



Childhood Lead Levels

Millions of Children in Medi-Cal Have Not
Received Required Testing for Lead Poisoning

January 2020

REPORT 2019-105





CALIFORNIA STATE AUDITOR

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January 7, 2020
2019-105

The Governor of California
President pro Tempore of the Senate
Speaker of the Assembly
State Capitol
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As directed by the Joint Legislative Audit Committee, my office conducted an audit of the California Department of Health Care Services (DHCS) and the California Department of Public Health (CDPH). Our assessment focused on both the administration of lead tests to children in Medi-Cal and the activities of the Childhood Lead Poisoning Prevention Program, and the following report details the audit's findings and conclusions. In general, we determined that millions of children in Medi-Cal are not receiving the lead tests they should be receiving, and CDPH is not prioritizing the prevention of lead poisoning.

State law generally requires that children enrolled in Medi-Cal receive tests for elevated lead levels at the ages of one and two years. When we reviewed data maintained by DHCS, we found that from fiscal years 2009–10 through 2017–18, more than 1.4 million of the 2.9 million one- and two-year-old children enrolled in Medi-Cal did not receive any of the required tests, and another 740,000 children missed one of the two tests. As a result, the rate of eligible children receiving all of the tests that they should have was less than 27 percent. Without these tests, health care providers do not know whether these children are suffering from elevated lead levels and need treatment. Despite low lead testing rates, DHCS has only recently begun developing an incentive program to increase testing and a performance standard for measuring the extent to which managed care plans are providing the tests.

We also found that CDPH, which manages the State's Childhood Lead Poisoning Prevention Program, does not focus on proactive abatement of lead hazards to prevent future poisoning. Instead, CDPH requires local childhood lead poisoning prevention programs (local prevention programs), to which it delegates many of its responsibilities, to monitor abatement in the homes of children who have already been poisoned. However, such efforts only prevent future poisoning in those specific homes. Although CDPH claims that the local prevention programs are reducing lead exposure through education and outreach, it could not demonstrate the effectiveness of this outreach. Finally, CDPH has failed to meet several legislative requirements, including a mandate to update the factors that health care providers must use to determine whether a child is at risk of lead exposure, which help them identify children who need testing.

Respectfully submitted,

A handwritten signature in black ink that reads "Elaine M. Howle". The signature is written in a cursive, flowing style.

ELAINE M. HOWLE, CPA
California State Auditor

Selected Abbreviations Used in This Report

| | |
|------|------------------------------------------------------------|
| CDPH | California Department of Public Health |
| CHHS | California Health and Human Services Agency |
| CDC | Centers for Disease Control and Prevention |
| CMS | Centers for Medicare & Medicaid Services |
| DHCS | Department of Health Care Services |
| DHS | Department of Health Services (precursor to CDPH and DHCS) |
| EPA | Environmental Protection Agency |

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Summary

Results in Brief

Lead is a toxic metal found in the air, soil, and drinking water of some schools and homes that is highly damaging when absorbed into the body. Children younger than six years old are especially vulnerable to lead poisoning and its harmful effects, which can include decreased IQ. Nonetheless, millions of children who should have been tested for elevated lead levels have not received all of the tests they should have because the two agencies charged with preventing and detecting lead poisoning in California have failed to adequately accomplish the duties with which they have been entrusted.¹ The California Department of Health Care Services (DHCS) has not met its responsibility to ensure that children enrolled in the California Medical Assistance Program (Medi-Cal)—which DHCS oversees—receive tests to determine whether they have elevated lead levels. Similarly, the California Department of Public Health (CDPH), which is charged with the prevention and management of lead poisoning cases, has failed to focus on addressing lead hazards before children are exposed to them and has not met legislative requirements concerning lead poisoning.

Children enrolled in Medi-Cal often have not received the medical tests needed to identify elevated lead levels even though the State mandates such testing. With limited exceptions, California requires that children enrolled in Medi-Cal receive tests for elevated lead levels at the ages of one and two years. However, according to DHCS' data, millions of children in Medi-Cal did not receive the lead tests they should have. These data show that from fiscal years 2009–10 through 2017–18, more than 1.4 million of the 2.9 million one- and two-year old children enrolled in Medi-Cal did not receive any of the required tests and another 740,000 children missed one of the two tests. According to DHCS' data, the rate of eligible children receiving all of the tests that they should have was less than 27 percent. Many of these children live in areas of the State with high occurrences of elevated lead levels, making the low testing rates even more troubling.

Despite such low rates, DHCS has only recently begun developing a performance standard for measuring whether managed care plans, the entities with which it contracts to provide health care for Medi-Cal beneficiaries, are ensuring that children receive the required lead tests. DHCS is also developing an incentive program

Audit Highlights . . .

Our audit of DHCS and CDPH's efforts to detect and prevent lead poisoning in children revealed the following:

- » *DHCS has not met its responsibility to ensure that children in Medi-Cal receive required tests at the ages of one and two years to determine whether they have elevated lead levels.*
 - *From fiscal years 2009–10 through 2017–18, more than 1.4 million one- and two-year old children did not receive any of the required tests, and another 740,000 children missed one of the two tests.*
 - *Many of these children live in areas of the State with high occurrences of elevated lead levels, making the missed tests even more troubling.*
 - *DHCS has not effectively overseen the managed care plans to ensure that children receive the required lead tests.*
 - *Although DHCS plans to implement a financial incentive program for health care providers to encourage lead testing, it has not yet done so.*
- » *CDPH has not sufficiently identified areas of the State at high risk for childhood lead exposure, nor has it taken steps to reduce the lead risks in those areas.*
 - *Instead of addressing lead hazards before children are exposed to them, CDPH monitors lead abatement activities in the homes of children who already have lead poisoning.*

¹ For the purpose of this report, we define an *elevated lead level* as the point at which a lead test indicates a child's blood has reached or exceeded a concentration of 4.5 micrograms of lead per deciliter of blood (micrograms) and *lead poisoning* as the point at which a lead test indicates a child's blood has reached a concentration of 9.5 micrograms or higher.

- *It delegates responsibility for addressing lead risks to local prevention programs, but it does not sufficiently assess their performance.*
- *It failed to meet several legislative mandates, including a mandate to update the factors health care providers use to identify children who need testing for lead poisoning.*

to increase payments to health care providers for each lead test they report administering. However, we are concerned by how long it may take these programs to influence lead testing rates. While it begins enforcing the new performance standard and making incentive payments, DHCS could also take more immediate action that may increase the number of children receiving required tests. Specifically, DHCS could require health care plans to identify children who have not received lead tests and remind their health care providers of the need to provide the tests—a method other states have successfully used to increase testing rates.

Like DHCS, CDPH has not adequately met its responsibilities to protect children from lead poisoning. Although state law requires CDPH to identify geographic areas at high risk for childhood lead exposure and publish an analysis of this information each year beginning in March 2019, CDPH had not yet done so as of October 2019. In addition, it failed to meet a statutory requirement to post on its website a list of certain census tracts in which children have tested positive for specified lead levels. An analysis we performed using CDPH's data shows that the number of children with elevated lead levels varies significantly by geographic area. Specifically, from fiscal years 2013–14 through 2017–18, half of children with elevated lead levels were located in just 15 percent of the State's census tracts.

Although CDPH is responsible for reducing the incidence of excessive lead exposure in children, its current efforts do not appear to align with preventing future instances of lead poisoning in those geographic areas in which children are at the greatest risk. Specifically, CDPH has not proactively identified such high-risk areas and taken steps to abate lead risks in these locations. In fact, CDPH contracts with childhood lead poisoning prevention programs at local agencies (local prevention programs) to increase the testing of at-risk children, to provide follow-up services for children with lead poisoning, and to eliminate lead in the environment. However, it only requires these programs to monitor abatement in the homes of children who already have lead poisoning, even though that effort prevents future poisoning only in those specific homes. In addition, although CDPH claims that local prevention programs are reducing lead exposure in high-risk areas through outreach, it could not demonstrate the effectiveness of this outreach.

CDPH has also not been proactive in managing the State's Childhood Lead Poisoning Prevention Program. For example, in recent years, CDPH failed to meet several legislative mandates that could enable it and health care providers to better identify children who need testing for elevated lead levels. One such mandate requires CDPH to update the factors health care providers use to determine if children are at risk of lead exposure. In addition,

CDPH has not taken steps to advocate for changing a state law that currently makes it optional for laboratories to report certain contact information with test results for children tested for elevated lead levels. This state law does not require the use of a unique identifier that would allow CDPH to effectively match lead tests with existing cases of lead poisoning. The fact that this information is missing from lead tests has contributed to CDPH's backlog of unprocessed test results and impeded its ability to contact families and monitor lead poisoning cases. Finally, CDPH has allocated funding to local prevention programs based on a funding formula that uses outdated information on the number of children with lead poisoning in each jurisdiction. This funding formula has led to significant differences in the services that local prevention programs have been able to provide to children with lead poisoning.

Summary of Recommendations:

Legislature

To support CDPH's efforts to efficiently contact families and monitor lead test results, the Legislature should amend state law to require laboratories to report contact information and unique identifiers with children's lead test results.

DHCS

Because of the severe and potentially permanent damage that lead exposure can cause in children, DHCS should do the following:

- Prioritize its effort to adopt a performance standard for lead tests and ensure that this standard is specifically designed to monitor its success in meeting the State's requirements for the lead testing of one- and two-year-old children.
- Incorporate into its contracts with managed care plans a requirement that the plans identify each month all children without records of required lead tests and remind the responsible health care providers of the need to test those children.

CDPH

To identify the highest priority geographical areas for using resources to alleviate lead exposure among children, CDPH should immediately complete and publicize an analysis of high-risk areas throughout the State.

To ensure that local prevention programs' outreach results in a reduced number of children with lead poisoning, CDPH either should require local prevention programs to demonstrate the effectiveness of their outreach or should analyze the cost-effectiveness of approaches such as proactive abatement and require the local prevention programs to replace or augment their outreach to the extent that resources allow.

To better ensure that children with lead poisoning are identified and treated, CDPH should prioritize meeting legislative requirements, including updating the factors health care providers use to determine whether children are at risk of lead exposure.

To ensure a more equitable distribution of resources for treating children with lead poisoning, CDPH should update its allocation formula to take into account the most recent data for the number of children with lead poisoning in each jurisdiction.

Agency Comments

DHCS agrees with our recommendations, but its approach for implementing certain recommendations does not fully address the related findings. CDPH agreed or partially agreed with most of our recommendations. However, its proposed implementation plan does not sufficiently address several concerns described in our report.

Introduction

Background

Lead is a naturally occurring toxic metal with many uses. It is highly damaging when absorbed into the human body, particularly for children. The amount of lead in the environment rose dramatically during the 20th century, reflecting the increased worldwide use of leaded gasoline. Lead was also widely used in house paint and plumbing pipes and fixtures, and it continues to be used in batteries and electronics. Although the federal government has now banned some uses of lead, its nonbiodegradable nature and continuous use means that it has accumulated in the environment, causing lead poisoning in both children and adults. Today lead can be found in the air and soil. It is also present in the drinking water of housing and other structures that contain lead pipes, such as some schools.

Children younger than six years of age are especially vulnerable to lead poisoning and its harmful effects. Because of their increasing mobility and normal developmental behavior, the blood lead concentrations of children in lead-contaminated environments typically increase rapidly when those children are between the ages of six months and 12 months, and they peak when the children are between 18 months and 36 months of age. Young children also absorb lead more efficiently than adults and are less likely to eliminate it through their waste once it has entered their bodies. Further, children are more sensitive than adults to the negative health effects of lead exposure, some of which may be irreversible.

The primary way to determine whether a child has been exposed to lead is to perform a blood test. Lead exposure is generally measured by the level of lead in a person's blood, expressed in micrograms per deciliter (micrograms). For the purpose of this report, we define childhood lead poisoning as a child's blood lead levels reaching or exceeding a concentration of 10 micrograms of lead per deciliter of blood, which is the point at which health care providers in California are required to take action to reduce the child's lead level.² Although extreme lead poisoning can lead to seizures and death, studies have indicated that even lead levels below 10 micrograms per deciliter can affect normal growth patterns. Studies have also shown that low levels of lead exposure at an early age can lead to reduced IQ, as Figure 1 shows. This exposure can affect children's ability to pay attention and to succeed in school, and it can cause decreased productivity when those children

² Because California rounds lead test results to the nearest whole number, this definition includes lead levels of 9.5 micrograms and greater.

become adults. According to research cited by the American Academy of Pediatrics, one in five cases of attention-deficit/hyperactivity disorder among U.S. children has been attributed to lead exposure.

Figure 1**Increased Lead Levels Result in Increasingly Harmful Effects and Require More Extensive Treatment and Services**

| LEAD LEVEL IN MICROGRAMS* | POTENTIAL HEALTH EFFECTS ASSOCIATED WITH ELEVATED LEAD LEVELS† <i>include but are not limited to...</i> | CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S (CDPH) MEDICAL TREATMENT AND CASE MANAGEMENT SERVICES GUIDANCE† |
|------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| > 69.5 | Seizure Coma Death | Retest immediately, then every 2-4 weeks. Hospitalize. Chemically treat blood to remove lead. Test kidney function. |
| 44.5-69.4 | Vitamin D deficiency Impaired tooth and bone development | Obtain abdominal X-ray. Retest in 24 or 48 hours, depending on blood lead level, then every 2-4 weeks. Consider chemically treating blood to remove lead. Consider hospitalization. Test kidney function. |
| 19.5-44.4 | Anemia | Retest in 1-4 weeks, then every 2-4 weeks. State or local prevention program provides full case management services and possible referral to a program for children with serious chronic medical conditions. |
| 14.5-19.4 | May affect the cardiovascular and immune systems | Retest in 1-4 weeks. State or local prevention program provides full case management services. |
| 9.5-14.4 | Behavioral disorders | Retest in 1-3 months. If two tests 30 days apart show these levels, state or local prevention program provides full case management services, which include home visits by a public health nurse and an environmental professional. |
| 4.5-9.4 | Damaged hearing | Retest in 1-3 months. Test for iron insufficiency. State or local prevention program provides outreach and education. |
| < 4.5 | Decreased IQ level | Health care provider assesses nutrition, considers lead exposure risks, and provides counsel on identified risk factors. |

Source: CDPH's California Management Guidelines on Childhood Lead Poisoning for Health Care Providers; California Childhood Lead Poisoning Prevention Branch Information for Health Care Providers; Mayo Clinic; Agency for Toxic Substances and Disease Registry; CDPH budget change proposal.

Note: The sources we cite attribute symptoms to different and imprecise levels of exposure because different individuals may experience symptoms at various levels of exposure. Thus, our presentation of symptoms at certain lead levels is estimated and we do not use this information as the basis for any of the conclusions in our audit.

* CDPH rounds lead levels to the nearest whole number for the purpose of determining treatment and services. This figure presents ranges of lead levels by decimal values and the associated medical treatment and case management services.

† Each lead level range on this figure includes the potential health effects and medical treatment listed for that range, among other things, as well as those shown for the levels that fall below the minimum of the range.

Many California Children Face the Health Risks of Lead Exposure

Thousands of California children have experienced elevated lead levels.³ The California Department of Public Health (CDPH)—which receives lead test results from laboratories and health care providers—provided reports showing that the percentage of children with elevated lead levels has dropped considerably since 2010, and the number of children tested also decreased significantly. Nevertheless, as Table 1 shows, nearly 10,000 children in California in 2017 had elevated lead levels that met or exceeded CDPH’s criteria to provide, at a minimum, education and outreach related to lead poisoning. Of these children, 86 percent were younger than six years old. Further, the number of children with lead at these elevated levels increased by more than 1,000 from 2015 to 2017, even as the number of children tested declined by nearly 15,000.

Table 1
Thousands of Children Statewide Had Elevated Lead Levels
in Calendar Years 2015, 2016, and 2017

| YEAR | NUMBER OF CHILDREN WITH ELEVATED LEAD LEVELS AGES 0–20 | TOTAL NUMBER OF CHILDREN TESTED AGES 0–20 |
|------|--------------------------------------------------------|-------------------------------------------|
| 2015 | 8,464 | 578,665 |
| 2016 | 10,275 | 580,249 |
| 2017 | 9,611 | 564,164 |

Source: Summary lead test data provided by CDPH.

Residential sources of lead exposure pose a health hazard to children in California. Lead-based paint and lead-contaminated dust in older buildings, along with lead-contaminated soil, are the most common sources of exposure for children with elevated lead levels. Lead-contaminated dust in homes is frequently a byproduct of deteriorating lead-based paint on surfaces, especially those that rub together, such as sliding windows. Similarly, urban soil has often been contaminated by the past use of lead-based paint and leaded gasoline, among other sources. In some communities, airborne emissions from the ongoing operation of battery recyclers, incinerators, and piston engine aircraft also may contaminate soil. Other sources of lead poisoning include certain imported foods and spices, traditional remedies, cosmetics, ceramic dishware,

³ For the purpose of this report, we define an *elevated lead level* as the point at which a lead test indicates a child’s blood has reached or exceeded a concentration of 4.5 micrograms.

jewelry, toys, bullets, and fishing weights, as Figure 2 shows. Finally, take-home lead exposure—when children are exposed to lead that adults bring home from their jobs—is another common source of childhood lead poisoning. A CDPH analysis of the sources of lead exposure for a sample of 188 children in 31 counties during fiscal year 2015–16 indicated that the children were exposed to lead from a variety of sources, including 30 from take-home sources and 37 from items such as cosmetics or remedies.

Figure 2
Sources of Lead Exposure

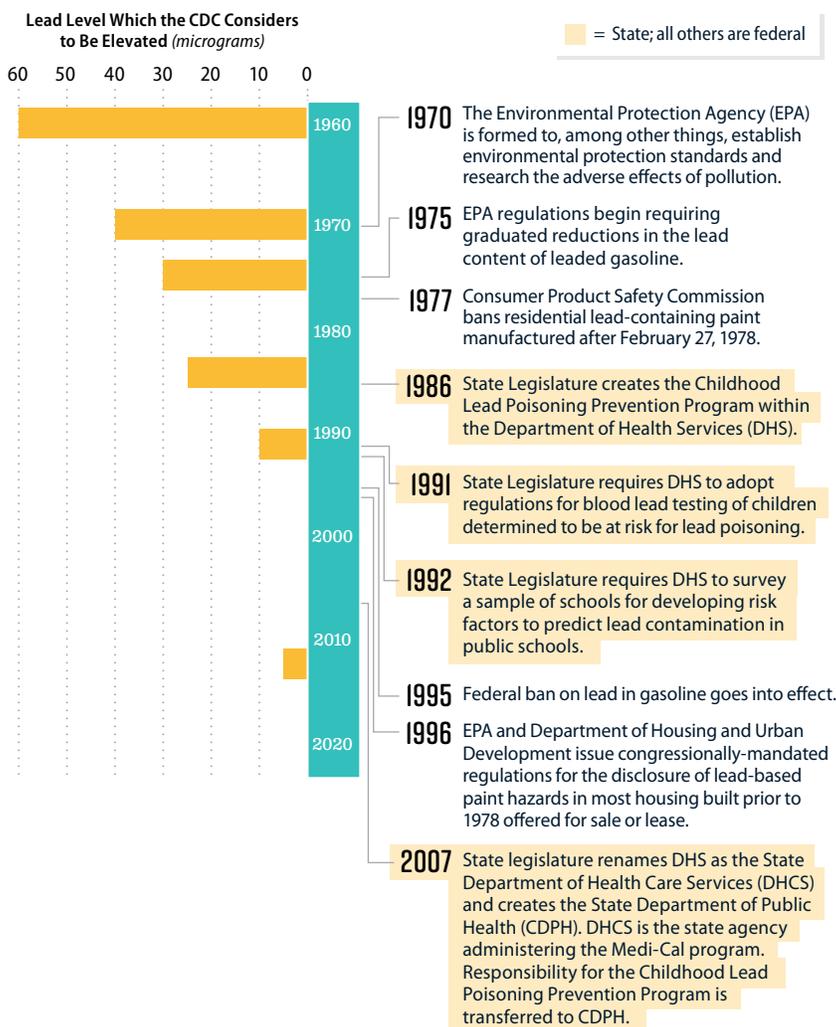


Source: U.S. Centers for Disease Control and Prevention and CDPH health education materials.

