each FY:

1. Number of children under case management with BLLs of 10 μg/dL and above;
2. Case management/environmental investigations performed; and
3. Outreach activities to increase lead testing rates.

Winnable Battles

To keep pace with emerging public health challenges, the CDC initiated an effort called "Winnable Battles," which identifies priority strategies, defines clear targets for improvement, and fosters program collaboration. DHMH adopted CDC's Winnable Battles concept as a platform to bring together diverse programs and staff to look at new ways to impact health outcomes and operations. Winnable Battles at DHMH identifies critical health issues in our State and opportunities for business improvement initiatives within DHMH. It brings together diverse teams to explore new and innovative ways to approach these opportunities and selects specific, measurable actions to take over the course of a year. Winnable Battles projects are focused on subject areas and staff interests, not by organizational charts or funding requirements. Each project is associated with a longer-term health or operations outcome measure.

Winnable Battles has six focus areas: Customer Service, DHMH Worksite Wellness, Disease Prevention, Healthy Communities, Healthy Lifestyles and Sobriety and Recovery. Specifically, Healthy Communities addresses the built environment and communities in which Marylanders live, work and play. Healthy Communities is focused on statewide tobacco control, lead poisoning concerns, and suicide prevention with the veteran community. To address these areas of concern, Healthy Communities is harnessing the strength of DHMH's existing programs, leveraging current program resources, and elevating initiatives to build healthier communities that are smoke-free, lead free, and violence-free.

Collaboration with Other State Agencies and Community Groups

For FY 2017, as part of the State's budget bill, Governor Hogan allocated $500,000 for lead abatement. Specifically, the money is earmarked for Medicaid reimbursements for lead abatement in homes of children enrolled in Medicaid with BLLs of over 10µg/dL.[55] Medicaid is working closely with other state agencies to outline the best methods to ensure that homes of affected children can be abated. For the implementation of any program where lead abatement work is involved, DHMH considers the cost of such programs and the staff necessary to administer, oversee and complete the abatement work.

DHCD

DHCD has several programs and initiatives that address lead concerns in Maryland homes. Once statewide initiative, WholeHome, helps low-income homeowners pay for valuable improvements to their homes.[56] WholeHome is an enhanced weatherization program and assists low-income homeowners with repairs and upgrades to their homes using low-interest loans and grants. The program improves home safety, comfort, and accessibility by working to replace or repair roofs and porches, repair plumbing and septic systems, rectify structural or maintenance issues, upgrade energy-efficient appliances, repair or replace heating and cooling systems, install energy conservation materials and insulation, add accessibility features such as hand railings, ramps, grab bars and wider doorways, remove lead paint hazards, seal air and correct building code violations.[57]

Additionally, DHCD has a Customer Investment Fund (CIF) for multi-family housing units that focuses on energy conservation retrofit work in eligible properties in the Baltimore Gas & Electric (BGE) service territories.[58] As part of the energy efficiency work in a home, DHCD is committed to addressing other environmental hazards, such as lead remediation, when weatherizing a home.

DHMH is currently exploring a possible collaboration with DHCD to focus on lead abatement work in the state of Maryland.

Green and Healthy Homes Initiative (GHHI)

Nonprofit organizations play an active role in community education and connection to state resources. The Maryland-based GHHI, the operational name of the 501(c)(3) nonprofit The Coalition to End Childhood Lead Poisoning, offers several resources to encourage homeowners and tenants to improve their health. Mitigating lead exposure is a major component of their work, and GHHI connects people to resources such as Maryland DHCD's Lead Hazard Reduction Grant and Loan Program; the GHHI Baltimore Grant Program; the Baltimore City DHCD Lead Hazard Reduction Program; and the Baltimore County Office of Neighborhood

[55] Senate Bill 190 (2016), paragraph (5), page 172.
[56] Department of Housing and Community Development. "Improving Your Home with Maryland WholeHome." Web. http://dhcd.maryland.gov/Residents/Pages/WholeHome.aspx.
[57] Ibid.
[58] Department of Housing and Community Development. Funding Announcement – Customer Investment Fund – Multi-Family Housing Energy Efficiency Retrofit Program: http://dhcd.maryland.gov/HousingDevelopment/Documents/Energy_Conservation_Retrofit_Grant_Funding_Announcement.pdf.