The State and the federal government have been working for decades to prevent childhood lead poisoning. Congress approved the creation of the U.S. Environmental Protection Agency (EPA) in 1970 to address a variety of environmental concerns. In 1971 Congress passed the Lead-Based Paint Poisoning Prevention Act to determine the nature and extent of the problem of lead-based paint poisoning and how lead paint hazards could most effectively be removed from housing where children might be exposed. In 1973 the EPA implemented regulations that began reducing the lead content in leaded gasoline in 1975. The federal government banned the manufacture of lead paint for use in residential properties in 1978 and banned lead pipes in 1986, and in 1990 it prohibited the sale of leaded automobile gasoline after 1995. Additionally, Figure 3 shows that the U.S. Centers for Disease

Control and Prevention (CDC) has gradually lowered the definition of an elevated blood lead level from 60 micrograms in 1960 to 5 micrograms in 2012, when it concluded that no level of lead exposure is safe.

Figure 3
California and the Federal Government Have Taken a Variety of Steps to Address Lead Poisoning



Source: State and federal law; CDC; U.S. Environmental Protection Agency; U.S. Consumer Product Safety Commission; *The Journal of Clinical Investigation*.

Although federal law no longer allows lead to be used in residential paint, gasoline, or plumbing, lead contamination from these and a variety of other sources continue to contribute to childhood lead exposure. Because of lead's durability, lead paint and plumbing lines

frequently remain for many decades after installation. Also, according to the federal Agency for Toxic Substances and Disease Registry, lead that falls onto soil sticks to soil particles and lingers in the upper layer, which is why past uses of lead in gasoline and paint continue to contribute to the lead found in soil today. Finally, lead is still used for other purposes, as Figure 2 shows, and is still used in some products in other countries. Children in California can be exposed to these products through foreign travel or through the importation of the products.

The California State Legislature declared that childhood lead exposure was the most significant childhood environmental health problem in the State when it established the State's Childhood Lead Poisoning Prevention Program (lead prevention program) in 1986 to, among other things, reduce the incidence of excessive childhood lead exposures. In 1991 the Legislature expanded the lead prevention program to include case management for children with lead poisoning and lead testing for at-risk children. At the same time, it created a fee that manufacturers of certain products that contribute or have contributed to environmental lead contamination must pay to help support the lead prevention program.

With Limited Exceptions, State and Federal Requirements Mandate That Children Enrolled in Medi-Cal Receive Lead Tests

In accordance with state law, California employs a targeted approach for testing children the State believes to be at the greatest risk of lead poisoning. This includes testing children enrolled in the California Medical Assistance Program (Medi-Cal) or other publicly funded programs for low-income children. With limited exceptions, state and federal requirements mandate that all children enrolled in Medi-Cal receive lead screening tests at 12 months of age and again at 24 months of age. DHCS, which oversees the Medi-Cal program, adopted a schedule of care for children in Medi-Cal that includes these required tests. However, according to federal Medicaid data for 2017, California ranked 31st among states in the nation for providing lead tests to children at these ages.

State regulations also generally require that children in Medi-Cal from two to six years of age who were not tested at age two be tested whenever their providers become aware of the missed test. Further, state regulations require that health care providers inform parents or guardians of all children—whether or not they are in Medi-Cal—about lead poisoning at each periodic health assessment from the time they begin to crawl until six years of age. DHCS' recommended schedule of care for children in Medi-Cal also includes periodic lead risk assessments from age six months to six years. Moreover, beginning January 1, 2018, state law has required CDPH to develop regulations

identifying which environmental risk factors health providers must consider when determining whether children are at risk of lead poisoning. Although state law permits parents or guardians to refuse lead tests for their children, CDPH and DHCS both stated that they do not track these refusals.

CDPH Contracts With County and City Agencies to Reduce and Prevent Lead Poisoning in Children

Although DHCS oversees the provision of lead tests to children in Medi-Cal, CDPH is the state agency responsible for overseeing the statewide lead prevention program and implementing it in a way that will reduce the incidence of excessive childhood lead exposures. In addition, when lead tests identify that a child has lead poisoning, state law requires CDPH to ensure the delivery of appropriate case management services for that child. These case management services include nutritional assessments and home visits by public health nurses, as Table 2 describes.

Table 2
Children With Lead Poisoning Are Provided Access to a Variety of Services

| EXAMPLES OF SERVICES | DESCRIPTION |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nutritional Assessment | An assessment of the child's nutritional status by a public health nurse or the child's health care provider. This assessment includes evaluating eating habits, dietary intake, and possible food sources of lead poisoning. Nutritional guidance can be instrumental in decreasing the child's susceptibility to lead absorption and retention. |
| Home Visit | A visit by a public health nurse to the child's home to perform a nutritional assessment, assess the needs and capabilities of the family, explain the case management services the State or local prevention program will provide, educate the family about lead poisoning, discuss the importance of follow-up tests, and help the family understand practical approaches to reducing lead exposure in the home. The public health nurse also searches for possible sources of lead poisoning, such as imported food and spices and lead-soldered cans. CDPH recommends that the home visit and environmental investigation be conducted together, if possible. |
| Environmental Investigation | An environmental professional holding one of several qualifications, such as certification as a CDPH inspector/ assessor, performs an assessment at the address at which the child resides. The assessment consists of a number of elements, including testing potential sources of lead poisoning, such as paint, dust, soil, and water. If lead hazards are identified, the environmental professional notifies the property owner of the requirement to abate the hazards and must follow up with the property owner until the lead hazards are abated. After the lead hazard control work is performed, the environmental professional performs a clearance inspection to ensure that the work was performed and no lead contaminated dust remains. As resources permit, environmental inspections may also be performed at an additional property where the child spends a significant amount of time. CDPH recommends that the home visit and environmental investigation be conducted together if possible. |

Source: CDPH Childhood Lead Poisoning Prevention Branch Public Health Nurse Case Management Guidance Manual; the Childhood Lead Poisoning Prevention Branch Guidance Manual for Environmental Professionals; CDPH's fiscal year 2016–17 Childhood Lead Poisoning Prevention Branch budget change proposal.

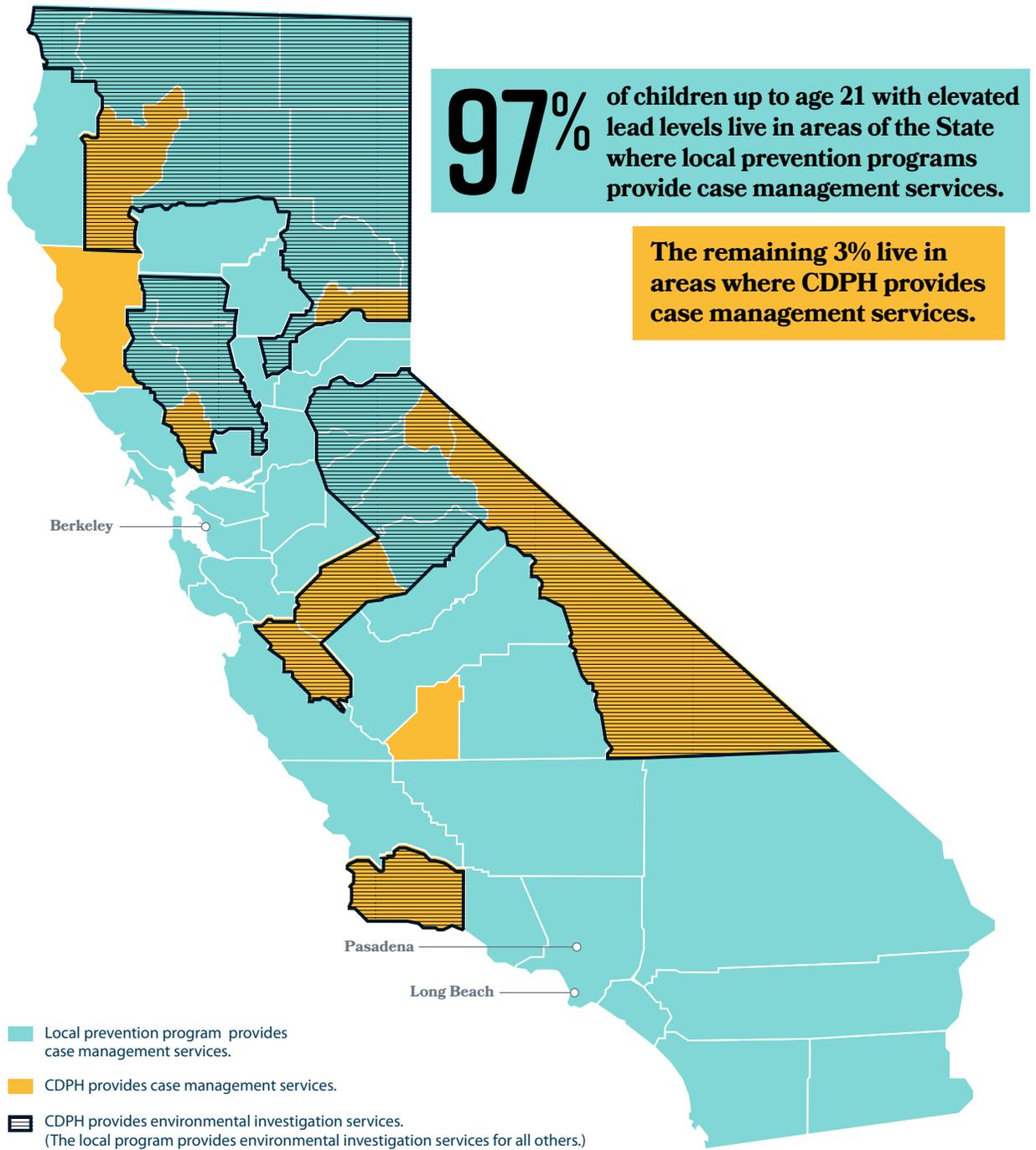
As Figure 4 illustrates, CDPH currently contracts with 50 local prevention programs. These programs are located in 46 counties, three cities, and the city and county of San Francisco. The programs—which local public health departments operate—are intended to accomplish a number of goals, such as increasing the testing of at-risk children, providing case management for children with lead poisoning, and eliminating certain sources of lead exposure. In some contracted counties, CDPH performs the environmental investigations, during which an inspector examines a child’s home for sources of lead exposure. In areas where the local public health departments choose not to contract with CDPH, CDPH provides the required case management services directly. However, two noncontracted counties currently perform their own environmental investigations, while CDPH provides the public health nursing services in those counties. Figure 5 shows the relationships between CDPH, DHCS, and local prevention programs.

The Lead Prevention Program Relies on a Dedicated Funding Source but Is Currently Operating at a Deficit

The lead prevention program is funded through fees that the State collects from manufacturers or other parties that have contributed or currently contribute to environmental lead contamination. State law has required these manufacturers and other parties to pay this fee annually since 1993. The Legislature originally capped the total amount that the State could collect from this fee at \$16 million per year, adjusted for inflation. However, CDPH used its authority through state law to issue regulations effective 2001 to increase this amount to \$22 million, after we recommended that it do so in our May 2001 report titled *Department of Health Services: Additional Improvements Are Needed to Ensure Children Are Adequately Protected From Lead Poisoning*, Report 2000-013. In that report, we discussed projected funding shortfalls that threatened the level of services CDPH’s lead prevention program was providing.

CDPH retains any unspent funds it collects in the Childhood Lead Poisoning Prevention Fund (lead prevention fund), which the Legislature established. As a result of various legal settlements, the reserve balance in this fund increased from \$2 million in fiscal year 2007–08 to \$63 million in fiscal year 2011–12. However, after several years when it mostly operated at a surplus, the lead prevention program operated at a deficit in fiscal year 2014–15. Further, when CDPH broadened its definition of lead poisoning to include lower lead levels in fiscal year 2016–17, it increased its program costs and used its reserves to make up for the shortfall. By fiscal year 2018–19, the program’s budgeted operating deficit had increased to more than \$13 million per year.

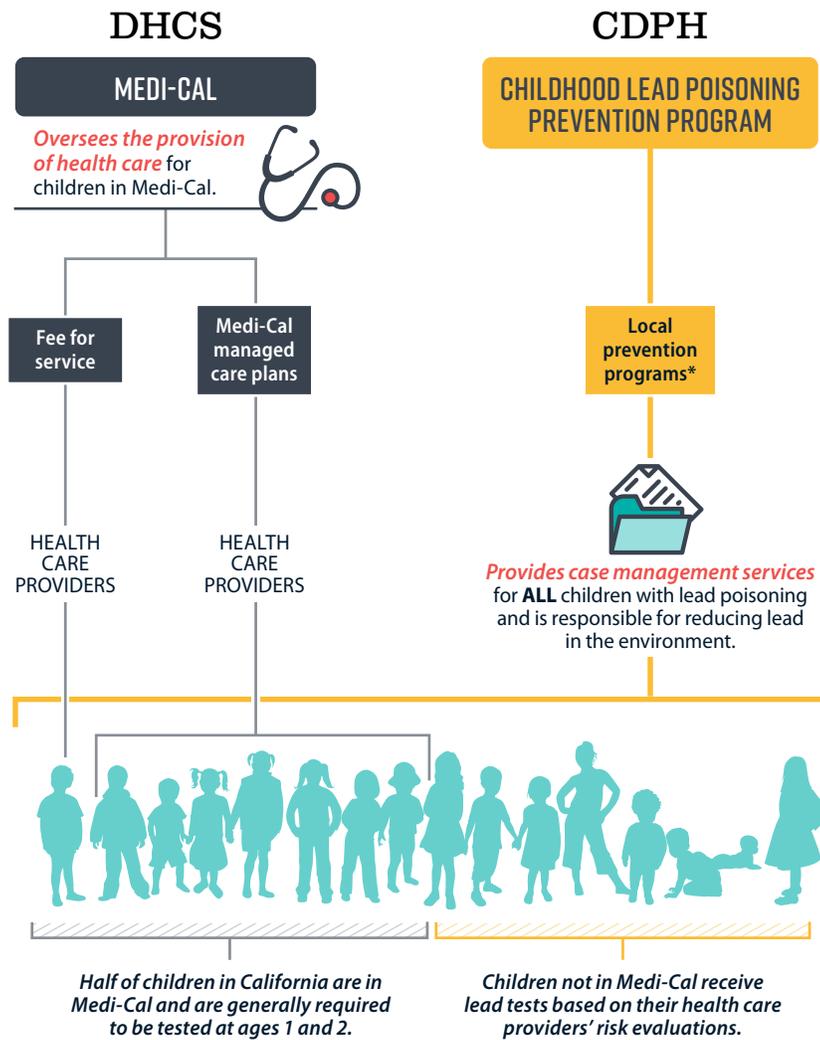
Figure 4
Local Prevention Programs Provide Case Management Services for Most Children With Elevated Lead Levels



Source: Interviews with CDPH staff, auditor analysis of CDPH's 2017 blood lead data, and CDPH's list of local public health agencies it allocated funds to for participation in the lead prevention program for fiscal years 2017–18 through 2019–20.

Note: California has 61 local public health officers, one in each of the 58 counties, including the city and county of San Francisco, and in the cities of Berkeley, Long Beach, and Pasadena. Local prevention programs in Long Beach and Pasadena provide case management services and environmental investigation services. Berkeley provides case management services, but CDPH provides environmental investigation services in that city.

Figure 5
DHCS and CDPH Both Have Responsibilities Related to Lead Poisoning



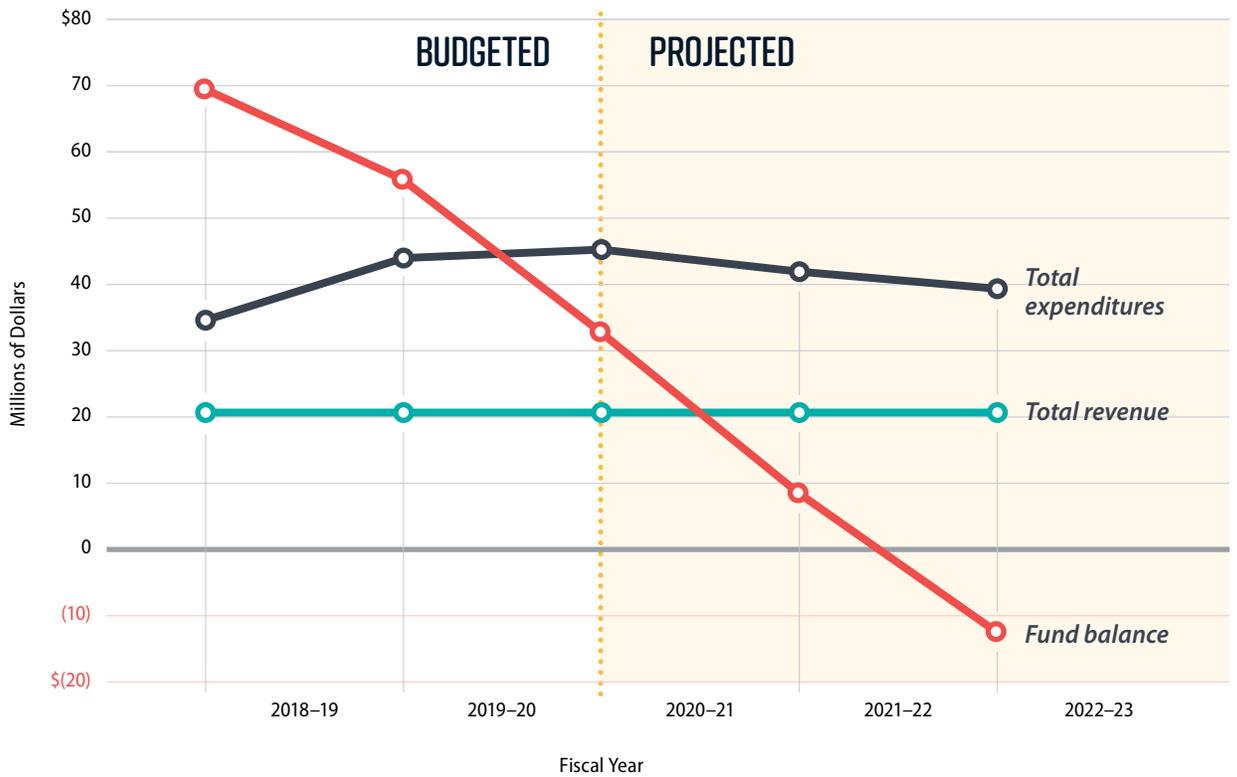
Source: State law; local prevention program contracts; CDPH and DHCS publications; U.S. Census Bureau; interviews with CDPH and DHCS staff.

* As Figure 4 shows, 97 percent of children up to age 21 in the State with elevated lead levels live in areas where local prevention programs provide case management services, and 3 percent live in areas where CDPH provides case management services.

As Figure 6 shows, at its current spending rate and without a fee increase, we project that CDPH will deplete its fund balance during fiscal year 2021–22. This projection takes into account that in 2019 CDPH received approval to spend an additional \$9 million from the lead prevention fund for state operations—\$8 million of which is for an information technology project. These expenditures will increase the lead prevention program’s deficit to more than \$23 million in fiscal year 2019–20, or more than twice as much as it will receive from the lead prevention fee, thereby accelerating the depletion

of its reserves. CDPH is considering increasing the total fees by \$21.5 million annually, roughly double the amount it currently collects. Because state law requires that the lead prevention program be fully supported by the revenue collected from the lead prevention fee, CDPH stated that unless a fee increase is approved, it will not be able to pay for its expected level of operations. According to CDPH, it has not identified the specific services it would have to reduce.

Figure 6
 Without an Increase in the Lead Prevention Fee or a Reduction in Expenditures, the Lead Prevention Fund is Forecast to Deplete its Fund Balance in Fiscal Year 2021–22



Source: Auditor-generated from the state budget and CDPH lead prevention program budget documents.

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Chapter 1

DHCS' FAILURE TO ENSURE TIMELY LEAD TESTING OF CHILDREN IN MEDI-CAL HAS PLACED THEM AT RISK FOR PERMANENT HEALTH PROBLEMS

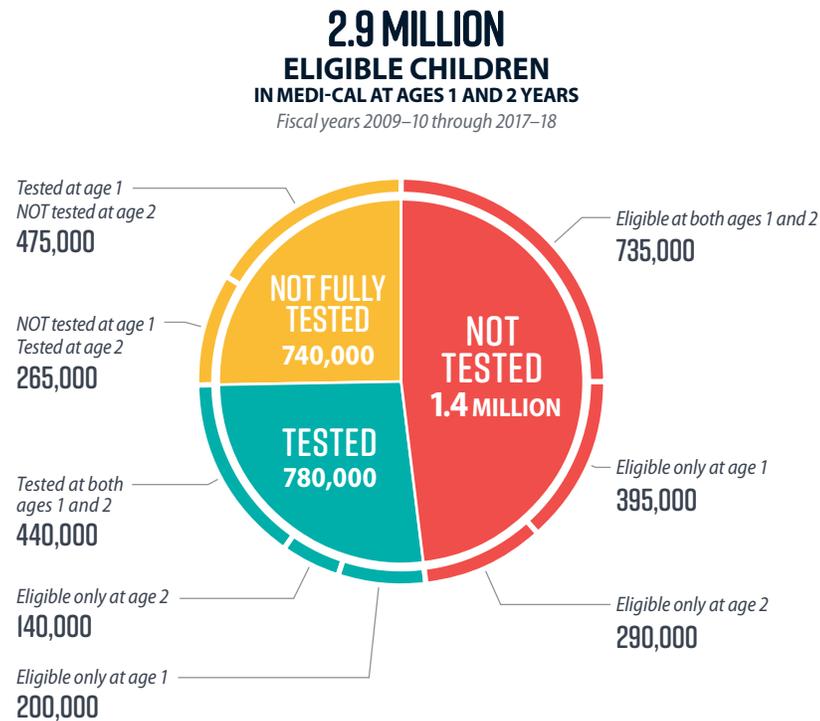
Chapter Summary

Millions of children in Medi-Cal are not receiving the tests they need to determine whether they have lead poisoning and require treatment. DHCS' data show that from fiscal years 2009–10 through 2017–18, 1.4 million of the State's 2.9 million one- and two-year-old children enrolled in Medi-Cal were not tested, and another 740,000 children missed one of the two tests they should have received. Some of these children reside in areas of the State with high occurrences of elevated lead levels, making the missed tests even more alarming. Nonetheless, DHCS has not effectively overseen the managed care plans with which it contracts to provide lead tests to children in Medi-Cal. Specifically, DHCS does not require the plans to follow up with health care providers that do not report administering lead tests, and its method of determining whether managed care plans ensure that providers administer these tests is not effective. Although DHCS plans to implement a performance standard for lead testing and a financial incentive program to encourage lead testing, it has not yet done so. In the meantime, DHCS could direct managed care plans to inform providers immediately about children who have missed tests and the need to test them and report those tests.

DHCS Has Failed to Ensure That Health Care Providers Administer Required Lead Tests for Millions of Children

DHCS has not ensured that all children enrolled in Medi-Cal receive the lead tests to which they are entitled. State regulations, with few exceptions, require health care providers to administer tests for elevated lead levels for one- and two-year-old children who are enrolled in Medi-Cal. However, DHCS' data show that from fiscal years 2009–10 through 2017–18, health care providers failed to administer all of the required tests for nearly three-quarters of these children, as Figure 7 demonstrates. According to DHCS' data, 1.4 million of the 2.9 million one- and two-year-old children in Medi-Cal were not tested, and an additional 740,000 children missed one of the two tests they should have received during those years. These data—which, as we discuss below, may contain inaccuracies—suggest that the rate of eligible children receiving all of the tests that they should have was less than 27 percent.

Figure 7
Most Children in Medi-Cal Do Not Receive All Required Lead Tests



Source: Analysis of DHCS Management Information System/Decision Support System data.

DHCS has also failed to ensure that children are tested by age six. State regulations generally require that children in Medi-Cal who are from two to six years old and who were not tested at age two be tested once their health care providers become aware of the missed tests. However, DHCS has not ensured that these children are tested, despite having the necessary information to make this determination. Moreover, it does not require managed care plans to notify health care providers that these children have not been tested. When we evaluated DHCS' data related to children in Medi-Cal who turned six years old during fiscal years 2015–16 through 2017–18, we found that of the 466,000 children who did not receive lead tests at age two, only 152,000, or 33 percent, received lead tests before age six, as required. Until these children are tested, their health care providers cannot know if they have elevated lead levels and need treatment.

Further, some of the children who did not receive the required lead tests reside in areas of the State with high occurrences of elevated lead levels. When we reviewed CDPH's data on the location of children with elevated lead levels, we found that some geographic

areas had a higher number of such children. For example, nine of the census tracts with the largest number of children less than age six that had elevated lead levels during fiscal years 2013–14 through 2017–18 are in Sacramento County, including the census tract with the largest number of such children in the State. Appendix B shows the 50 census tracts throughout California where we noted the highest numbers of children less than age six with elevated lead levels.

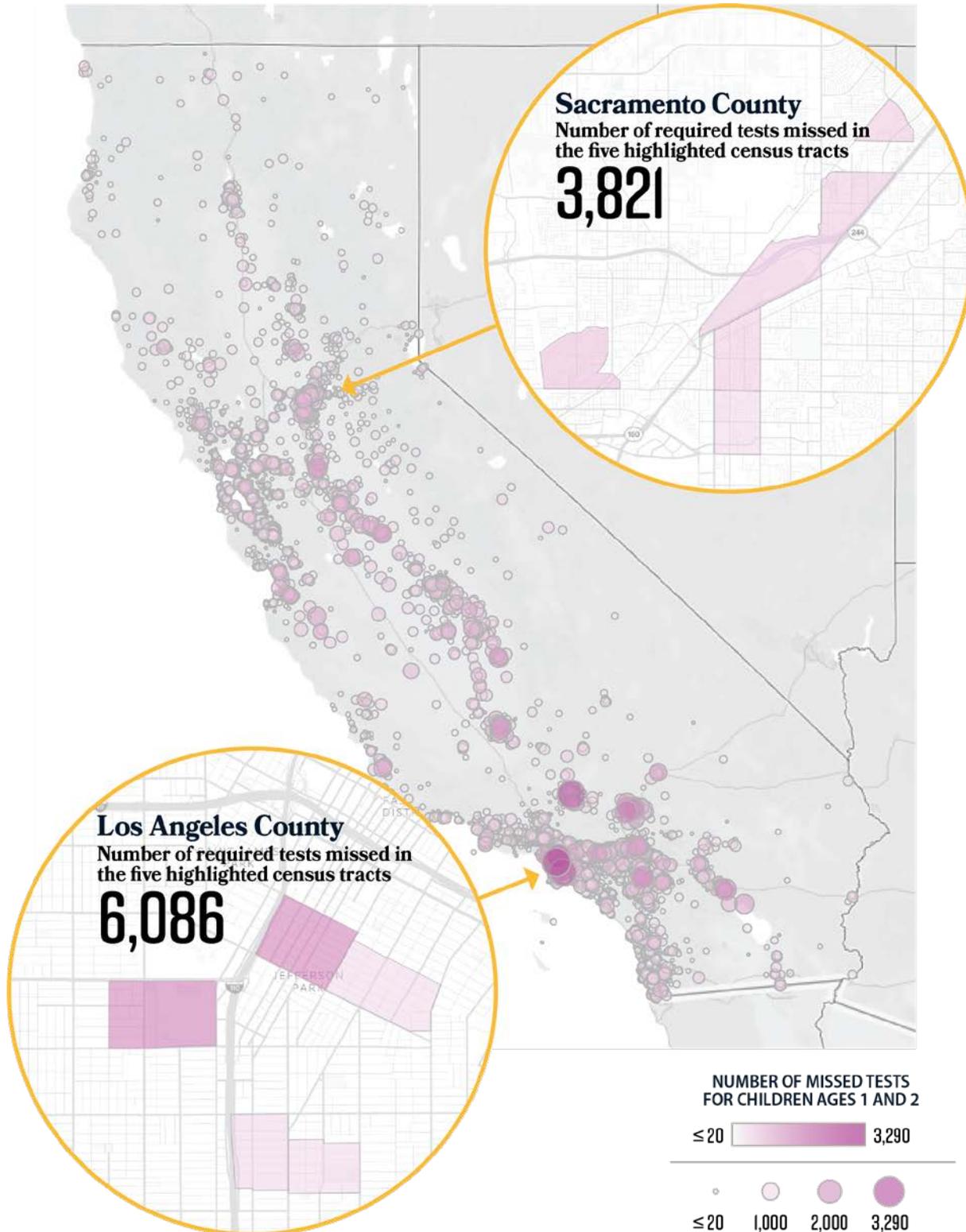
Figure 8 shows the locations of children in Medi-Cal who, according to DHCS' data, missed tests they should have received. When we compared DHCS' data on children in Medi-Cal at ages one and two years who had not received tests with CDPH's data on the location of children less than age six with elevated lead levels, we found that some of the geographic areas with the largest populations of children with elevated lead levels also had a large number of children enrolled in Medi-Cal who missed required tests. For example, in the Sacramento census tract described above, DHCS' data show that children in Medi-Cal at ages one and two years received just 392, or 35 percent, of the 1,135 lead tests they should have received, despite the fact that these children may be at a high risk for lead exposure. DHCS' data show that in the 50 census tracts with the highest number of children less than age six who had elevated lead levels, children enrolled in Medi-Cal collectively did not receive thousands of required tests at ages one and two.

In a report provided to the Legislature, DHCS asserted that health care providers had not reported to it all of the lead tests that they had administered and that the testing rates were actually higher than its data show. According to DHCS, its data do not reflect a lead test if a health care provider administers it but only records an office visit. However, laboratories are required to report to CDPH all lead test results for blood drawn in California. Nonetheless, even after combining the lead test results that health care providers reported to CDPH with DHCS' data, the resultant data still show that a majority of children did not receive all of the required tests. For example, in 2018 the two agencies reported that by combining their data for those children continuously enrolled in Medi-Cal for 12 months during federal fiscal year 2015 they were able to identify additional blood lead tests that had been provided, which changed the percentage of children with an identified test from 40 percent to 49 percent for children aged 12 to 23 months and from 33 percent to 41 percent for children aged 24 to 35 months.⁴

DHCS' data show that in the 50 census tracts with the highest number of children less than age six who had elevated blood lead levels, children enrolled in Medi-Cal collectively did not receive thousands of required tests at ages one and two.

⁴ The federal fiscal year begins October 1 and ends September 30.

Figure 8
Missed Lead Tests Are Concentrated in Certain Areas of the State
Fiscal Years 2013–14 Through 2017–18



Source: DHCS' Management Information System/Decision Support System data.

Notes: We present an interactive dashboard for viewing additional detail on missed lead tests at www.auditor.ca.gov/reports/2019-105/supplementalgraphics.html

To protect the confidentiality of the individuals summarized in the data, we included only census tracts with at least the following information for children ages 1 and 2 enrolled in Medi-Cal: 21 required tests, one missed test, and one completed test.

Our analysis of DHCS' and CDPH's data also demonstrates that even when CDPH's data is included, more than half of children in Medi-Cal did not receive the tests necessary to determine whether they need treatment. Specifically, we found that combining lead test data from CDPH with DHCS' data identified another 8 percent of children who were eligible at one and two years old and received both tests during fiscal years 2009–10 through 2017–18. This analysis confirms that DHCS' data alone do not include all of the lead tests children receive, leading us to question why DHCS has not yet implemented processes to ensure the accuracy of the information it collects. More importantly, this analysis also confirms that more than half of children did not receive the required tests. The two agencies also developed an estimate of the number of children in Medi-Cal who turned three years old in federal fiscal year 2016, who were enrolled in Medi-Cal all three years, and who received a single lead test by age three years. However, even under these more lenient criteria, the analysis showed that more than a quarter of the children in Medi-Cal had not received a single lead test by the age of three.

DHCS Has Not Effectively Overseen the Managed Care Plans' Provision of Lead Tests

DHCS has not demonstrated effective oversight of the managed care plans' provision of lead tests. Although DHCS requires the managed care plans to report to it the lead tests they provide, DHCS does not use these data to identify the untested children whom the plans—which receive a set fee each month per person enrolled—are being paid to test. According to its monitoring chief, DHCS assumes that the managed care plans are ensuring compliance with lead testing requirements; however, it does not verify that the plans follow up with health care providers that do not report administering lead tests, nor do its contracts with the plans specifically require this sort of follow-up. The monitoring chief stated that DHCS delegates oversight of this issue to the managed care plans but does not know how the plans ensure that health care providers are administering lead tests, other than through the reviews of provider records that it requires managed care plans to conduct.

The monitoring chief described the facility site review (FSR) process as DHCS' means of oversight for ensuring children in Medi-Cal receive blood lead tests. The FSR process involves the managed care plan reviewing the medical records of a small sample of patients at each primary health care provider site once every three years to verify whether those patients are receiving sufficient care, such as lead tests. However, this process does not adequately identify health care providers who are failing to administer childhood lead tests because it involves a sample of only 10 patients, which is not limited to young children. A DHCS medical program consultant

DHCS requires the managed care plans to report to it the lead tests they provide, but does not use these data to identify the untested children whom the plans are being paid to test.

acknowledged that the FSR process is not a comprehensive approach for determining whether children have received lead tests in part because it looks at so few records. In addition, even when managed care plans conduct an FSR and identify health care providers that have failed to administer required lead tests, the plans do not implement corrective actions unless those providers have also failed to administer a variety of other pediatric services.

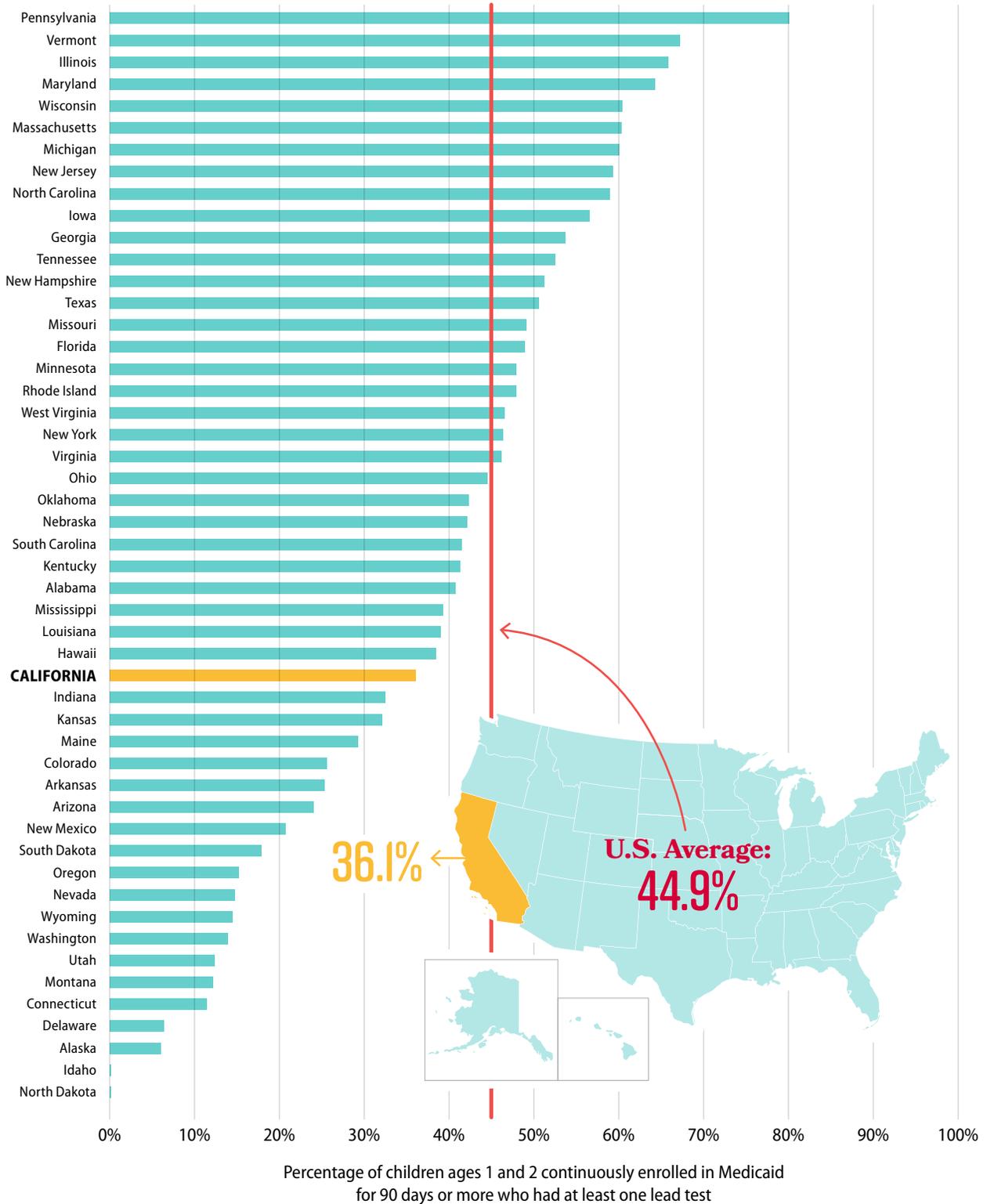
Moreover, DHCS has not fully implemented a way to ensure that providers report the tests they administer. The underreporting we previously describe suggests that some providers lack motivation for administering and reporting tests. In 2018 the director of DHCS at that time stated that health care providers did not have sufficient incentive to report all of the services they administered. To create an incentive for providers not only to administer lead tests but also to report the tests they do administer, DHCS received approval in June 2019 to provide payments to providers for each lead test they report administering on or before a child's second birthday. However, we are concerned with how long it will take to begin making these payments because as of September 2019, DHCS had not yet determined when it would begin making these payments.