Improvement Lead Hazard Reduction Demonstration Grant Program.[59] GHHI further offers whole-house assessment for several hazards including lead poisoning and community outreach and training for prevention and legal services. GHHI will also create outreach videos, trainings for healthcare providers and community education sessions on lead poisoning through a grant from EHB during the FY 2017.

VI. Additional Funding Opportunities

CMS currently prioritizes strengthening relationships between state agencies and community-based programs that support healthy living activities, including abatement.[60] Lead abatement, the process of removing lead hazards from a home, is considered a "non-medical preventive service that addresses broader social or environmental concerns," and state Medicaid agencies must obtain a SPA to reimburse the practice. At this time, CMS has not granted a SPA funding lead abatement to any state.

However, Medicaid plans to apply for additional federal funding through CHIP administrative funds. Funds are available through September 2019 and are granted through a type of SPA called Health Services Initiative (HSI). The available administrative funds are at a federal 88 percent match, so DHMH must ensure 12 percent state funds are available to receive the federal funds. The proposed SPA would specifically target children enrolled in Medicaid.

Medicaid is working with EHB to ensure the plan for abatement work is comprehensive and with the goal of combining lead abatement with asthma prevention. Research has shown that asthma and lead poisoning often co-occur.[61,62] Among children enrolled in Medicaid, evidence suggests more than 20 percent of children have been diagnosed with asthma, and as many as 60 percent of children with asthma have blood lead levels greater than 5µg/dL.[63] There is also a growing body of work demonstrating that lead poisoning is associated with alterations in the immune system that may result in poor symptom control among children with asthma.[64] Children with severe and persistent asthma utilize emergency and inpatient services at a significantly higher rate than their peers, and there are stark disparities between white and African American children in regard to morbidity and mortality related to both asthma and lead poisoning.[65] In addition to these short-term consequences, both conditions have long-term consequences for individuals and communities, including reduced capacity to perform in school.[66]

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[59] Green and Healthy Homes Initiative. "Grants & Loans." Web. http://www.greenandhealthyhomes.org/get-help/maryland-resources/grants-and-loans.
[60] Centers for Medicare & Medicaid Services. "CMS Quality Strategy 2016" Department of Health and Human Services. 2016. Web. https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/qualityinitiativesgeninfo/downloads/cms-quality-strategy.pdf.
[61] Smith, P.P & Nriagu, J.O (2011). Lead poisoning and asthma among low-income African American children in Saginaw, Michigan. *Environmental Research, 111(*1):81-86.
[62] Joseph, C.L.M., et. al., (2005). Blood lead level and risk of asthma. *Environmental Health Perspectives, 113(*7):900-904.
[63] Rabito, F.A. et. al.,(2013). Blood lead and pediatric asthma. *Epidemiology, 24(*3):474-476.
[64] Wells, E.M, Bonfield, T.L., Dearborn, D.G., and Jackson, L.W., (2014). The relationship of blood lead with immunoglobuline E, eosinophils and asthma among children: NHANES 2005-2006.*International Journal of Hygiene and Environmental Health, 217(*2-3):169-204.
[65] Seith, D. & Kalof, C., (2011). Who are America's poor children? Examining health disparities by race and ethnicity. Report from the National Center for Children in Poverty, Mailman School of Public Health, Columbia University, NYC, NY.
[66] Diette, G.B, et.al., (2000). Nocturnal asthma in children affects school attendance, school performance, and Parent's work attendance. *Archives of Pediatric and Adolescent Medicine, 154(*9):923-928.

The SPA is currently being drafted and will be submitted to CMS for approval in the next few months. Initially, the SPA will focus on areas where infrastructure for lead abatement already exists, such as Baltimore City and other counties with effective asthma prevention work, before expanding the program statewide.