It is unclear how long it will be until DHCS can evaluate the success of this program. DHCS plans to measure the program's success by evaluating lead testing rates over time, but it does not currently use a performance measure for managed care plans' reporting of lead testing, despite the effectiveness of such standards. Our March 2019 audit report titled *Department of Health Care Services: Millions of Children in Medi-Cal Are Not Receiving Preventive Health Services*, Report 2018-111, concluded that children receive services more often when DHCS imposes performance measures on managed care plans related to those services. In that report, we recommended that DHCS establish performance measures for children's preventive services. Implementing a similar performance measure specific to lead testing may increase testing rates. According to its monitoring chief, DHCS is in the process of establishing a standard to assess the plans' performance in providing lead tests and intends to work with the plans to hold them accountable after it assesses their progress in meeting this standard. However, the monitoring chief also stated that DHCS is several years away from assessing the managed care plans' performance because it does not intend to complete development of the new performance standard for lead testing until 2021.

DHCS is several years away from assessing the managed care plans' performance because it does not intend to complete development of the new performance standard for lead testing until 2021.

While it continues to develop its method of monitoring and enforcing lead testing requirements for managed care plans, DHCS could require them to inform health care providers of missed tests. As Figure 9 demonstrates, the Centers for Medicare and Medicaid Services (CMS) data show that California's 36 percent lead testing rate for children enrolled in Medi-Cal during federal fiscal year 2017

Figure 9
California’s Lead Testing Rate Trails That of Most Other States



Source: CMS data for October 1, 2016, through September 30, 2017.

DHCS has not ensured that the health care providers assigned to children are aware that the children have not received the required lead tests.

was below the national average of 45 percent for children enrolled in Medicaid programs nationwide in that year.⁵ Nonetheless, DHCS has not ensured that the health care providers assigned to children are aware that the children have not received the required lead tests.

Several states with Medicaid lead testing rates in the top 20 percent of the nation, including Michigan and Wisconsin, performed targeted outreach by identifying children who were not tested and following up with health care providers who were not in compliance with testing requirements. For example, beginning in 2006, Wisconsin's Medicaid staff collaborated with its state lead prevention program staff to send reports to Medicaid health care providers identifying their testing rates and the children in their care who had not received the appropriate blood lead tests. Wisconsin's 2014 Department of Health Services' report on childhood lead poisoning indicates that testing subsequently increased 29 percent, from almost 82,000 children tested in 2006 to more than 106,000 in 2010. The program ended after 2011 because of a loss of federal grant funding, and the number of children tested then decreased each subsequent year—dropping to about 84,000 by 2016. By requiring managed care plans to identify the health care providers for the children in Medi-Cal who have not received all of their required lead tests and informing those providers of the tests that they need to administer, DHCS would reinforce testing and reporting requirements.

DHCS could also use the data that we summarize in Figure 8 to identify children who have not received the required tests and contact their families. Our March 2019 audit report concluded that DHCS was not meeting a requirement in federal law to perform annual outreach to the families of children who have not received preventive services, such as blood lead tests, to inform them of the benefits of preventive health care and explain how to obtain these types of services. Although DHCS stated at the time that it relies on the managed care plans to follow up with families of children who have not used preventive services, we found that the plans had not adequately communicated with these families. In that report we recommended that DHCS ensure that families of children who do not use preventive services are contacted annually. DHCS indicated in its six-month response to that report that it is developing a process to follow up with the families of children who have not received preventive services over the course of a year.

⁵ CMS's data represents a one-year snapshot of the percentage of children ages 1 and 2 years continuously enrolled in Medicaid for 90 days or more who had at least one lead test. CMS's numbers differ from ours because we looked at multiple years of data to determine whether children received all, one, or none of the tests that California requires. We reference CMS's data here so that we can compare California's performance with that of other states.

Similarly, DHCS does not reach out to the families of children who have not received lead tests. DHCS' monitoring chief was not able to provide a reason for why it does not do so. However, as we describe above, federal law requires DHCS to inform children or their families about the services that they are eligible to receive and also requires DHCS to provide lead testing as part of those services. Most importantly, because lead testing is the primary way to determine whether a child needs treatment for lead poisoning, DHCS' failure to contact their families to follow up on missed tests leaves children at risk.

Recommendations

DHCS

Because of the severe and potentially permanent damage that lead poisoning can cause in children, DHCS should ensure that all children in Medi-Cal receive lead tests by finalizing, by December 2020, its performance standard for lead testing of one- and two-year-olds. DHCS should use its existing data to assess the progress of managed care plans in meeting that performance standard and impose sanctions or provide incentive payments as appropriate to improve performance.

To ensure that families know about the lead testing services that their children are entitled to receive, DHCS should send a reminder to get a lead test for children who missed required tests. It should send this reminder in the required annual notification it is developing to send to families of children who have not used preventive services over the course of a year.

To increase California's lead testing rates and improve lead test reporting, DHCS should, by no later than June 2020, incorporate into its contracts with managed care plans a requirement for the plans to identify each month all children with no record of receiving a required test and remind the responsible health care providers of the requirement to test the children. DHCS should also develop and implement a procedure to hold plans accountable for meeting this requirement.

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Chapter 2

CDPH HAS NOT PRIORITIZED ITS MISSION TO PREVENT LEAD EXPOSURE

Chapter Summary

CDPH has not sufficiently identified areas of the State at high risk for childhood lead exposure, nor has it met its obligation to reduce the lead risks in those areas. CDPH's data show that the number of children with elevated lead levels varies significantly by geographic area, but CDPH does not have an effective method of proactively reducing lead risks in the areas where elevated lead levels are most prevalent. Instead of addressing lead hazards before children are exposed to them, CDPH's approach is to monitor lead abatement activities in the homes of children who already have lead poisoning. Further, CDPH largely delegates responsibility for addressing lead risks to local prevention programs—the county and city agencies we describe in the Introduction—but it does not sufficiently assess their performance. According to CDPH, it does not have the funds to perform proactive abatement of all regions of the State where children are at risk for lead exposure, yet it has not sought funding on behalf of the local prevention programs to accomplish abatement activities. Further, it could provide better information to the public about lead risks, particularly in properties being sold or rented.

CDPH Has Not Identified Areas Where Children Are at High Risk for Lead Exposure

Although state law requires CDPH to identify areas of the State where childhood lead exposure is especially significant, it had failed to complete this analysis as of October 2019. Specifically, since 1986, state law has required CDPH to identify geographic areas at high risk for lead exposure. However, CDPH last reported a list of high-risk areas using data from 2015. A more recent state law requires that commencing March 1, 2019, and annually thereafter, CDPH must publicly post an updated analysis of the high-risk geographic areas and other information related to the lead prevention program on its website. However, as we discuss in Chapter 3, CDPH has not met this deadline. Because it has not completed this analysis, CDPH lacks information on the locations where the risk of lead exposure is most significant.

In contrast to CDPH's approach, Washington and Colorado have both created interactive maps that they publicly post detailing lead exposure risk by geographic area. They also use these maps to target their outreach and intervention efforts. If CDPH knew where the

highest risk of lead exposure was, it could prioritize the resources it has to reduce the incidence of excessive lead exposure in those areas and better prevent lead exposure—the requirement established in state law and a goal described in the mission of CDPH’s childhood lead poisoning prevention branch.

In addition to an analysis of high-risk geographic areas, state law also required CDPH, to the greatest extent possible, to post on its website by March 1, 2019, a list of the census tracts in which children tested positive for blood lead levels at rates that are higher than the national average and that are in excess of the level CDC considers elevated.⁶ CDPH informed us that in March 2019, it completed a draft version of a report addressing this requirement. However, despite the assertion of CDPH’s lead prevention program branch chief (branch chief) that CDPH intended to approve the draft report for public release as soon as possible, it had still not done so as of October 2019. The branch chief subsequently indicated that CDPH would publish the report by December 2019 and provided several explanations for the report’s delay, including a lack of staff capacity, the vacancy of a branch chief, and the fact that the draft is currently under review by CDPH’s Office of Legislative and Governmental Affairs.

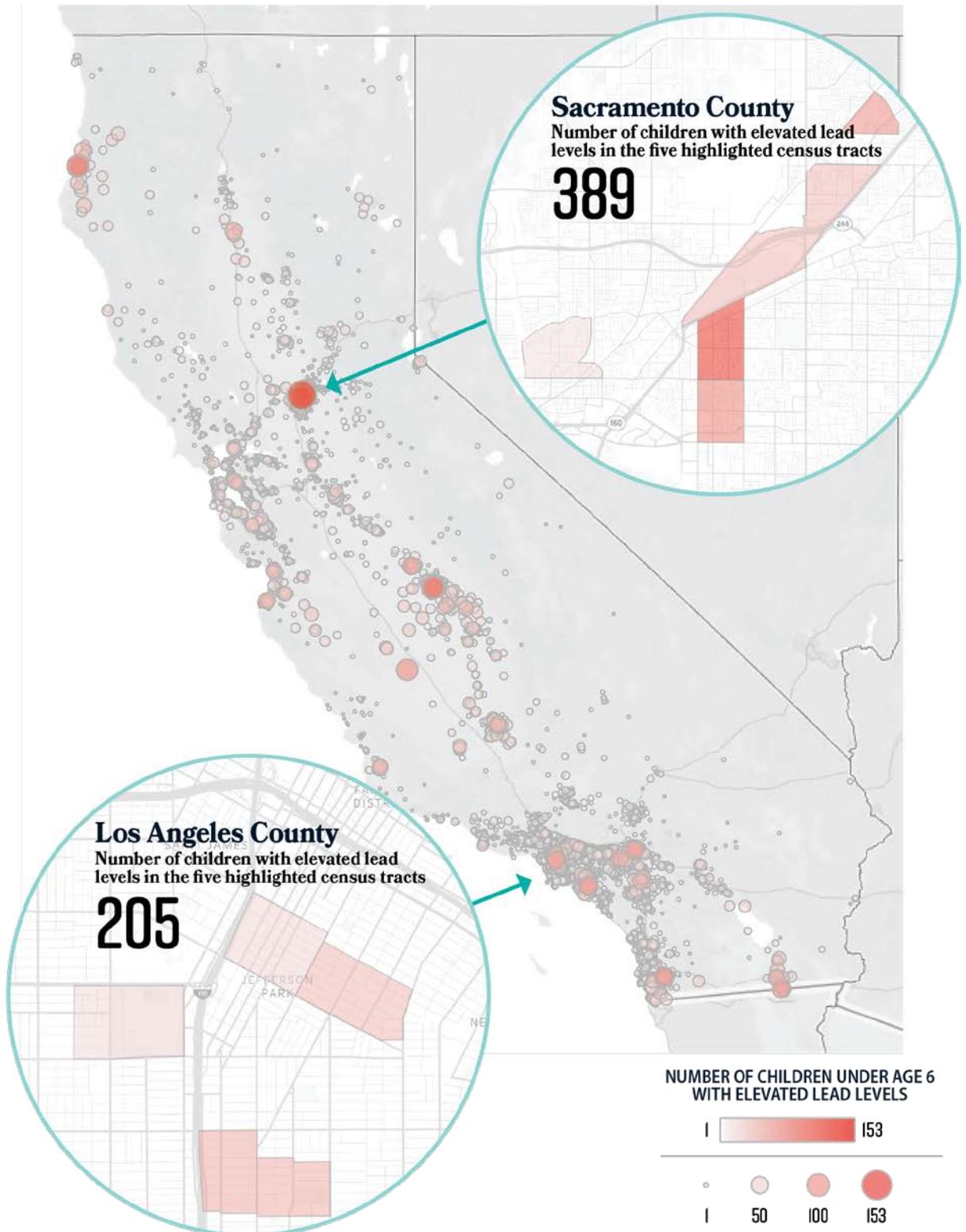
Our analysis of data from CDPH’s case management system shows that elevated lead levels vary significantly by geographic area. As Figure 10 shows, the data indicate that from fiscal years 2013–14 through 2017–18, the majority of children younger than six years old with tests showing elevated lead levels were concentrated in certain areas of the State. Specifically, half of the children with lead test results at or above 4.5 micrograms were located in just 15 percent of the State’s approximately 8,000 census tracts. This information suggests that CDPH could significantly contribute to the prevention of childhood lead poisoning by concentrating its efforts on the areas of the State where elevated lead levels are most prevalent, including taking steps to abate lead sources before more children are exposed to them.

Nonetheless, CDPH’s approach is focused on eliminating sources of lead only for children who already have lead poisoning. Although this approach may prevent future cases of lead poisoning in those locations, it does not focus on prevention in the many other locations throughout the State where lead poses a risk. In fact, CDC’s advisory committee on childhood lead poisoning prevention concluded in 2012 that rather than just concentrating on activities to lower a child’s blood lead level, there is a need to reduce exposure to known sources, such as soil, dust, paint, and water, before they contribute to the child’s exposure. However, if CDPH does not know

CDPH could significantly contribute to the prevention of childhood lead poisoning by concentrating its efforts on the areas of the State where elevated lead levels are most prevalent.

⁶ In 2012 CDC set this level at 5 micrograms.

Figure 10
Children With Elevated Lead Levels Are Concentrated in Certain Areas of the State
Fiscal Years 2013–14 Through 2017–18



Source: CDPH's case management system data.

Notes: We present an interactive dashboard for viewing additional detail about children with elevated lead levels at www.auditor.ca.gov/reports/2019-105/supplementalgraphics.html

To protect the confidentiality of the individuals summarized in the data and to present census tracts consistent with Figure 8, we included only census tracts with at least the following information for children ages 1 and 2 enrolled in Medi-Cal: 21 required tests, one missed test, and one completed test.

where these hazards are most prevalent and where children with elevated lead levels are concentrated, it is unclear how it will proactively mitigate lead exposure to protect California's children from future lead poisoning.

CDPH Does Not Proactively Reduce Lead Exposure

CDPH's approach to reducing lead in the environment is to take action after it determines a child has lead poisoning. In 1986 the Childhood Lead Poisoning Prevention Act established the requirement for CDPH to create a program of environmental abatement and follow-up to reduce the incidence of excessive lead exposure. State law defines lead abatement as any set of measures other than containment or cleaning that is designed to permanently eliminate lead hazards or lead-based paint in public and residential buildings. CDPH's lead hazard reduction chief stated that CDPH's approach to abating lead in high-risk areas is to monitor abatement activities in the homes of children who have already been lead poisoned. However, this approach only prevents future poisoning in these same homes rather than addressing lead hazards before children are poisoned.

CDPH primarily delegates the responsibilities for addressing environmental lead risks to local prevention programs. However, CDPH's contracts require abatement of lead hazards only for children who have lead poisoning.⁷ CDPH's lead hazard reduction chief informed us that CDPH does not require local prevention programs to perform proactive abatement but stated that their various outreach efforts reduce exposure in high-risk areas. CDPH asserts that it is more efficient to perform outreach and education than to spend funds on physically abating lead in the environment. However, this approach relies on other individuals, such as parents and guardians, taking action based on the outreach and education. The extent to which individuals take such action is unknown because neither CDPH nor the local prevention programs we reviewed measure the effectiveness of their outreach activities in reducing the number of children with lead poisoning. Because the Legislature has given CDPH the responsibility to reduce the incidence of excessive childhood lead exposure, it should take steps to ensure that the local prevention programs' activities are directly resulting in a reduction in the number of children with lead poisoning.

CDPH asserts that it is more efficient to perform outreach and education than to spend funds on physically abating lead in the environment.

⁷ CDPH's contracts give local prevention programs the option to apply for additional lead prevention program funding to develop and implement activities to prevent lead-exposed children and at-risk children from exposure to lead hazards. These optional activities include investigating locations where children are being exposed or have been exposed in the past, responding as necessary with appropriate enforcement actions, investigating tips and complaints about lead hazards, and documenting those high-risk areas.

In addition, CDPH does not sufficiently assess the performance of local prevention programs. The branch chief stated that CDPH performs a comprehensive site review of each local prevention program, which involves its evaluating the program's processes for carrying out contract requirements. CDPH's policy requires it to conduct one site review of each local prevention program per contract cycle. However, as of August 2019, CDPH had conducted site visits of less than one-third of the 50 programs, despite having already begun the third year of its three-year contract cycle. Further, it had not conducted site visits at many of the local prevention programs for nearly five years.

Moreover, CDPH requires the local prevention programs to submit progress reports twice a year with updates on activities such as their outreach efforts, environmental investigations, and home visits to children with lead poisoning. However, CDPH's review of these reports does not appear to sufficiently address performance because its feedback generally summarizes the information that the programs have provided without comparing their performance to a standard, and it rarely makes suggestions for improvement. For example, in assessing Los Angeles's progress report on its activities in the first half of 2017, CDPH provided nine responses to Los Angeles evaluating its accomplishment of its contract goals. In six of those responses, CDPH merely summarized the information reported and thanked Los Angeles for its efforts. In two other responses, CDPH suggested that Los Angeles should repeat its description of activities performed for other goals but did not offer any insight on shortcomings. Without a more robust assessment of the performance of local prevention programs, CDPH cannot determine whether its method of delegating its responsibility to address environmental lead risks is effectively preventing lead poisoning.

CDPH Is Missing Opportunities to Facilitate Lead Abatement Throughout the State

Although CDPH asserted that it does not have the funds to perform proactive abatement of all regions of the State at risk for lead exposure, it could nevertheless better ensure that it uses existing funding effectively and apply for additional funding to perform abatement activities in the highest risk areas. For instance, a variety of federal grants and funding resources are available that can be used to offset the cost of abatement and other intervention efforts. CDC and the U.S. Department of Housing and Urban Development have awarded grants to perform abatement and prevention activities, and the Centers for Medicare & Medicaid Services (CMS) offers funding that some states use for lead abatement.

CDPH's review of lead prevention programs' progress reports does not appear to sufficiently address programs' performance, and it rarely makes suggestions for improvement.

Registries of residences can provide information to property buyers and renters, such as whether and when a property was inspected for lead and the status of any identified lead hazards.