VII. Another State's Response: Michigan Medicaid

The city of Flint, Michigan came under intense scrutiny after tests revealed extreme elevated lead levels in the Flint River that directly harmed residents, particularly children. In February 2016, the Michigan Medical Services Administration (MMSA) proposed the "Flint Michigan Section 1115 Demonstration" to expand Medicaid coverage to children up to age 21 and pregnant women exposed to the Flint Water System from April 2014 until a yet-to-be-determined date.[67] Children and pregnant women up to and including 400 percent of the federal poverty level (FPL) would be automatically-eligible for full Medicaid benefits and exempt from any cost-sharing or premiums. Children up to age 21 and pregnant women over 400 percent of the FPL would be eligible to purchase unsubsidized Medicaid coverage, and enrollees in both groups have access to Targeted Case Management services (TCM). TCM services would include a yearly face-to-face assessment in the client's home to assess sources of lead exposure, up to five follow-up visits, and assistance in obtaining medical, social, and educational services. CMS approved the waiver in March 2016.

Provisions and coverage went into effect on May 9, 2016 and will be applicable through at least February 28, 2021. MMSA is pursuing an alternative option for temporary abatement funding through Title XXI of the Social Security Act. Additionally, MMSA increased the Environmental Lead Investigation reimbursement rate to a flat rate of $386.00 for up to two homes per child.[68] The rate increase will cost Michigan an additional $132,000 each year.

On October 3, 2016, CMS awarded $300,000 to the Greater Flint Health Coalition (GFHC) to increase Medicaid enrollment of children living in Flint. The GFHC received the funds as part of the national Connecting Kids to Coverage outreach program to support enrollment activities for eligible children and families. The funds will be used to support education, awareness, and assistance with the application process.

VIII. Recommendations and Next Steps

Maryland has taken several steps in recent months to increase lead testing and enhance resources available to children with elevated BLL in the Maryland. The adoption of new testing regulations and the launch of the "Lead-Free Maryland Kids" campaign represent key components of a broader statewide strategy. Several Medicaid initiatives, including the VBP program and EPSDT standards, are designed to ensure lead screening and testing occur in a timely manner. To facilitate progress, Medicaid makes the following recommendations:

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[67] Centers for Medicare & Medicaid Services. "Flint Michigan Section 1115 Demonstration" Department of Health and Human Services. 3 March 2016. Web. http://www.michigan.gov/documents/mdhhs/Flint_Waiver_approved_520989_7.pdf

[68] Michigan Department of Health and Human Services. "Environmental Lead Investigation Rate Increase." 24 May 2016. Web. http://www.michigan.gov/documents/mdhhs/EI_Rate_Increase_5-24-16_PN_525133_7.pdf

- Implementing a PIP with the HealthChoice MCOs in the coming year to ensure all children are receiving blood lead tests;
- Submitting the HSI SPA to provide CHIP funding for lead abatement in homes of Maryland children;
- Encouraging MDE-accredited vendors to enroll as Medicaid providers and bill for environmental lead investigations for Medicaid recipients;
- Improving data collection for the CLR, including collection of required information and addition of additional fields, including Medicaid ID number, payer identification, and sequential value of test (initial or confirmatory), to improve data integrity and easily track children with multiple tests;
- Enhancing communication between MCOs, PCPs, and families to ensure children are tested at required times and receive appropriate follow-up; and
- Distributing lead registry information on monthly basis, instead of the current quarterly basis, so the data can be evaluated more frequently.

Medicaid MCO Performance Improvement Project (PIP)

Medicaid plans to explore implementing a PIP with the HealthChoice MCOs in the coming year to ensure all children are receiving blood lead tests. PIPs are selected by Medicaid to significantly improve quality, access, or timeliness of service delivery by MCOs. PIPs function as a learning opportunity for MCOs, requiring them to investigate indicator development, root cause analysis, and intervention development. Since Medicaid is submitting the previously-discussed HSI SPA, the PIP to support lead testing will focus on ensuring providers and MCOs are aware that funds are available for both environmental lead investigations and lead abatement. As outlined in Tables 5, 6 and 7, lead testing under EPSDT and HealthChoice's VBP has plateaued. The PIP provides an opportunity for further improvement to increase testing results.

Pursuit of Additional Funding and Leveraging of Existing SPA

Currently, Medicaid is collaborating with other state agencies such as DHCD and to draft the HSI SPA that will utilize CHIP funds to conduct more lead abatement work in homes with children. As discussed, Maryland's 2009 SPA allows Medicaid to pay for environmental lead investigations for Medicaid recipients. Maximizing the uptake of this resource could relieve some investigation work from MDE and provide funding to LHDs when working to ensure lead sources in a home are identified. Billing in this area has been limited but presents a substantial opportunity to connect children to existing resources. Efforts to increase awareness of this resource should first focus on enrolling qualified providers and then focus on PCPs and MCOs, because they often have results of a lead test before families do.

Data Integrity Enhancements and Data Sharing

Data collected as part of BLL testing should be complete and allow for correct and timely identification of a child in need of additional resources. Currently, when a child is tested for lead, results are sent from the lab to the child's PCP, LHD, and Medicaid. Medicaid recommends that this data reporting requirements (COMAR 26.02.01.02) be updated to require additional data for identification, including paying party (name of MCO or commercial payer), Medicaid status of

the child, Medicaid recipient ID (if relevant), and Social Security Number. Presently, data are often incomplete, which creates challenges in identifying which children have received testing. Further, one child may have multiple tests, but using current data, it is not possible to determine which test is an initial test (venous or capillary) and which is the confirmatory test, as the first venous test can also be treated as a confirmatory test. When MDE receives the data from labs, it does not check for accuracy and takes the results and patient information "as is." Enforcement of current regulations that require collecting and sending identifying information would also aid in follow-up.

Enhancing Communication between Involved Parties

As discussed, there are existing processes in the continuum of care for a potentially lead-exposed child (Figure 2). The testing phase relies on MCOs, PCPs, and families to ensure a child is properly evaluated for elevated BLL at the appropriate times. The present testing process offers opportunities for improvement, including encouraging PCPs to increase testing rates in their patient population using POC capillary testing, direct communication of test results and clear follow-up instructions to families, and MCOs encouraging providers to bill under the 2009 SPA for environmental lead investigations for children enrolled in Medicaid.

Distributing Lead Registry on a Monthly Basis

Presently, EHB does not track the sequential value of lead screening tests. Based on the potential harms of lead poisoning, the MCO response, and the number of children affected, Medicaid recommends distribution of lead registry information on monthly basis, instead of the current quarterly basis, so the data can be evaluated more frequently.

IX. Conclusion

Medicaid remains committed to increasing lead testing and reducing BLL across the state of Maryland. Though the number of children with elevated BLL has declined in recent years, there is still opportunity to increase testing rates and further reduce the number of children exposed to lead in the home through abatement work. Medicaid believes these recommendations will help accelerate progress towards the goals of reducing lead exposure, increasing testing, and improving children's long-term health outcomes.