When we asked CDPH's branch chief why CDPH has not applied for these funds, she stated that the amount of lead exposure prevented might not be worth the effort to manage such grants. Specifically, she explained that such grants would require a memorandum of understanding with DHCS, the State's lead agency for interacting with CMS. In addition, she stated that it would take time for CDPH to create a team dedicated to lead hazard abatement and learn how to contract with private abatement companies. She further asserted that CDPH would be competing with local jurisdictions and that such funding would pay for abatement for only a tiny fraction of the State's housing with lead risks. However, we do not find these reasons compelling. As we describe previously, more than half of the children with elevated lead levels are concentrated in 15 percent of the State's census tracts. Moreover, as the agency overseeing lead poisoning prevention statewide, CDPH could efficiently facilitate the distribution of such funding by directly applying for it and passing it on to local programs, rather than having them expend resources competing against each other.

Unlike California, some states use proactive methods to facilitate lead abatement in the environment. For example, a number of states—including Massachusetts and Maryland—maintain publicly accessible online registries of residences built before 1978, the year lead paint was banned. These registries can provide information to property buyers and renters, such as whether and when a property was inspected for lead and the status of any identified lead hazards. This information allows the buyers and renters to better assess the risk of lead or the need for abatement. State regulations already require CDPH to collect lead inspection and abatement information. In fact, according to the lead hazard reduction chief, it receives such information on tens of thousands of properties every year, and it maintains this information in a database. Nonetheless, CDPH does not currently make this information available to the public, and it does not have plans to do so.

When we asked CDPH's branch chief about the value of such registries, she agreed that they might encourage property owners to abate lead on their properties. However, she suggested that it is more useful to presume that a house built before 1978 has lead-based paint, and she explained that the public can obtain the age of a home from the local tax assessor's office or realtor websites. In addition, she noted that the data in the registry might be misleading because some level of lead always remains after abatement and because the data may not be current. However, the points she raises do not appear to outweigh the value to the public of such information. In addition, CDPH's lead hazard reduction chief raised concerns that its database may contain personally identifying or medical information in cases where the inspection or abatement resulted from its case management efforts. If CDPH uses

the information it already collects to create a registry, it will need to take steps to ensure that it does not make information available to the public that could be used to identify individuals in its case management system.

Federal law requires landlords and sellers of properties to disclose lead hazards for most residential properties built before 1978 unless they have been inspected and found to be free of lead-based paint. However, according to California's real estate disclosure guidelines we reviewed, this information is provided with the actual leases and contracts. As a result, potential renters and buyers may not have this information readily available when they are comparing their options. By providing this information to the public, CDPH would allow individuals to make more informed decisions about the potential risks of properties and to more accurately assess the possibility of future costs for abatement.

Recommendations

Legislature

To provide sufficient information to homebuyers and renters, the Legislature should require CDPH, by December 2021, to provide an online lead information registry that allows the public to determine the lead inspection and abatement status for properties. To accomplish this task, CDPH should use the information it already maintains only to the extent that it can ensure that it does not make personally identifying information, including medical information, public.

CDPH

To identify the highest priority areas for using resources to alleviate lead exposure among children, CDPH should immediately complete and publicize an analysis of high-risk areas throughout the State.

To ensure that local prevention programs' outreach results in a reduced number of children with lead poisoning, CDPH should, by December 2020, require local prevention programs to demonstrate the effectiveness of their outreach in meeting this goal. If the local prevention programs are unable to demonstrate the effectiveness of their outreach in reducing the number of children with lead poisoning, CDPH should analyze the cost-effectiveness of other approaches, including proactive abatement, and require the local prevention programs to replace or augment outreach to the extent resources allow.

To offset the cost of mitigating lead exposure in the highest-risk areas of the State, CDPH should seek out and apply for additional lead prevention funding as funding opportunities become available from CDC, the Department of Housing and Urban Development, and CMS. To the extent necessary, CDPH should enter into a memorandum of understanding with DHCS to apply for and obtain this funding.

To better hold local prevention programs accountable for performing required activities, CDPH should, by June 2020, conduct direct oversight through site visits for each of the local prevention programs, and it should ensure that it continues to do so at least once per contract cycle. In addition, CDPH should use the local prevention programs' biannual progress reports to assess local prevention programs' performance and provide feedback on their strengths and shortcomings.

Chapter 3

CDPH HAS NOT DEMONSTRATED EFFECTIVE MANAGEMENT OF THE LEAD PREVENTION PROGRAM

Chapter Summary

CDPH has failed to effectively manage a number of aspects of the lead prevention program. For example, it has not met several legislative requirements that would allow it and health care providers to better identify children who need testing for lead poisoning. In addition, it has not effectively advocated for changes to a state law that makes it optional for laboratories to report information CDPH needs to match lead test results to children, thus causing a backlog of unprocessed lead test results. Finally, CDPH has continued to use outdated information in its formula to allocate funds to local prevention programs, resulting in differences in the services that some local programs are able to provide to children with lead poisoning.

CDPH Failed to Meet Several Recent Legislative Mandates

CDPH has failed to meet several legislative requirements that could improve the identification of children who need testing for elevated lead levels. For example, CDPH is overdue in producing a statutorily required report on the effectiveness of the lead prevention program. Further, it did not adhere to state law requiring it to develop regulations by July 2019 that include its determination of factors indicating that a child is at risk of lead poisoning, based on its assessment of the most significant environmental risk factors. In addition, CDPH's failure to meet a requirement to notify health care providers in a timely manner of the risks and requirements related to lead poisoning may have resulted in children not receiving the follow-up lead tests necessary to identify whether case management services have been effective or children require further services.

CDPH Has Not Produced a Required Biennial Report

CDPH has failed to meet several legislative deadlines related to childhood lead poisoning prevention and testing. As Table 3 shows, one of these requirements is to post on its website a biennial report describing the effectiveness of its case management efforts. According to state law, this report must include information on the number of children tested for lead poisoning, the number that received certain case management and environmental services, the identified sources of lead exposure, and whether those sources have

been removed, remediated, or abated. However, CDPH did not produce the report by the March 2019 deadline. As we discuss in Chapter 2, the branch chief stated that CDPH was unable to meet this deadline because it lacked the staff to do so and its branch chief position had been vacant. However, given that CDPH had prepared a draft of the report by March 2019, it is unclear how those factors led to such a lengthy delay.

Table 3
CDPH Has Failed to Meet Several Legislative Requirements Related to Lead Poisoning Prevention and Treatment

| LAW SECTION | LEGAL REQUIREMENT | MISSED DEADLINE |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Health and Safety Code section 105285 | Develop regulations to include CDPH's determination of risk factors for whether a child is "at risk" based on CDPH's assessment of the most significant environmental risk factors. | July 1, 2019 |
| Health and Safety Code section 124125 | Post on CDPH's website its analysis of the prevalence, causes, and geographic occurrences of high childhood blood lead levels. | March 1, 2019 |
| | Post on CDPH's website its analysis of the areas of the State that CDPH has identified and targeted where childhood lead exposures are especially significant. | |
| | Post on CDPH's website an evaluation of its progress toward designing and implementing a program of medical follow-up and environmental abatement that will reduce the incidence of excessive childhood lead exposures in California. | |
| | Post on CDPH's website an evaluation of its progress toward working with DHCS to advance lead testing for children enrolled in Medi-Cal. | |
| | To the greatest extent possible, post on CDPH's website a list of the census tracts in which children test positive for blood lead levels at rates higher than the national average and that are in excess of CDC's reference level.* | |
| Health and Safety Code section 105295 | Post on CDPH's website a biennial report on the effectiveness of its case management, including the following: <ul style="list-style-type: none"> • Number of children tested for lead poisoning and who received certain case management and environmental services; the identified sources of this lead exposure; and whether those sources have been removed, remediated, or abated. • Data by county and age on the number of children in Medi-Cal and not in Medi-Cal who have received lead tests, and the number of children in Medi-Cal who have not received lead tests. • Publicly releaseable data and information that CDPH compiles in accordance with the requirements of Health and Safety Code section 124125 above. | March 1, 2019 |
| Health and Safety Code section 105286 | CDPH shall notify providers of the risks and effects of childhood lead exposure, as well as the requirement that children in Medi-Cal and other at-risk children receive lead tests. | <i>Effective January 1, 2019; no deadline specified in state law.</i> |

Source: Review of state law, CDPH documentation, and interviews with CDPH staff.

* In 2012 the CDC set this level at 5 micrograms.

CDPH Could Improve the Identification of Children at Risk for Lead Poisoning by Finalizing Its Assessment of Environmental Risk Factors

A state law effective January 2018 required CDPH to develop regulations by July 1, 2019, identifying which factors health care providers must consider when determining whether children are at risk of lead poisoning, but it has not yet adopted these regulations. The law directs CDPH, when determining the risk factors, to consider a variety of significant environmental risks associated with lead exposure. The current regulation—which has not been updated since 2001—requires health care providers to assess only one environmental risk factor. Specifically, the current regulation requires health care providers to ask parents or guardians if their children live in or spend considerable time in a structure built before 1978 that has peeling or chipped paint or that has been recently renovated. However, many cases of lead poisoning among children are caused by sources of lead exposure other than lead-based paint. Although lead paint was the most common source of lead exposure CDPH reported in its analysis of 188 cases of children poisoned by lead during fiscal year 2015–16, the analysis also indicates that 95 of these children were exposed to other sources of lead, such as cosmetics and traditional remedies (37 children) and imported foods and spices (six children). The current state regulation does not address these sources.

As Table 4 shows, other states address more risk factors in the questionnaires they use to assess whether children are at risk of lead exposure. By addressing only the age of a building—which aids in determining whether it might contain lead paint—California’s current regulation does not assist health care providers in identifying children exposed to lead through other sources. CDPH’s branch chief acknowledged the limitations of the current evaluation requirement and indicated that CDPH failed to meet the deadline for developing the new regulations because it lacked sufficient feedback from stakeholders. However, CDPH did not start soliciting this stakeholder feedback from medical providers until mid-June 2019, less than a month before the deadline for developing the regulations. If CDPH intended to develop the regulations by July 1, 2019, it should have solicited this feedback from stakeholders several months earlier.

CDPH currently anticipates submitting its regulations to the California Health and Human Services Agency (CHHS) for review by March 1, 2020, eight months after the deadline. This delay has resulted in health care providers not having updated information on the current environmental lead risk factors that they need to consider, and possibly not detecting and treating lead poisoning in certain children. Moreover, even after it submits these regulations to CHHS, additional steps in the process are necessary before the

Many cases of lead poisoning among children are caused by sources of lead exposure other than lead-based paint.

regulations are finalized. For example, the draft regulations must be submitted to the State's Office of Administrative Law to commence the formal rulemaking process. Consequently, the process will take more time than the March 2020 date suggests. However, when we asked CDPH when it anticipated that the regulations would be finalized, it did not share its time frame for completing these subsequent steps.

Table 4
California Regulations Do Not Require Health Care Providers to Ask Families Questions About Lead Risk Factors Commonly Considered in Other States

| COMMON RISK FACTORS FOR LEAD POISONING | CALIFORNIA | NEW YORK | TEXAS | ILLINOIS | OHIO |
|------------------------------------------------------------------------|------------|----------|-------|----------|------|
| Residency or time spent in an older building or one undergoing repairs | ✓ | ✓ | ✓ | ✓ | ✓ |
| Residency in or visit to a foreign country | ✗ | ✓ | ✓ | ✓ | ✗ |
| Sibling or playmate with lead poisoning | ✗ | ✓ | ✓ | ✓ | ✓ |
| Placing nonfood items in the mouth | ✗ | ✓ | ✓ | ✗ | ✗ |
| Proximity to adults who work with lead | ✗ | ✓ | ✓ | ✓ | ✓ |
| Proximity to current or former lead-producing facilities | ✗ | ✓ | ✗ | ✓ | ✓ |
| Using food, medicine, or dishes from other countries | ✗ | ✓ | ✓ | ✓ | ✗ |
| Residency in a high-risk ZIP code | ✗ | ✓ | ✗ | ✓ | ✓ |

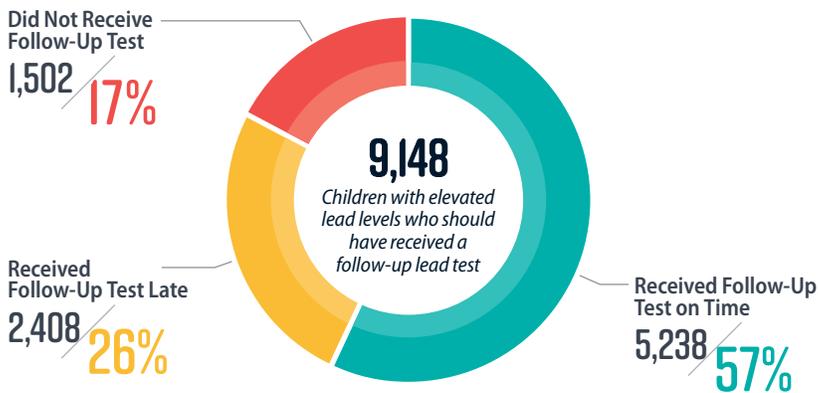
Source: State law; New York, Texas, Illinois, and Ohio Departments of Health.

CDPH Has Failed to Communicate the Importance of Lead Testing to Health Care Providers

Our review of CDPH's data found that thousands of children did not receive follow-up lead tests when needed. When children are identified as having elevated lead levels, CDPH requires providers to administer follow-up tests to determine whether they have continued to be exposed to sources of lead even after receiving treatment. However, as Figure 11 shows, many children are not receiving follow-up tests on time, or at all. Without follow-up tests,

CDPH and the local prevention programs do not know whether treatment has been effective and whether children continue to require care for lead poisoning.

Figure 11
Thousands of Children With Elevated Lead Levels Did Not Receive Follow-Up Lead Tests or Received Them Late
Fiscal Years 2013–14 Through 2017–18



Source: Analysis of CDPH’s case management system data.

The Legislature passed a law effective January 1, 2019, that requires CDPH to inform all health care providers who perform periodic health assessments of children about the risks and effects of childhood lead exposure, as well as about testing requirements. Despite the fact that it already had the necessary information available when the law was passed in 2018, CDPH did not take action to provide that information to health care providers until August 2019. CDPH’s care management chief stated that CDPH took additional time to address the requirement because it was developing numerous ways to communicate with health care providers. However, we question CDPH’s apparent lack of urgency. In August 2019, CDPH submitted information for publication in the Medical Board of California’s fall 2019 quarterly newsletter, yet much of this information could have been included half a year earlier in its spring newsletter. Further, CDPH had other resources it could have used to communicate the required information directly to providers, including pamphlets it already produces, such as the one shown in Figure 12.

Figure 12
CDPH Publishes a Pamphlet Describing Childhood Lead Exposure Risks, Effects, and Testing Requirements

Blood Lead Testing Guidance

- Testing of at-risk children is the best method of early detection of lead exposure
- Toddlers and children in publicly funded programs and those in older neighborhoods and housing are considered most at risk
- Exposure from all sources is cumulative
- Low levels of lead can cause developmental delay and organ damage
- You need to test and ensure appropriate follow-up after testing is done
- It is recommended that providers monitor and provide follow-up for children with levels at or above the current CDC reference value
http://www.cdc.gov/nceh/lead/ACCLPP/CDC_Response_Lead_Exposure_Recs.pdf



Childhood Lead Poisoning Regulations for California Providers Caring for Children

These regulations apply to all physicians, nurse practitioners, and physician's assistants, not just Medi-Cal or Child Health and Disability Prevention (CHDP) providers.

| | |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANTICIPATORY GUIDANCE | At each periodic assessment from 6 months to 6 years |
| SCREEN (blood lead test) | <ul style="list-style-type: none"> Children in publicly supported programs for low income children at both 12 months and 24 months Children age 24 months to 6 years in publicly supported programs who were not tested at 24 months or later |
| ASSESS | <ul style="list-style-type: none"> If child is not in a publicly supported program: <ul style="list-style-type: none"> - Ask: "Does your child live in, or spend a lot of time in, a place built before 1978 that has peeling or chipped paint or that has been recently remodeled?" Blood lead test if the answer to the question is "yes" or "don't know". Change in circumstances has put child at risk of lead exposure Other indications for a blood lead test (not regulations, but should be considered): <ul style="list-style-type: none"> - Parental request - Suspected lead exposure - History of living in or visiting a country with high levels of environmental lead |

California state guidelines regarding management and follow-up can be found at:
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/CLPPB/CDPH%20Document%20Library/Lead_HAGs_Table.pdf

Federal Refugee Guidelines www.cdc.gov/immigrantrefugeehealth/guidelines/lead-guidelines.html

- Blood lead test all refugee children 6 months to 16 years old at entry to the U.S.
- Within 3—6 months post-resettlement, follow-up blood lead tests should be conducted on all refugee children aged 6 months to 6 years, regardless of initial screening blood lead level result
- Evaluate the child's iron status including a hemoglobin/hematocrit and red blood cell indices

Source: CDPH pamphlet, published April 2016.

CDPH's delay in informing providers of the risks and effects of lead exposure and the requirements to test for it may result in certain children not receiving appropriate care. State law requires health care providers to share the information from CDPH with parents and guardians, and the need to fulfill this requirement seems especially crucial given the number of parents and health care providers who fail to prioritize lead tests or do not follow lead testing requirements. Specifically, in 10 of the 40 cases of lead poisoning we reviewed, health care providers gave incorrect information about whether children needed follow-up tests or administered incorrect tests. Further, parents declined to return for necessary follow-up tests in 14 of the 40 cases. These errors and missed tests demonstrate the importance of CDPH promptly providing the required information. Not only will the information help educate health care providers on lead testing requirements, it will also assist those providers in communicating the importance of lead tests to parents.

Health care providers gave incorrect information about whether children needed follow-up tests or administered incorrect tests in 10 of the 40 cases of lead poisoning we reviewed.

CDPH's Failure to Ensure That Laboratories Submit Adequate Patient Identification With Test Results Has Led to a Backlog of Unprocessed Cases

Despite a backlog of lead test results, CDPH has not sufficiently advocated for changes necessary to efficiently assign lead test results to children's cases. CDPH must ensure that a child obtains appropriate case management when lead test results indicate the child has lead poisoning. When it receives test results from laboratories, it must link that data to existing cases in its case management system. Therefore, CDPH needs information that clearly identifies the child tested.

According to CDPH, the system currently uses identifying information for the test results, such as names, birth dates, and ZIP codes from addresses, to assign lead test results to new or existing cases. However, state law related to blood lead test reporting requires laboratories to report birth dates and addresses only if they have that information. If they do not have a child's birth date, the law allows reporting the child's age. Similarly, the law allows reporting a phone number when the address is not available. However, when labs do not submit addresses or birth dates, the case management system is sometimes unable to assign test results to children. If the system is unable to match new test results to existing cases, it cannot update the cases with new measurements of blood lead levels or close the cases when test results indicate it is safe to do so. Instead, it sends the records to a queue for manual processing by CDPH staff.