Appendix A: At-Risk ZIP Codes, 2004 Targeting Plan

Allegany ALL Anne Arundel 20711 20714 20764 20779 21060 21061 21225 21226 21402 Baltimore County 21027 21052 21071 21082 21085 21093 21111 21133 21155 21161 21204 21206 21207 21208 21209 21210 21212 21215 21219 21220 21221 21222 21224 21227 21228 21229 21234 21236 21237 21239 21244 21250 21251	Baltimore County (cont.) 21282 21286 Baltimore City ALL Calvert 20615 20714 Caroline ALL Carroll 21155 21757 21776 21787 21791 Cecil 21913 Charles 20640 20658 20662 Dorchester ALL Frederick 20842 21701 21703 21704 21716 21718 21719 21727 21757 21758 21762 21769 21776 21778 21780	Frederick (cont.) 21783 21787 21791 21798 Garrett ALL Harford 21001 21010 21034 21040 21078 21082 21085 21111 21130 21160 21161 Howard 20763 Kent 21610 21620 21645 21650 21651 21661 21667 Montgomery 20783 20787 20812 20815 20816 20818 20838 20842 20868 20877 20901 20910 20912	Montgomery (cont.) 20913 Prince George's 20703 20710 20712 20722 20731 20737 20738 20740 20741 20742 20743 20746 20748 20752 20770 20781 20782 20783 20784 20785 20787 20788 20790 20791 20792 20799 20912 20913 Queen Anne's 21607 21617 21620 21623 21628 21640 21644 21649 21651 21657 21668 21670	Somerset ALL Saint Mary's 20606 20626 20628 20674 20687 Talbot 21612 21654 21657 21665 21671 21673 21676 Washington ALL Wicomico ALL Worcester ALL

Appendix B: Copies of MCO Survey Responses

1. **How does your MCO ensure members receive lead testing in a timely fashion? For example, do you engage with a third party vendor to enhance the number of screenings performed, or does your organization provide incentives to providers or members to help encourage testing?**

Amerigroup: Amerigroup Maryland deploys plan staff to provider offices and community hubs. We send reminder communications, partner with a home-visiting provider, coordinate community events, and deploy member and provider incentive programs.

Jai Medical Systems: Jai Medical Systems has an extensive outreach and education program regarding lead testing for both providers and members. Educational letters regarding the importance of lead testing, along with articles in our Provider Newsletter, are distributed to all PCPs annually. Targeted outreach letters are sent to parents of children who are old enough, but have not yet received their lead tests. Additionally, lists of patients who have not received their lead test are provided to PCPs, so that they too are reminded to outreach to these members. Occasionally, low value incentives are offered to non-compliant members. We do not use any external vendors. Lead testing encounter data is analyzed on a monthly basis.

Kaiser Permanente: Kaiser Permanente (KP) tests Medicaid children residing in Maryland at 12- and 24- month visits or at the first visit over 12 months, if not previously done. Children are sent to Kaiser Permanente labs within our Medical Office Buildings. Lead testing is provided through point of contact testing. As an integrated healthcare system, KP carefully coordinates the work done by primary care physicians, specialists, hospitals, pharmacies, laboratories, and others. This approach improves care quality, makes care delivery more convenient for members, and increases communication among all the people providing care. Currently Kaiser Permanente does not provide incentives to complete lead testing.

Maryland Physicians Care: Maryland Physicians Care (MPC) processes to promote lead testing include: Outreach staff contacting the child's parent/guardian via phone/mail regarding the need for lead screening; $50 gift cards offered as a member incentive for completing lead screening; Provider opportunity lists posted on the MPC secure provider portal identifying members requiring lead screening; and Contracting with a Home Physicians group to outreach and provide lead testing in the member's home. MPC contracts with a vendor to locate "hard to find" members (not seen by their PCP) requiring lead screening and connect them with their PCP; as well as a vendor text messaging service to advise children under two who require lead testing.

MedStar Family Choice: MedStar Family Choice (MSFC) ensures lead testing compliance through outreach, incentives, and in-home testing availability. Members are outreached between one and two years of age to ensure that the first lead test required at age one is completed; for those members without a test, the parents receive calls, letters, and flyers encouraging compliance and providing assistance in scheduling or reaching appointments. Additionally, members who turn one during the calendar year are provided with an incentive for receiving a lead test by the end of the year, in the form of a $20 Walmart gift card. Flyers

advertising this incentive are mailed to the parents of members in the appropriate age range, along with a tear-off voucher that can be completed and sent in to receive the gift card. This voucher allows the parents to communicate where and when the service was completed, so that MSFC can confirm the member's compliance. In addition, MSFC provides in-home lead testing through a third party vendor whose staff go to the homes of members who require a lead test. These members may be unable to obtain transportation, may have scheduling conflicts, or may have had multiple failed traditional blood draws for lead at labs and therefore request an in-home finger stick. MSFC will send its representative to the home, where the test is completed and sent for result. Results from the test are provided to the member's PCP for continuity of care.
MSFC also provided copies of the policies for Immunization/Lead Outreach (415A), third party vendor conducts Home Visits (413A), and the current Lead Flyer.

Priority Partners: Priority Partner's Lead initiatives:
Provider incentive: Providers can earn up to a $20-$40 incentive pay per member contingent on the percentage rate of members site engages into care.

Member Incentive: Diapers are offered at high-volume sites for members who complete testing.

Outreach (Third Party):
Telephonic—Members receive telephonic outreach calls providing scheduling and transportation assistance for testing with PCPs.
Home Services—Members are eligible to have a provider come to their home to receive lead testing.

Health Literacy:
Member Newsletter "Your Health Matters" (mailed to all members): Provides health literacy on importance of lead testing.
Individualized member letters: Members who remain non-compliant for testing receive individualized letter providing importance of lead testing.
Individualized post cards: Members who remain non-compliant for testing receive invitational post-card offering home services as a free benefit for lead testing.

Riverside Health: Birthday cards are sent to members turning one and two years old reminding them to schedule a well-child visit with a lead blood test, immunizations, etc. Members with no evidence of lead test at 14 months old (two months past their first birthday) are referred to a vendor to offer home-based lead test specimen collection. Members who are due or overdue for 12-month lead test receive text messages on a quarterly cycle. Providers receive list of members who are non-compliant for lead screening (HEDIS Gaps in Care reports) and are encouraged to outreach to members. Providers receive gainsharing and administrative fees to encourage them to perform outreach. No specific incentives are in place at this time for lead testing. Member incentive campaigns may be offered, typically a gift card offer, for completion of lead testing. These campaigns are on an ad hoc basis, not continuous. The MCO sponsors community events where members in need can receive lead

tests at the event. Members due for lead tests receive an invite to the event by letter and phone. An incentive gift card is offered for having the specimen collected at the event.

United Health Care: United has several ways in which we drive members to receive lead testing in a timely fashion, these programs are listed below:
Third party vendor's-Automated Calls—Automated calls by a vendor to a non-compliant member's parent or guardian a few months prior to their second birthday reminding them to go for their lead screening in a timely fashion.

Third party vendor Live Calls—A vendor that makes live outreach calls and attempts to get the non-compliant member to agree to make an appointment, assists in making the appointment and follows up to assure member went to appointment for their lead screening in a timely fashion.

Onsite Live Outreach—United works with large pediatric practices and arranges for United outreach coordinators to sit in the provider's office and perform calls to their non-compliant members, attempts to get the non-compliant member to agree to make an appointment and assists in making the appointment for their lead screening in a timely fashion.

Third Party Vendor Home Visit—A vendor that sends nurse practitioners and phlebotomists to members' homes to perform the lead screening.

United had a $50 member incentive provided to those members that received a lead screening prior to their second birthday for several years. In 2014 a statistical analysis was completed looking at the HEDIS Lead screening rates in 2011, 2012, and 2013 and the effect that the incentive had on this population. The analysis resulted in evidence that year over year rates had trended two to three percentage points lower deeming the current model of the incentive program ineffective. Suggestions were made to sunset the program as designed, and the program was discontinued in 2015.

2) Please describe the workflow for lead testing at your organization. We are interested in better understanding what happens when a child receives an elevated blood lead level result, the information your MCO receives from the lab and/or provider, and the types of referrals that are triggered. Please also describe any activities that your MCO engages in following an elevated blood lead level result. For example, does your MCO engage in enhanced care coordination activities, educational follow-up, environmental interventions, or other activities?

Amerigroup: Amerigroup Maryland Inc. staff works closely with parent or guardian and the child's physician to connect the member to specialty provider and resources. We provide enhanced case management, various clinical, environmental, and health promotion, educational support and resources.