Since 2006 CDPH's case management system has received more than 9 million test results, 9.6 percent of which required manual data processing. Test results without sufficient identifying information have contributed to the nearly 700,000 test results CDPH had queued in its system as of August 2019. Based on its 2018 average manual processing rate of 14 tests per day, CDPH would need an estimated 132 years to address this backlog, even if no additional test results were added. According to CDPH, it prioritizes manually reviewing and assigning to cases those test results in its queue that are above 3.3 micrograms. Our review verified that the lead test results remaining in the queue did not include any children with lead levels greater than this value. However, according to the chief of care management, this backlog has limited CDPH's and local prevention programs' ability to efficiently track cases and determine the need for follow-up care, as manually searching for tests consumes a significant amount of staff time.

Although requiring more complete identifying information would help in assigning test results to new or existing cases, matching tests to cases can best be accomplished with a unique identifier, according to an epidemiologist at CDPH. She described various unique identifiers, such as Medi-Cal identification numbers and medical plan identification numbers, that laboratories could include with their test results. State law allows laboratories the option of reporting additional identifying information to CDPH, and CDPH's case management system has the capacity to collect such information. However, this law does not require such reporting. In addition, even though laboratories must review Medi-Cal identification numbers for billing purposes, CDPH states that they rarely submit them with test results.

CDPH's chief of its program evaluation and research section stated that CDPH is concerned that advocating for changes to state law might adversely impact the information it receives because laboratories and health care providers might advocate for less stringent requirements in response. Nevertheless, this information would improve CDPH's ability to efficiently monitor the status of children with lead poisoning and determine their need for follow-up care. Consequently, it is in the best interests of CDPH and the public for CDPH to prioritize advocating for legislative changes to require a unique identifier with test results from laboratories.

It is in the best interests of CDPH and the public for CDPH to prioritize advocating for legislative changes to require a unique identifier with lead test results from laboratories.

Poor data reporting by laboratories has also impeded CDPH's ability to contact families of children who need services. CDPH requires contact information for children in order to provide additional services, such as home visits and environmental assessments. State law requires laboratories to report either phone numbers or addresses with test results. However, laboratories often do not submit sufficient information. Specifically, more than

325,000 records—or 12 percent of the lead tests that laboratories reported from July 2013 through June 2018 for children age 6 and under—lacked both addresses and phone numbers. Requiring laboratories to report both an address and telephone number would improve CDPH's ability to contact the families of children with lead poisoning to deliver appropriate case management services. Further, it would provide information that CDPH could use to match lead tests to children's records that do not have unique identification numbers.

CDPH's Failure to Update Its Local Prevention Program Funding Allocation Methodology Has Led to Inequities in Allocations to Local Programs

CDPH's inequitable methodology for allocating funds to local prevention programs has led to significant differences in the level of services those programs provide to children diagnosed with lead poisoning. Specifically, CDPH uses a formula based on outdated data, such as the number of children with lead poisoning in 2007. As a result, it has allocated to local prevention programs dramatically different amounts of funding per child with lead poisoning in their jurisdictions. According to CDPH's administrative section chief, it generally bases funding for the local prevention programs on a number of factors, including an area's number of low-income children, its number of children in older housing, and the number of children with lead poisoning in the county in which the program is located. However, CDPH did not maintain documentation specifying how or when it calculated the proportions in which it distributes funds, so it had to recreate that analysis in response to our request for information.

Although the standard of care for case management of children with lead poisoning is the same regardless of where they live in the State, one of the local prevention programs we visited explained that its ability to provide home visits is limited by the amount of funding it receives. We found that during the contract period for fiscal years 2017–18 through 2019–20, the allocations to local prevention programs did not align with the numbers of children with lead poisoning for which the programs are responsible. For example, CDPH allocated the Riverside County local prevention program almost \$550,000 in basic funding, while it allocated the Sacramento County local prevention program—which had twice as many children with lead poisoning—only \$409,000. In fact, for local prevention programs with five or more such children, we found that the annual funding CDPH allocated varied from roughly \$3,000 per child with lead poisoning to more than \$30,000 per child with lead poisoning, based on CDPH's counts of children with lead poisoning from 2015.

CDPH allocated the Riverside County local prevention program almost \$550,000 in basic funding, while it allocated the Sacramento County local prevention program—which had twice as many children with lead poisoning—only \$409,000.

We observed differences in the levels of service provided by some local prevention programs because of funding levels, despite the fact that they are contracted to provide case management of children with lead poisoning according to the same criteria. For example, the Humboldt County local prevention program, to which CDPH allocated the equivalent of about \$3,000 in basic funding per child with lead poisoning, performed home visits in only six of the 10 cases we reviewed, and it averaged 1.5 visits for those cases before their closure. It generally conducted a greater proportion of its outreach to the families of children with lead poisoning by telephone or letter rather than through home visits. In contrast, the Fresno County local prevention program—to which CDPH allocated the equivalent of more than \$6,000 in basic funding per child with lead poisoning—performed home visits for every case we reviewed, and it visited each child eight times on average. Given that the suggested case management is similar for the lead levels of the children whose cases we reviewed in the two programs, we find the differences between the levels of service the children received troubling.

CDPH intends to continue using these funding allocations for contracts beginning in fiscal year 2020–21 despite the disparity in the services the local prevention programs have provided. According to CDPH’s administrative section chief, CDPH plans to continue using its current allocations because it anticipates upcoming changes to the lead prevention program as a result of the regulations it is in the process of completing to expand the definition of environmental lead hazard risk factors. However, he did not provide an expected completion date for these regulations. CDPH’s continued reliance on a formula that uses outdated information to allocate funding to local prevention programs has contributed to children receiving unequal levels of service. CDPH should instead create an allocation methodology that provides more equitable funding for these programs before it executes additional contracts with them.

Recommendations

Legislature

To support CDPH’s efforts to efficiently monitor lead test results, the Legislature should amend state law to require that laboratories report Medi-Cal identification numbers or equivalent identification numbers with all lead test results.

To ensure that CDPH can contact the families of children with lead poisoning and has alternative information to match lead tests to the children's records that do not have unique identification numbers, the Legislature should amend state law to require laboratories to report phone numbers and addresses with all lead test results.

CDPH

To better ensure that children with lead poisoning are identified and treated, CDPH should prioritize meeting legislative requirements related to these issues, including doing the following by March 2020:

- Finish developing the lead risk evaluation regulations and include in them multiple risk factors, such as those used in lead risk evaluation questionnaires in other states. It should also commence the formal rulemaking process.
- Provide guidance to health care providers about the risks of childhood lead exposure and statutory requirements related to lead testing.

To ensure a more equitable distribution of resources for treating children with lead poisoning, CDPH should, by June 2020, update its methodology for allocating funds to local prevention programs, including accounting for the most recent annual count of children with lead poisoning in each jurisdiction. CDPH should revise the allocations before each contract cycle.

We conducted this audit under the authority vested in the California State Auditor by Government Code 8543 et seq. and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives specified in the Scope and Methodology section of the report. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Respectfully submitted,



ELAINE M. HOWLE, CPA
California State Auditor

January 7, 2020

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Appendix A

Scope and Methodology

The Joint Legislative Audit Committee (Audit Committee) directed the California State Auditor to examine the oversight of blood lead tests and associated services by DHCS and CDPH. Table A below lists the objectives that the Audit Committee approved and the methods we used to address them.

Table A
Audit Objectives and the Methods Used to Address Them

| AUDIT OBJECTIVE | METHOD |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Review and evaluate the laws, rules, and regulations significant to the audit objectives. | Identified and reviewed relevant federal and state laws, rules, and regulations related to lead testing and lead poisoning prevention. |
| 2 Determine whether DHCS, CDPH, and a selection of applicable contracted agencies complied with relevant laws and regulations governing blood lead level testing and follow-up services for children. If any of the agencies did not meet statutory or regulatory requirements, identify the reasons. | <ul style="list-style-type: none"> • Evaluated the policies and processes CDPH uses to establish thresholds for blood lead concentrations that indicate the need for follow-up services. We determined that CDPH adopted federal standards. • Evaluated CDPH's process for notifying children's parents or guardians of the results of lead tests and environmental assessments. We determined that health care providers are responsible for informing parents and guardians of lead test results, and environmental investigators provide the results of environmental assessments at their conclusion. • Determined how CDPH plans to meet new requirements established by Senate Bill 1041 (Chapter 690, Statutes of 2018) to inform health care providers about lead testing requirements and the risks and effects of lead exposure. • Determined whether CDPH has adequate and appropriate procedures for revising lead testing protocols and policies. We determined that CDPH's policy is to base revisions to its policies on CDC guidance. • Evaluated the adequacy of DHCS' procedures to ensure that providers comply with the state regulation requiring the provision of lead tests for children in Medi-Cal. |

continued on next page...

| AUDIT OBJECTIVE | METHOD |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>3 For at least the previous three years, determine how many children enrolled in Medi-Cal for at least three months received blood lead tests at age 12 months and age 24 months, respectively. Additionally, determine how many children did not receive the two required blood lead tests by age 24 months and did receive them before age 72 months.</p> <p>To the extent possible, determine how many of these children with elevated blood lead levels received the appropriate follow-up services as required by laws and regulations, identify which agencies provided the services, and assess whether the services provided were appropriate or duplicative.</p> <p>Furthermore, to the extent possible, identify how many children who should have received tests did not, and how many who should have received appropriate services did not.</p> | <ul style="list-style-type: none"> • Analyzed DHCS' data to determine the number of children who were enrolled in Medi-Cal and received blood lead tests. Our analysis included child Medi-Cal beneficiaries with full-scope benefits who were eligible for at least three consecutive months that spanned their first or second birthdays. We considered a child as having a test at age one or age two if the child received a blood lead test within six months of the child's first or second birthday, respectively. For children who did not receive a test at age two, we determined whether they subsequently received a blood lead test before turning age six. • Analyzed CDPH data to identify children with elevated lead levels and determined whether those children received the necessary follow-up lead tests within CDPH's specified timelines. As we discuss in Chapter 3, data limitations affect CDPH's ability to assign lead test results to the correct children in its case management system. Therefore, our analysis identified unique children based on their names and birthdates. • Reviewed a selection of cases of children with elevated lead levels to assess whether the children received appropriate case management services in accordance with CDPH guidelines and contracts with local agencies and whether CDPH and local prevention programs duplicated services provided by other agencies. We found that the children received appropriate case management services and that the services CDPH and local prevention programs provided to these children were not duplicative of services provided by other agencies. |
| <p>4 Determine how DHCS and CDPH collect and share data and reporting related to blood lead level testing and follow-up services for children in Medi-Cal, and assess whether the information is shared efficiently and effectively between the two entities.</p> <p>Assess how the entities use the collected data and whether other opportunities exist to make use of the collected data to better serve children with elevated blood lead levels and to improve statutory or regulatory compliance.</p> | <ul style="list-style-type: none"> • Determined how DHCS and CDPH collect and share information on lead testing and follow-up services. DHCS and CDPH collect data for different purposes and share the information through an interagency agreement. • Assessed the efficiency and effectiveness of data collection, reporting, and sharing between DHCS and CDPH and determined whether increased sharing could better ensure that children receive tests and services in a timely manner and in accordance with applicable law. We found that CDPH's existing agreement with DHCS provides sufficient access to obtain the data necessary to meet a new requirement to report the numbers of children enrolled in Medi-Cal who did and did not receive lead tests. • Determined how DHCS and CDPH use the data they collect to serve children with elevated blood lead levels and to comply with state law. • Identified opportunities to make use of the available data to better serve children, including analyzing the potential benefits of making CDPH data available to DHCS. State law changed in June 2019 to allow CDPH to share its data with DHCS to better ensure that children enrolled in Medi-Cal receive lead tests and related services. • Determined whether additional data reporting by providers and laboratories would allow CDPH to better target its lead poisoning reduction efforts. |
| <p>5 Determine whether DHCS and CDPH maintain complete data for blood lead level test results and follow-up services for children.</p> <p>Assess how CDPH and DHCS ensure that they receive accurate and complete data from entities they work with to administer blood lead level tests and follow-up services, such as contracted local agencies and managed care plans. Additionally, determine how this data is managed and utilized to ensure entities comply with laws and regulations in providing tests and services.</p> | <ul style="list-style-type: none"> • Evaluated the consistency and effectiveness of DHCS' efforts to ensure accurate and complete data. • Evaluated the effectiveness of CDPH's efforts to ensure accurate and complete data, including how it manages its backlog of test results and how the backlog hinders its ability to mitigate lead risks. • Evaluated CDPH's efforts to ensure that laboratories accurately and completely report all required data with the results of lead tests in a timely manner. • Reviewed a selection of lead test results and verified the accuracy of the blood lead levels using source documentation from the laboratories. • Evaluated the two agencies' management and use of data to ensure compliance with applicable law. |

| AUDIT OBJECTIVE | METHOD |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>6 Assess the extent to which the programs to manage blood lead testing and lead exposure prevention administered by DHCS and CDPH are achieving their respective missions. If the programs are not meeting their missions, identify the major reasons why not.</p> | <ul style="list-style-type: none"> • Evaluated DHCS' facility site reviews and other oversight activities to ensure that all children in Medi-Cal receive lead tests. • Analyzed a selection of lead poisoning cases to evaluate the effectiveness of CDPH's case management process by determining whether CDPH followed its procedures and whether the procedures resulted in decreases in the children's lead levels. We did not find any instances where the case management deviated from CDPH's procedures, and we found that in nearly all cases, the children's lead levels decreased. • Determined the extent to which DHCS and CDPH coordinate or overlap in providing case management services to children who have been exposed to lead. The nature of the services each agency provides are different, resulting in minimal risk of overlap. • Evaluated how well CDPH identifies and mitigates environmental lead risks in specific geographic areas through environmental lead testing or other processes. • Reviewed how CDPH assesses the progress it has made toward eliminating lead poisoning and determined that it does so by tracking the percentage of tested children with elevated lead levels over time. We found that during the past five years, these percentages have not consistently decreased. • Researched efforts to identify and mitigate lead exposure used by a sample of other states. To the extent possible, quantified the effect of these efforts. • Identified questions included in lead screening questionnaires for a sample of other states and compared them to California's screening regulation. |
| <p>7 Determine the extent to which DHCS and CDPH could achieve programmatic efficiencies, cost-savings, and more effective service provision through greater coordination of blood lead level testing and follow-up services as required by laws and regulations.</p> | <ul style="list-style-type: none"> • Identified the expenditures and revenues of CDPH's lead prevention fund. • Evaluated the appropriateness of the major costs of the lead prevention program. • Determined the financial sustainability of the lead prevention program and CDPH's plan to improve its financial outlook. • Determined whether CDPH followed appropriate practices in selecting a new case management system. We found that it is in the early stages of procuring the new system. • Identified whether CDPH and DHCS overlap in their functions and whether reducing this overlap could result in increased efficiencies or cost savings. We found that the functions each agency serve are different, resulting in minimal overlap. |
| <p>8 Determine what efforts DHCS and CDPH have taken to increase the number of children who receive blood lead level testing and follow-up services to comply with applicable laws and regulations.</p> | <ul style="list-style-type: none"> • Determined the extent of DHCS' efforts to increase the number of children who receive lead testing. • Determined how CDPH targets its outreach to areas of the State where childhood lead exposure is especially prevalent. CDPH stated that it does not target specific areas of the State where childhood lead exposure is especially prevalent. • To the extent possible, correlated CDPH's and the local prevention programs' outreach efforts with increased lead testing in individual jurisdictions. • Identified policies and best practices in the 10 states with the highest lead testing rates for Medicaid-enrolled children. |
| <p>9 Identify and display the geographic distribution of and identify any possible factors that may help explain concentrations of children with elevated blood lead levels. Additionally, identify the geographic distribution of areas with children who should have been tested and have not been.</p> | <ul style="list-style-type: none"> • Geographically identified and mapped children with elevated lead levels and children enrolled in Medi-Cal who should have received lead tests but did not. We were able to map more than 99 percent of required and missed Medi-Cal lead tests, as well as 92 percent of children with elevated lead levels. • Identified and documented possible factors that may help explain concentrations of children with elevated blood lead levels. We did not identify factors with consistent relationships to geographic distributions of children with elevated lead levels, which may be attributable to inconsistent testing rates in different geographic areas. |
| <p>10 Review and assess any other issues that are significant to the audit.</p> | <p>None identified.</p> |

Source: Analysis of Audit Committee's audit request number 2019-105, planning documents, and analysis of information and documentation identified in the table column titled Method.

Assessment of Data Reliability

The U.S. Government Accountability Office, whose standards we are statutorily required to follow, requires us to assess the sufficiency and appropriateness of the computer-processed information that we use to support our findings, conclusions, and recommendations. In performing this audit, we relied on DHCS' Management Information System/Decision Support System and CDPH's Response and Surveillance System for Childhood Lead Exposures II (case management system) to identify when children received blood lead tests and the results of the tests. To evaluate these data, we reviewed existing information about the data, interviewed agency officials knowledgeable about the data, and performed electronic testing of the data. We identified various limitations with the data.

Specifically, we reviewed a 2015 report from an organization DHCS contracted with that revealed concerns with both the completeness and the accuracy of DHCS' data from 2012. This report issued several recommendations to DHCS in an effort to improve data quality, and DHCS took steps to implement these recommendations. Further, a 2019 report from the same contractor found that DHCS' 2016 data were more complete and accurate than its data from 2012, but it also found gaps in the quality of the more recent data. However, we are unable to quantify the effect these issues had on the data we used for this audit because we were unable to perform completeness or accuracy testing as source documentation was available only at individual medical providers throughout the State, making such testing cost-prohibitive. With respect to the case management system, as we discuss in Chapter 3, we noted that insufficient data from laboratories, such as names, birth dates, and unique identifiers, limits CDPH's ability to assign lead test results it receives from laboratories to the correct children in its system.

As a result of these data limitations, we found that the Management Information System/Decision Support System and case management system data were of undetermined reliability for our purposes. Although this determination may affect the precision of the numbers we present, there is sufficient evidence in total to support our findings, conclusions, and recommendations.

Appendix B

Many Children in Medi-Cal Who Did Not Receive All Their Lead Tests Live in the 50 Census Tracts Where Elevated Lead Levels Are Most Common

As part of this audit, we identified those geographic areas where the largest numbers of children under age six with elevated lead levels reside and determined for the same areas the number of missed tests children in Medi-Cal at ages one and two should have received. From fiscal years 2013–14 through 2017–18, the results of lead tests for the 50 California census tracts with the most children with elevated lead levels showed that in nine census tracts in Sacramento County nearly 700 children under age six had elevated lead levels, and children at ages one and two who were enrolled in Medi-Cal in those areas missed nearly 70 percent of their required tests. Similarly, in eight census tracts in Fresno County, children at ages one and two in Medi-Cal missed nearly half of the required tests (4,408 of 9,026), despite the fact that 488 children under age six with elevated lead levels lived in those areas. Los Angeles County also had seven census tracts among the 50 with the most children with elevated lead levels, while Humboldt County and Imperial County each had four, as Table B shows.

Table B
The 50 Census Tracts in the State With the Most Children Under Six With Elevated Lead Levels
Fiscal Years 2013–14 Through 2017–18

| COUNTY CENSUS TRACT NUMBER | ALL CHILDREN LESS THAN SIX YEARS OF AGE | CHILDREN IN MEDI-CAL AGES ONE AND TWO | | |
|---------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------|
| | NUMBER OF CHILDREN WITH ELEVATED LEAD LEVELS* | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL SHOULD HAVE RECEIVED | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED | PERCENTAGE OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED |
| Sacramento County | | | | |
| 62.01 | 153 | 1,135 | 743 | 65% |
| 55.05 | 91 | 815 | 511 | 63 |
| 74.23 | 82 | 1,130 | 821 | 73 |
| 60.02 | 76 | 588 | 402 | 68 |
| 61.02 | 75 | 809 | 482 | 60 |
| 77.01 | 58 | 726 | 518 | 71 |
| 56.05 | 55 | 725 | 426 | 59 |
| 74.13 | 44 | 1,021 | 761 | 75 |
| 61.01 | 43 | 421 | 327 | 78 |
| <i>Subtotal of These Sacramento Census Tracts</i> | 677 | 7,370 | 4,991 | 68% |

continued on next page...

| COUNTY CENSUS TRACT NUMBER | ALL CHILDREN LESS THAN SIX YEARS OF AGE | CHILDREN IN MEDI-CAL AGES ONE AND TWO | | |
|----------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------|
| | NUMBER OF CHILDREN WITH ELEVATED LEAD LEVELS* | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL SHOULD HAVE RECEIVED | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED | PERCENTAGE OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED |
| Fresno County | | | | |
| 6 | 87 | 1,364 | 658 | 48% |
| 26.01 | 79 | 1,197 | 567 | 47 |
| 24 | 67 | 977 | 490 | 50 |
| 25.02 | 61 | 1,047 | 479 | 46 |
| 4 | 52 | 1,172 | 554 | 47 |
| 5.02 | 52 | 630 | 298 | 47 |
| 20 | 46 | 1,254 | 588 | 47 |
| 71 | 44 | 1,385 | 774 | 56 |
| <i>Subtotal of These Fresno Census Tracts</i> | 488 | 9,026 | 4,408 | 49% |
| Los Angeles County | | | | |
| 2319 | 57 | 1,067 | 537 | 50% |
| 2293 | 54 | 942 | 523 | 56 |
| 2318 | 49 | 974 | 474 | 49 |
| 2267 | 48 | 929 | 514 | 55 |
| 2285 | 47 | 925 | 530 | 57 |
| 2316 | 42 | 984 | 561 | 57 |
| 2327 | 42 | 871 | 488 | 56 |
| <i>Subtotal of These Los Angeles Census Tracts</i> | 339 | 6,692 | 3,627 | 54% |
| Humboldt County | | | | |
| 1 | 85 | 482 | 246 | 51% |
| 2 | 74 | 645 | 323 | 50 |
| 105.01 | 46 | 583 | 302 | 52 |
| 111 | 41 | 496 | 214 | 43 |
| <i>Subtotal of These Humboldt Census Tracts</i> | 246 | 2,206 | 1,085 | 49% |
| Imperial County | | | | |
| 121 | 62 | 1,393 | 453 | 33% |
| 116 | 47 | 1,097 | 322 | 29 |
| 122 | 44 | 1,241 | 330 | 27 |
| 115 | 41 | 973 | 296 | 30 |
| <i>Subtotal of These Imperial Census Tracts</i> | 194 | 4,704 | 1,401 | 30% |

| COUNTY CENSUS TRACT NUMBER | ALL CHILDREN LESS THAN SIX YEARS OF AGE NUMBER OF CHILDREN WITH ELEVATED LEAD LEVELS* | CHILDREN IN MEDI-CAL AGES ONE AND TWO | | |
|-------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------|
| | | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL SHOULD HAVE RECEIVED | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED | PERCENTAGE OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED |
| San Bernardino County | | | | |
| 49 | 60 | 1,371 | 818 | 60% |
| 55 | 50 | 2,203 | 1,432 | 65 |
| 56 | 47 | 1,428 | 935 | 65 |
| <i>Subtotal of These San Bernardino Census Tracts</i> | 157 | 5,002 | 3,185 | 64% |
| Orange County | | | | |
| 749.01 | 61 | 1,571 | 510 | 32% |
| 746.02 | 51 | 1,360 | 440 | 32 |
| <i>Subtotal of These Orange Census Tracts</i> | 112 | 2,931 | 950 | 32% |
| San Diego County | | | | |
| 157.01 | 69 | 1,187 | 691 | 58% |
| 163.02 | 42 | 730 | 468 | 64 |
| <i>Subtotal of These San Diego Census Tracts</i> | 111 | 1,917 | 1,159 | 60% |
| Madera County | | | | |
| 8 | 56 | 1,443 | 413 | 29% |
| 9 | 51 | 1,840 | 503 | 27 |
| <i>Subtotal of These Madera Census Tracts</i> | 107 | 3,283 | 916 | 28% |
| Riverside County | | | | |
| 405.02 | 54 | 726 | 460 | 63% |
| 428 | 43 | 1,991 | 1,261 | 63 |
| <i>Subtotal of These Riverside Census Tracts</i> | 97 | 2,717 | 1,721 | 63% |
| Kings County | | | | |
| 17.01 | 84 | 1,780 | 967 | 54% |
| Tehama County | | | | |
| 5 | 52 | 869 | 365 | 42% |

| COUNTY CENSUS TRACT NUMBER | ALL CHILDREN LESS THAN SIX YEARS OF AGE | CHILDREN IN MEDI-CAL AGES ONE AND TWO | | |
|-----------------------------|-----------------------------------------------|----------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------|
| | NUMBER OF CHILDREN WITH ELEVATED LEAD LEVELS* | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL SHOULD HAVE RECEIVED | NUMBER OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED | PERCENTAGE OF LEAD TESTS CHILDREN IN MEDI-CAL MISSED |
| Monterey County | | | | |
| 137 | 47 | 763 | 230 | 30% |
| Santa Barbara County | | | | |
| 24.03 | 45 | 2,060 | 868 | 42% |
| Kern County | | | | |
| 13 | 44 | 1,975 | 1,029 | 52% |
| Alameda County | | | | |
| 4062.01 | 44 | 595 | 288 | 48% |
| Santa Cruz County | | | | |
| 1103 | 43 | 1,571 | 783 | 50% |

Source: CDPH's case management system data and DHCS' Management Information System/Decision Support System data.

Note: The table above shows the 50 census tracts that had the most children with elevated lead levels, which range from 41 to 153 children. There is one additional census tract not represented in the table that also had 41 children with elevated lead levels. We did not include this census tract because it had fewer children in Medi-Cal with missed tests than the census tract we included.

* An elevated lead level exists when blood in the body reaches or exceeds a concentration of 4.5 micrograms.

State of California HEALTH AND HUMAN SERVICES AGENCY

GAVIN NEWSOM
GOVERNOR



November 25, 2019

Elaine M. Howle
California State Auditor
621 Capitol Mall, Suite 1200
Sacramento, CA 95814

MARK A. GHALY MD, MPH
SECRETARY

Dear Ms. Howle:

Aging

Child Support
Services

Community Services
and Development

Developmental
Services

Emergency Medical
Services Authority

Health Care Services

Managed Health Care

Office of Health Information
Integrity

Office of Innovation

Office of Law Enforcement
Support

Office of Patient Advocate

Office of Surgeon General

Office of Systems Integration

Public Health

Rehabilitation

Social Services

State Hospitals

Statewide Health
Planning and
Development

Thank you for the opportunity to respond to your draft report entitled, *Childhood Lead Levels: Millions of Children in Medi-Cal Are Not Receiving Required Testing for Lead Poisoning*. The California Health and Human Services Agency and its departments are committed to children's health, including providing required lead tests.

Enclosed are the departments' responses to your draft report.

We appreciate the work performed by your office. If you have any questions, please contact Sarah Aguirre, Audit Coordinator, at (916) 538-7112.

Sincerely,

Handwritten signature of Mark A. Ghaly in cursive.

Mark A. Ghaly, MD, MPH
Secretary

Enclosure

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January 2020

RICHARD FIGUEROA
ACTING DIRECTORState of California—Health and Human Services Agency
Department of Health Care ServicesGAVIN NEWSOM
GOVERNOR

Elaine M. Howle*
California State Auditor
621 Capitol Mall, Suite 1200
Sacramento, CA 95814

Dear Ms. Howle:

The California Department of Health Care Services (DHCS) hereby provides response to the draft findings of the California State Auditor's (CSA) report entitled, *Childhood Lead Levels: Millions of Children in Medi-Cal Are Not Receiving Required Testing for Lead Poisoning*. CSA conducted this audit and issued three recommendations.

DHCS agrees with the recommendations and has prepared corrective action plans to implement them. DHCS is committed to children's health, including providing the required lead tests. DHCS appreciates the work performed by CSA and the opportunity to respond to the findings. If you have any questions, please contact Ms. Nicole Harris, External Audit Coordination Manager, at (916) 713-8812.

Sincerely,

A handwritten signature in black ink that reads 'Richard Figueroa for'.

Richard Figueroa
Acting Director

Enclosure

cc: See Next Page

**Department of Health Care Services' Response to the California State Auditor's
Draft Report, *Childhood Lead Levels: Millions of Children in Medi-Cal Are Not
Receiving Required Testing for Lead Poisoning*
Report Number: 2019-105 (19-22)**

**Finding 1: Department of Health Care Services' (DHCS) Failure to Ensure Timely
Lead Testing of Children in Medi-Cal Places Them at Risk for Permanent Health
Problems**

Recommendation 1

Because of the severe and potentially permanent damage lead poisoning can cause in children, DHCS should ensure that all children in Medi-Cal receive lead tests by finalizing, by December 2020, its performance standard for lead testing of one- and two-year-olds. DHCS should use its existing data to assess the progress of managed care plans in meeting that performance standard and impose sanctions or provide incentive payments as appropriate to improve performance.

Current Status: Will Implement

Estimated Implementation Date: December 2020

Implementation Plan:

DHCS will release the first version of its Preventive Services Utilization Report (Report) by December 2020. DHCS will seek public comment on measures that should be included in the Report. However, it has already been determined that the Blood Lead Screening measure will be included.

- ① DHCS will utilize Medi-Cal managed care plan (MCP) administrative data to calculate the rate of Blood Lead Screening for each MCP per National Committee for Quality Assurance, Healthcare Effectiveness Data and Information Set, technical specifications. The use of these nationally recognized technical specifications will allow DHCS to compare California's Medi-Cal MCP rates to the performance of other Medicaid plans nationally. Furthermore, it will assist DHCS with establishing a performance standard and utilize them to drive quality improvement. MCPs that do not meet the established benchmark will be placed under a Corrective Action Plan (CAP). Should they not come into compliance with the CAP, DHCS will impose sanctions and/or penalties.
- ② Of note, DHCS has already implemented a Value Based Payment (VBP) Program which incentivizes providers to conduct various activities relating to care for Medi-Cal beneficiaries. Providers receive a payment for completion of a measure relating to said activities. Blood Lead Screening is one of the measures.

Recommendation 2

To ensure that families know about the lead testing services their children are entitled to receive, DHCS should send a reminder to get a lead test for children who missed required tests. It should send this reminder in the required annual notification it is developing to send to families of children who have not used preventive services over the course of a year.

Current Status: Will Implement

Estimated Implementation Date: March 2020

Implementation Plan:

DHCS is working on a targeted outreach campaign to inform beneficiaries about the availability of American Academy of Pediatrics (AAP)/Bright Futures services under Medi-Cal and how to access them. Part of this outreach will include highlighting the availability of lead testing services that children in Medi-Cal are entitled to receive.

DHCS is targeting March of 2020 to mail its first outreach notice to all beneficiaries. This notice will be sent to all beneficiaries up to the age of 21. It will be followed by a more targeted outreach notice which will be mailed to beneficiaries who have not accessed preventive services during the prior twelve months. Medi-Cal MCPs will also conduct a call campaign to follow-up with children and their families who have not used preventive services over the course of a year, including lead testing services for children younger than six years old.

Recommendation 3

To increase California's lead testing rates and improve lead test reporting, DHCS should, no later than June 2020, incorporate into its contracts with managed care plans a requirement for the plans to identify each month all children with no record of receiving a required test and remind the responsible health care providers of the requirement to test the children. DHCS should also develop and implement a procedure to hold plans accountable for meeting this requirement.

Current Status: Will Implement

Estimated Implementation Date: June 2020

Implementation Plan:

By June of 2020, DHCS will submit a contract amendment to the Centers for Medicare and Medicaid Services (CMS) for approval that will include a requirement for MCPs to identify each quarter all children with no record of receiving a required lead test and remind the responsible health care provider of the requirement to test the children. Given CMS has a contract review and approval process, DHCS will release an All Plan Letter establishing the MCP policy pending contract approval from CMS. DHCS will review health plan policies and procedures to ensure MCP compliance with the policy. DHCS will also review the MCP process related to this contractual requirement during its annual medical audit, and impose a CAP if non-compliance is identified. Since the DHCS annual medical audit is a one year retrospective audit, the DHCS will begin auditing this policy in July 2021.

③

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Comments

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE DEPARTMENT OF HEALTH CARE SERVICES

To provide clarity and perspective, we are commenting on DHCS' response to our audit. The numbers below correspond to the numbers we have placed in the margin of DHCS' response.

DHCS' plan does not address our recommendation to finalize its performance standard for lead testing of both one- and two-year-olds. The technical specifications it refers to measure only the percentage of two-year-olds who had at least one test by their second birthday. As we state on page 17, state regulations, with few exceptions, require health care providers to administer tests for elevated lead levels for both one- and two-year-old children. Thus, the plan DHCS describes will not be effective in determining whether children have received the tests required by the regulations.

①

DHCS' statement that it has already implemented a value-based payment program for lead testing contradicts information it provided during the audit. Specifically, as we state on page 22, as of September 2019 DHCS had not yet determined when it would begin making payments for lead testing. We look forward to DHCS informing us when it begins making payments for reported lead tests under this program.

②

Although DHCS' plan for notifying health care providers would be an improvement from its current practice, we believe that it should include in its contracts the requirement to identify these children and remind the responsible health care providers each month, rather than each quarter. As we describe on page 17, state regulations generally require children in Medi-Cal to be tested at ages one and two. Further, as we explain on page 5 in the Introduction, children at this age are especially vulnerable to lead exposure. Because delays in testing may result in additional exposure for children who have lead poisoning, and due to the relatively limited age range during which these tests should be conducted, we believe that providing this information on a monthly basis is in the best interests of a child's health.

③

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January 2020



SONIA Y. ANGELL, MD, MPH
State Public Health Officer & Director

State of California—Health and Human Services Agency
California Department of Public Health



GAVIN NEWSOM
Governor

November 25, 2019

Ms. Elaine M. Howle*
State Auditor
1621 Capitol Mall, Suite 1200
Sacramento, CA 95814

Dear Ms. Howle:

The California Department of Public Health (CDPH) has reviewed the California State Auditor's draft report titled, "Childhood Lead Levels: Millions of Children in Medi-Cal Are Not Receiving Required Testing for Lead Poisoning." The Childhood Lead Poisoning Prevention Program serves a vital role in protecting the health of children in California. We appreciate the opportunity to respond to the report and offer responses to the specific findings as we strive to protect California's children.

Finding 1: CDPH has not sufficiently identified areas of the state that are high risk for childhood lead exposure, nor has it met its obligations to reduce the lead risks in those areas. ①

The Childhood Lead Poisoning Prevention Branch (CLPPB) agrees that a geographic analysis to identify areas of high risk is important and has completed such an analysis to identify areas of the state that are at high risk for childhood lead exposure. Information that is publically reportable (in accordance with Data De-identification Guidelines, to avoid disclosing protected health information), has been included in the draft 2019 biennial report, "Update on California's Progress in Preventing and Managing Childhood Lead Exposure" which will soon be released. ②

CDPH has implemented a program of medical follow up and environmental abatement and follow up that has reduced the incidence of excessive childhood lead exposures in California. ③

CDPH has updated statutes and regulations so local enforcement agencies address lead hazards, including abatement, which prevent exposure to children. CDPH also has a program that trains and certifies individuals to identify and abate lead-based paint and lead hazards, resulting in thousands of abatements annually. CDPH does target areas of high risk for childhood lead exposure, and will continue to refine and improve targeting as more data is received and analyzed regarding high-risk areas. ④

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* California State Auditor's comments begin on page 71.

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Recommendation to Public Health

To identify the highest priority areas for using resources to alleviate lead exposure among children, CDPH should immediately complete and publicize an analysis of high-risk areas throughout the state.

Response:

- ② CDPH agrees. CLPPB has drafted the 2019 biennial report, "Update on California's Progress in Preventing and Managing Childhood Lead Exposure," and the report is currently going through the approval process and will be released soon. This report includes information identifying high-risk areas that is reportable in accordance with the DDGs.

Finding 2: CDPH, nor the local prevention programs, measure the effectiveness of their outreach activities in reducing the number of children with lead poisoning, and CDPH does not require local prevention programs to perform such analyses.

CDPH and many local prevention programs do measure the effectiveness of individual outreach activities with respect to increasing knowledge and changing behavior. CDPH and many local prevention programs also analyze trends in website traffic following outreach campaigns to help determine campaign reach. CDPH will work with local partners to develop a mechanism to assess their impact on reducing the number of children with lead poisoning.

Recommendation to Public Health

To ensure local prevention programs' outreach results in a reduced number of lead-poisoned children, CDPH should, by December 2020, require local prevention programs to demonstrate the effectiveness of their outreach in doing so. If the local prevention programs are unable to demonstrate the effectiveness of their outreach in reducing the number of lead-poisoned children, CDPH should analyze the cost effectiveness of other approaches in reducing the number of lead-poisoned children, including proactive abatement, and require the local prevention programs to replace or augment outreach to the extent resources allow.

Response:

- ⑤ CDPH agrees with the importance of evaluating outreach activities for effectiveness and will work with local partners to develop a process for evaluation. CDPH has updated the local prevention program Scope of Work template to strengthen evaluation requirements for outreach activities. They will be reporting on evaluation related to the effectiveness of outreach activities by measuring changes in knowledge and behavior

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(e.g., increased hand washing, increased screening). CDPH will also measure trends in childhood lead poisoning.

Finding 3: CDPH can better ensure existing funding is used effectively and apply for additional funding to perform abatement activities in the highest risk areas.

CDPH agrees that existing funding could be used to better ensure that property owners abate lead hazards in the highest risk areas. However, CDPH does not agree that CDPH should apply for currently available funding to perform abatement. CDPH believes local jurisdictions are better suited to address local needs, as they have the authority to enforce local laws. Health and Safety Code 105255 and 105256 provides permissive authority to enforce clean up of lead hazards, but that is enforced at the local level. CDPH continues to support local jurisdictions in applying for lead abatement grants and utilizing other funding, such as through legal settlements. We will explore additional opportunities to promote local application to abatement funding sources.

⑥

⑦

Recommendation to Public Health

To offset the cost of mitigating lead exposure in the highest-risk areas of the state, CDPH should seek out and apply for additional lead prevention funding from the CDC, the Department of Housing and Urban Development, and CMS as funding opportunities become available. To the extent necessary, CDPH should enter a memorandum of understanding with the Department of Health Care Services to apply for and obtain this funding.