Jai Medical Systems: As an MCO, we have engaged our PCPs to be the primary caregiver to our members, including those with high lead levels. PCPs are responsible for referring patients when necessary and for ensuring environmental assessments are performed for children with elevated lead levels. The PCPs are also engaged to educate their patients and ensure that families have access to appropriate community lead poisoning treatment and

abatement resources. Jai Medical Systems also utilizes all available data resources in order to identify members with high lead levels. This includes use of Maryland Medicaid reports regarding lead testing of our members.

Kaiser Permanente: Within our electronic medical record, KP-Health Connect, children who meet the aforementioned criteria are flagged to have lead testing completed. Our physicians can also refer children on an ad hoc basis if they are identified as high-risk for having elevated lead exposure. Parents of children with blood lead levels between five and nine micrograms receive an educational packet regarding lead exposure from the local health department. These children are then scheduled for follow-up testing every three months until the blood lead level decreases below five micrograms. If we encounter a child with a blood lead level of 10 micrograms or above, they are automatically referred to the local health department.

Maryland Physicians Care: A member's guardian is contacted to instruct the guardian in follow up care of elevated lead levels. Contact information is provided to the guardian for state and local resources for lead poisoning such as the local health department or the Lead Coalition. If the CM staff member is unable to locate the member or guardian via outreach call or letter a referral is made to the local health department.

MedStar Family Choice: The Quality Improvement Department receives reports on a quarterly basis of elevated blood lead levels from the State of Maryland. Quality Improvement reviews the report and sends a letter to each provider with members listed, notifying them that their member(s) had a elevated blood lead result. The letter requests the provider contact MSFC with any questions or concerns.
MSFC provided a copy of the base letter.

Priority Partners:
*Normal Lead testing result*s: No further action; PCP to follow-up at 24 months of age.
Elevated lead testing:
Lab provides results to PCP for follow-up testing.
Third Party Vendor home visit—Results are received in five to seven business days. If the results are greater than five, the Home Care Physician will contact the PCP via phone for a Physician to Physician report. All results are faxed to the PCP within two weeks of the date of home visit.
A home visiting provider provides a referral.
The MCO provides member referral for additional support to Special Needs Coordinator and Care Management. MCO outreach is completed to alert the parent or caregiver and encourage the member to follow-up with PCP.

Riverside Health: Lead test results are sent directly to the Primary Care Provider, even if the specimen was collected in the member's home by an MCO contracted vendor. The oversight medical provider with the vendor is also notified of abnormal lead. The protocol is to fax and call the PCP to arrange follow-up. Upon receipt of an abnormal finding, the vendor also must notify the MCO. Upon receipt of an abnormal lead test result via notification from the home

provider vendor or the quarterly lead file received from DHMH (from MDE data), the MCO will enter a referral to case management for evaluation and appropriate follow-up.

Case Management Intervention: Once the case manager is notified of a child with an elevated lead level, a case is opened and claims are reviewed to determine if the test was an initial or a follow-up lead test. Follow-up test claims are reviewed to make sure testing is done in accordance with the CDC's guidelines for retesting as determined by the blood lead level. The case manager calls the parent to confirm his or her knowledge of the elevated level and reason for retesting. Lead education is provided by phone regarding safe cleaning, diet and information on the long term effects of even low levels of lead poisoning in children. Mailings are sent with additional information with instructions how to reduce sources of lead in the home, healthy eating guides and additional resources. Parents are educated on the CDC's testing schedule and are advised to have an ongoing discussion with the child's PCP. The case manager contacts the PCP's office to obtain a list of all test dates and lead levels along with follow-up test dates. The member is referred to the Green and Healthy Homes Initiative for additional lead education for parents, assistance with landlord concerns including legal issues such as renter's rights and abatement of living space as needed. The Green and Healthy Homes outreach worker provides regular updates to the case manager.