Response:

CDPH does not agree. CDPH believes it is better for local jurisdictions to continue to apply for and receive these limited federal funds so the abatement work can be done at a local level with well-trained teams. It would be impractical to have an abatement team travel about the state or for CDPH to contract with multiple private business about the state, especially when there is significant effort to train teams about grant requirements. CDPH believes resources are better spent through enforcement of lead hazard laws, and education and outreach (see response to finding 2 about cost effective outreach to many people). Locals are still required to enforce State Housing Law, which includes lead, to require property owners to address lead hazards.

⑥

The auditor also suggested federal CMS funding opportunities, but CDPH notes that only three states have used the CMS funding for lead abatement, and one of those, Ohio, had not actually performed any abatements after two years, as they were still working through the onerous approval process. The most successful of those three, Michigan, had only completed 31 abatements in one year.

⑧

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Finding 4: CDPH collects lead inspection and abatement information but does not make this information available to the public.

CDPH does make some inspection and abatement information public when requested by the public. However, CDPH does not publicly post information about all lead hazard evaluations, since doing so would reveal confidential medical information, specifically the addresses of lead-poisoned children.

- ⑨ CDPH has determined that it cannot post these addresses with redacted information, since such publicly posted information combined with information already produced in Public Record Act requests would also reveal the confidential homes of lead-poisoned children.
- ⑩ CDPH also notes that many abatements in California are not permanent, but short-term and require ongoing monitoring and maintenance. A record that a home has been abated in the past does not necessarily mean that there is no lead on the property, and that it is possible that lead hazards could exist on the property in the future.

The auditor suggested other states that post addresses that have been inspected for lead, but CDPH has determined that these other states' processes and data are not comparable to that of CDPH. Specifically, lead hazard evaluations, including those done for lead-poisoned children, are not posted by these registries. Massachusetts does post all lead hazard evaluations. However, their forms are such that they can mask which are done for lead-poisoned children, but CDPH cannot.

- ⑪

Recommendation to Public Health

- ⑫ **To provide sufficient information to homebuyers and renters, the Legislature should require CDPH, by December 2021, to provide an online lead information registry that allows the public to determine the lead inspection and abatement status for properties.**

Response:

- ⑬ CDPH partially agrees. Rather than create a new mandated and funded program, CDPH will provide enhanced guidance to the public about how to request information about lead hazard evaluations and abatements for the specific addresses in which they are interested. The auditor noted that renters and buyers are already legally provided lead inspection and abatement information about homes they plan to buy or rent, and that California is unique in that properties built before 1978 are legally presumed to have lead-based paint unless a certified inspector shows otherwise. If, as the auditor suggests, the renter or buyer would like to compare their options prior to receiving a

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lease or contract, the individual may contact CDPH to inquire about the specific properties.

Finding 5: CDPH delegates responsibility for addressing lead risks to local prevention programs, the county or city agencies, but it does not sufficiently assess their performance.

CDPH assesses local prevention program performance through site visits and biannual progress reports, and provides written feedback and recommendations in response to both. In addition to written feedback on progress report submissions, local prevention programs may also receive requests for clarification and additional information via telephone or email. These requests are not reflected in the formal feedback reports from CDPH. CDPH is modifying its protocol for progress report feedback and will incorporate any “offline” follow-up into the formal progress report feedback document moving forward.

⑭

Recommendation to Public Health

To better hold local prevention programs accountable for performing required activities, CDPH should, by June 2020, conduct direct oversight through site visits for each of the 50 programs, and ensure that it continues to do so at least once per contract cycle.

⑮

Response:

CDPH agrees that a site visit for each local prevention program should be conducted each contract cycle. Due to vacancies in several key positions, CDPH is behind in meeting this goal for contract cycle 2017-20. Now that many of these vacancies are filled, CDPH will be conducting at least two local prevention program site visits each month. At this rate, 30 of 50 site visits will be completed by the end of contract cycle 2017-20 (June 2020). Local prevention programs that do not receive a site visit in contract cycle 2017-20 will be prioritized for a site visit in contract cycle 2020-23, and work for both contract cycles reviewed. Review of local prevention program work completed for contract cycle 2017-20 will be completed for all 50 local prevention programs by April 2021.

Finding 6: CDPH has failed to meet several legislative requirements that could improve the identification of children who need treatment for lead poisoning.

CLPPB has drafted the mandated 2019 biennial report, “Update on California’s Progress in Preventing and Managing Childhood Lead Exposure,” and the report is currently going through the approval process and will be available soon.

②

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CLPPB is promulgating regulations expanding the risk factor criteria via the process outlined in the Administrative Procedures Act (APA). Promulgating regulations is generally a three-year process for non-emergency regulations. To date, CLPPB has drafted regulations documents, held public stakeholder meetings for input on March 22, 2019, in Richmond, California, and on April 22, 2019, in Sacramento, California, and held meetings for input from medical providers in June and July 2019. CDPH is on track to formally notice the rulemaking in the fall of 2020 after all approvals have been secured.

Recommendations to Public Health

To better ensure that lead-poisoned children are identified and treated, CDPH should prioritize meeting legislative requirements related to these issues, including doing the following by March 2020:

- **Finish developing the lead risk evaluation regulations and include in them multiple risk factors such as those used in lead risk evaluation questionnaires in other states, and commence the formal rulemaking process.**
- **Provide guidance to health care providers about the risks of childhood lead exposure and statutory requirements of lead testing.**

Response:

CDPH partially agrees. CLPPB is promulgating regulations expanding the risk factor criteria via the process outlined in the APA. CDPH is on track to formally notice the rulemaking in the fall of 2020 after all approvals have been secured.

⑩

Although there is more we can do, CDPH has provided guidance to health care providers about the risks of childhood lead exposure and statutory requirements of lead testing. CDPH informs providers of the risks of childhood lead exposure and California mandated lead testing requirements on an ongoing basis.

- Medical providers caring for children with blood lead levels at or above 4.5 mcg/dL receive reminder letters and additional follow up as needed, regarding the need for follow-up lead testing. Some families may not return for follow-up care, may choose not to have the testing done, or may delay going to the laboratory.
- Medical provider presentations covering lead poisoning health effects, risks, prevention, management, and California provider mandates are given by a CDPH Public Health Medical officer at grand rounds, hospitals, and clinics throughout the state. CDPH incorporated information about the new Health and Safety Code (HSC) Section 105286 requirements into its medical provider presentations beginning in January 2019.
- Local prevention programs provide presentations, mailings, and direct medical provider outreach. For example, in 2018, approximately 3,500 copies the

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- Standards of Care/Sources of Lead fact sheet (shown as Figure 12 in the auditor's report) were requested and sent to the local prevention programs for direct distribution to medical providers in their jurisdictions.
- CDPH developed a revised Standard of Care Guidelines document that incorporates the HSC Section 105286 requirements. This document is posted on the CLPPB website at:
https://www.cdph.ca.gov/Programs/CCDC/DCDC/CLPPB/CDPH%20Document%20Library/CLPPB-care%20guideline_sources%20of%20lead.pdf
 - This same document also includes "Potential Sources of Lead: Educating Families to Prevent Childhood Lead Exposure." This source list was updated to include additional lead sources cited in statute, along with additional sources based on CLPPB source review and analysis, and CLPPB analysis of additional sources identified during the AB 1316 fact-finding process including input from stakeholder feedback sessions.
 - A program letter has been sent to the local prevention programs informing them of the new Standard of Care/Source of Lead document and advising them to include this information in provider materials.
 - The new Standard of Care/Sources of Lead document is currently being printed and will be distributed to providers throughout the state when it is available.

CLPPB wrote an article for the California Medical Board Newsletter notifying providers of the new statutory requirement, the revised Standard of Care Guidelines and the revised Potential Sources of Lead. This has been submitted to the Medical Board for inclusion in the next quarterly newsletter. (The Winter 2019 issue of the Medical Board Newsletter contained information about new legislation affecting medical providers, including Childhood Lead Poisoning Prevention – Senate Bill 1041.) CDPH will continue to provide guidance to health care providers about the risks of childhood lead exposure and statutory requirements of lead testing.

Finding 7: CDPH's inequitable methodology for allocating funds to local prevention programs has led to significant differences in the level of services provided to children diagnosed with lead poisoning.

CDPH introduced several different allocation methods based on program changes since the fiscal year (FY) 2011-14 contract cycle. For FY 2011-14, the base total for local assistance allocations was \$11 million. CLPPB then increased the base to \$17 million for local prevention programs, due to the change in the CDC case definition. CDPH will revisit the funding allocation mechanism with specific attention to equity, and will report back to you with our findings. To our knowledge, however, no children with elevated lead levels have gone without case *management due to funding*. We are aware of cases where lead abatement has not been successful due to parental refusal.

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19 All children with blood lead levels at or above 4.5 mcg/dL are required to receive specified services. Children with blood lead levels meeting the criteria for full case management services are required to receive a home visit. CDPH provides oversight and technical assistance to ensure those case management services are provided, and is not aware of required services not being provided due to lack of resources. The audit report references identifying home visits in only six out of the 10 cases reviewed by the auditor in the Humboldt program. The auditor did not provide CDPH with information identifying these cases. CDPH reviewed Humboldt cases and did identify cases where
20 home visits and environmental investigations did not occur due to persistent, documented parental refusal. Parents do have the right to refuse services. CDPH will work with local jurisdictions to identify concrete actions they can take to address cases where parents are uncooperative or where records may be incomplete.

21 In addition, CLPPB works with the medical provider, continues to maintain contact with the family by phone and mail, provides educational information about lead and lead hazards, and monitor the blood lead levels (BLLs). If the BLLs remain high CDPH and local jurisdictions may take further steps. It would be an extreme case to utilize Child Protective Services to remove a child from their family. State Housing Law can be used to enter a home and make corrections without consent, but that would only be done in an extreme situation.

Recommendation to Public Health

To ensure a more equitable distribution of resources for treating lead-poisoned children, CDPH should, by June 2020, update its methodology for allocating funds to local prevention programs, including accounting for the most recent annual count of lead-poisoned children in each jurisdiction. CDPH should also revise the allocations prior to each contract cycle.

Response:

CDPH agrees. CDPH will update the local prevention programs' funding allocations using recent data in the next contract cycle by June 2020.

We appreciate the opportunity to respond to the audit. If you have any questions, please contact Monica Vazquez, Chief, Office of Compliance at (916) 306-2251.

Sincerely,



Sonia Y. Angell, MD, MPH
State Public Health Officer & Director

Comments

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

To provide clarity and perspective, we are commenting on CDPH's response to our audit. The numbers below correspond to the numbers we have placed in the margin of CDPH's response.

CDPH has organized its response by summarizing the findings and conclusions described in our report. Its descriptions of the findings do not precisely correspond to the text of the report.

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CDPH responded to several issues in our report by citing actions it asserts are reported in its draft biennial report. As we describe on page 28, CDPH informed us during the audit that it completed the draft report in March 2019 but had not approved the report as of October 2019. CDPH asserts that its draft report is confidential, and because we cannot discuss this draft report we are unable to verify or dispute CDPH's claims.

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CDPH overgeneralizes in its assertion that it has implemented a program of medical follow-up and environmental abatement that has reduced the incidence of excessive childhood lead exposures in California. As we state on page 49, CDPH assesses the progress it has made toward eliminating lead poisoning by tracking the percentage of children tested who had elevated lead levels over time. Although the number of children with elevated lead levels has varied from year to year, as Table 1 on page 7 shows, from calendar years 2015 to 2017 the number of children with elevated lead levels has increased. Further, as we reference on page 49, during the past five years these percentages have not consistently decreased.

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CDPH did not provide evidence to support its assertion that it targets areas at high risk for lead exposure. Specifically, as we state on page 27, although state law requires annual analysis to identify geographic areas at high risk for lead exposure, CDPH's most recent update to its list of high-risk geographic areas was based on 2015 data. Thus, it follows that it does not have up-to-date information to use in targeting areas of high risk for reducing lead exposure. As we describe on page 30, CDPH's lead hazard reduction chief stated that CDPH's approach to abating lead in high-risk areas is to monitor abatement activities in the homes of children who have already been poisoned.

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CDPH's response does not address our concern that it does not know whether its outreach has reduced instances of lead poisoning. As we state on page 30, neither CDPH nor the local prevention

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programs we reviewed measure the effectiveness of their outreach activities in reducing the number of children with lead poisoning. Evaluating the effectiveness of outreach by measuring changes in knowledge and behavior such as increased handwashing and increased screening, as CDPH suggests it will do, will not establish whether these efforts have reduced the number of children with lead poisoning.

- ⑥ We disagree with CDPH's perspective that it is more effective for local agencies to apply for funding to perform abatement. As we describe on page 32, CDPH stated that one of the reasons it has not applied for these funds is that it would be competing with local jurisdictions for the funding. CDPH's branch chief also told us that it is inefficient for multiple agencies to apply for the same funds. However, as we state on page 32, we believe that CDPH could more efficiently facilitate the distribution of such funding if it were to apply for the funds and pass them on to local programs, rather than have the local prevention programs expend resources competing against each other. Further, we did not recommend that CDPH perform abatement work directly, as CDPH implies. Nevertheless, because of its role in providing oversight of the statewide lead prevention program, and because a state agency is better equipped to apply for these federal funds, CDPH is best suited to seek out and apply for additional lead prevention funding to offset the cost of mitigating lead exposure in the highest-risk areas of the State, identify areas of the State with the highest need for such funds, and allocate them to the local prevention programs as appropriate.
- ⑦ CDPH's response is confusing. We do not suggest that CDPH is better suited to address local needs, enforce local laws, or enforce the cleanup of lead hazards. Rather, we are suggesting that CDPH obtain funds from federal sources and make them available to local prevention programs to use for lead abatement activities.
- ⑧ Notwithstanding CDPH's description of the experiences of other states using CMS funding, we believe that any opportunity to prevent lead poisoning without cost to the State is of value. Therefore, we stand by our recommendation that CDPH should seek out and apply for additional lead prevention funding.
- ⑨ CDPH misinterprets our recommendation. As we state on page 33, CDPH should report information only to the extent that it can ensure that it does not make personally identifying information, including medical information, public. Thus, development of an online lead information registry in this manner would not result in the disclosure of confidential information. As we describe on page 33 of our report, CDPH will need to take steps to ensure that it does not make information available to the public that could be used to identify individuals in its case management system.

Therefore, it is unclear why CDPH asserts that implementing this recommendation would result in the disclosure of confidential information related to the addresses of children with lead poisoning. Further, as we state on page 32, CDPH indicates that it receives lead inspection and abatement information on tens of thousands of properties every year. CDPH's lead hazard reduction chief also informed us that only 1 percent of these records are related to the addresses of children with lead poisoning. As a result, CDPH could make public the majority of the abatement and inspection information it has collected without risk of disclosing confidential health information.

CDPH's statements are irrelevant to our conclusions and recommendations. Our report does not suggest that a record of an abatement means that there is no lead on the property, or that it represents a guarantee that lead hazards could not exist in the future. Specifically, we state on page 32 that such registries can provide information on whether and when a property was inspected for lead, and the status of any identified lead hazards. Therefore it is unclear why CDPH implies that reporting such information as a short-term abatement status would limit the usefulness of providing this information to the public.

CDPH's suggestion that it cannot mask forms related to children with lead poisoning is not relevant to our recommendation. Our recommendation does not suggest that CDPH post forms in the registry. Rather, as we recommend on page 33, CDPH should make public the information it already maintains to the extent it can ensure that it does not make personally identifiable medical information public.

CDPH did not present the full text of this recommendation. As page 33 shows, our recommendation includes the following text: "To accomplish this task, CDPH should use the information it already maintains only to the extent that it can ensure that it does not make personally identifying information, including medical information, public."

CDPH chose to respond to this recommendation even though we directed it to the Legislature. Nevertheless, CDPH's proposal to provide guidance to the public on how to request information for specific addresses instead of reviewing an online registry would be inconvenient and time-consuming. Further, as we describe on page 32 of our report, state regulations already require CDPH to collect lead inspection and abatement information. Moreover, creating such a registry should not be an overly burdensome process. As we described to CDPH during the course of our audit,

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our office was able to create a working model of such a registry in less than a day using a copy of CDPH's database that contains this information.

- ⑭ CDPH asserts that it assesses local prevention programs' performance through site visits and biannual progress reports, but it has not done so for all local prevention programs. As we describe on page 31 of the report, CDPH has failed to perform a majority of the site visits in its current contract cycle as its existing policy requires. Further, as we describe on page 31, we have concerns that CDPH is not sufficiently addressing performance when reviewing the progress reports.
- ⑮ CDPH has not presented the full text of this recommendation. As page 34 shows, our recommendation includes the following text: "In addition, CDPH should use the local prevention programs' biannual progress reports to assess local prevention programs' performance and provide feedback on their strengths and shortcomings."
- ⑯ The activities that CDPH describes in its response are not specific to the legislative requirements our recommendation addresses. As we state on page 39, the Legislature passed a law effective January 1, 2019, requiring CDPH to notify all health care providers who perform periodic health assessments of children of the risks and effects of childhood lead exposure, as well as the testing requirements. None of these efforts that CDPH describes, which we reviewed during the course of our audit, ensures that all health care providers who perform periodic health assessments for children received this information, as the law requires. Further, as we state on page 39, CDPH already had resources it could have used to communicate the required information directly to providers when the law was passed in 2018.
- ⑰ CDPH's statement that it introduced different allocation methods is inaccurate. Despite increasing the amounts paid to local prevention programs, CDPH allocated the amounts using the same proportions as before. We look forward to reviewing the information that CDPH provides regarding the equity of its funding allocation mechanism in its follow-up responses to the audit.
- ⑱ We do not suggest in the report that children with elevated lead levels have gone without any case management due to unavailable funding. Rather, as we describe on page 44, the level of services provided by the local prevention programs that we reviewed differ because of different funding levels. Specifically, we found that the annual funding CDPH allocated to local prevention programs using its current methodology varied from about \$3,000 per child with

lead poisoning to more than \$30,000 per child with lead poisoning. These dramatic differences in funding levels highlight the effect of CDPH's use of its current funding methodology.

We discussed our conclusions about the Humboldt program with CDPH on multiple occasions, but CDPH did not request information about the cases we reviewed.

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CDPH's statement that parents have the right to refuse services does not change our conclusion that CDPH's inequitable method of allocating funds has led to differences in the level of services provided. As described on page 43, we determined that the amount of funds allocated to local prevention programs did not align with the numbers of children with lead poisoning for which the programs are responsible. Further, the Humboldt County local prevention program explained that its ability to provide home visits is limited by the amount of funding it receives. As we state on page 44, our review determined that in those cases where it performed a home visit, the Humboldt program provided fewer visits on average than the Fresno County local prevention program, which received the equivalent of twice the funding per child with lead poisoning.

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CDPH's statement regarding removing children from their families and entering homes without consent is unrelated to the text of our report and the nature of our recommendations. At no point did we recommend that CDPH should remove children from the homes of their parents, nor did we advocate for or against parents' right to refuse services.

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