The case manager follows the child through the next scheduled test date. Once the lead level is confirmed by the primary care provider's office and is lower than the previous level, the parent is contacted again to encourage behaviors that will continue to reduce lead levels, and the parent is encouraged to contact the primary care provider, MCO case manager and Green and Health Homes Initiative outreach worker with additional questions or concerns, and the case is closed. If the lead level has remained the same or is higher than the previous, the parent is contacted by phone to discuss possible reasons for the lead level and additional education is provided. The Green and Healthy Homes Initiative is contacted to make them aware of the lead level so a change can be made regarding parent education. The case remains open through the next test date and the same process is followed until the level begins to lower and the case is closed once lower blood lead levels are confirmed.

If the parent is unable to be contacted by phone, a referral is made to the LHD's Acute Care Coordination Unit for outreach.

United Health Care: At this time United tracks the lead testing results for those members that are tested through a third party vendor. United has had a relationship with the same vendor for the past five years. They average completing lead screenings for about 25-30 percent of the total non-compliant population we provide to them for gap closure. They have currently completed 661 lead screenings in 2016, about 20 percent of our members needing lead screening prior to their second birthday.

The third party vendor currently contacts our entire non-compliant member universe for the VBP Lead measure on behalf of United. If they are able to contact the member's parent or guardian and make an appointment, the vendor will perform a home visit with a phlebotomist. Once the results are received and there is a member with an elevated lead level

the results are flagged and a follow up call is placed to the member's PCP to ensure they receive appropriate care.
United provided a copy of its workflow.

3) If there is additional information you would like to share regarding lead testing for the Department to consider, please include it here.

Amerigroup: We partner with community organizations and LHDs.

Jai Medical Systems: We believe that early intervention is the most important tool for preventing the devastating effects of lead poisoning. We request that the State of Maryland consider expanding the age range being required for lead testing. Specifically, many of our participating pediatricians would prefer to complete the initial lead test at nine months, instead of waiting until the child is over one year old. By permitting lead testing to begin at nine months, we can start intervention efforts earlier for the children with elevated lead levels. We are requesting that the initial lead test be at either nine or 12 months. We believe this adjustment will help Maryland continue to be a leader in lead poisoning intervention.

Kaiser Permanente: N/A

Maryland Physicians Care: None at this time.

MedStar Family Choice: MSFC is continuing to research improvements to our programs. We are currently pursuing the option of having another third-party in-home option for many tests and services, including lead, available to our members state-wide. Additionally, we have been working to fine-tune our programs to ensure that more targeted and impactful outreach can be done for those members still in need of lead testing.

Priority Partners: Priority Partners additional activities for lead testing:
Provider Education:
Yearly Provider Tips for Optimizing HEDIS Results—Provides Measure description to include required age of testing and required documentation needed.
Provider Newsletter "Across the Board"—Provides educational articles on lead and provides interview and shared best practices of high performing lead treatment providers.
Provider education on best practices of Point of Care testing.
Early and Periodic Screening, Diagnosis, and Treatment (EPSDT)—Provider audits to identify low performing providers and offer education and resources to improve quality outcomes of plan member.
Early and Periodic Screening, Diagnosis, and Treatment (EPSDT)—Provider educational tools to providing timeline of age and services needed recommended by Maryland Healthy Kids Program.

Riverside Health: The MCO would prefer to receive the lead registry data on a monthly basis versus the quarterly frequency in place now. A public registry accessible in a manner similar to Immunet is suggested. The HEDIS LSC measure is recommended over the DHMH LSC measure for monitoring performance and comparison/benchmarking purposes. The DHMH

measure methodology allows members with one year old birthdays in the early part of the year until 12/31 to receive their lead test. Those with birthdays in the later part of the year, have less time to complete the test. For example, a member with a date of birth in January has 11 months to complete the test but a member with a date of birth in December has that month only to complete the test. Members with a date of birth of 12/31/16 have that one day to get the lead test to be compliant with the LSC measure. The suggestion is to change the measurement year to a rolling 12 months (by the second birthday), not a calendar year. Adopting the nationally recognized HEDIS LSC measure is recommended.

United Health Care: N/A