OFFICE of INSPECTOR GENERAL
UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Improvements Are Needed to the U.S. Department of Housing and Urban Development's Processes for Monitoring Elevated Blood Lead Levels and Lead-Based Paint Hazards in Public Housing

2021-OE-0011b

February 28, 2023

Office of Evaluation, Program Evaluations Division | Office of Inspector General
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Subject: Final Report – Improvements Are Needed to the U.S. Department of Housing and Urban Development's Processes for Monitoring Elevated Blood Lead Levels and Lead-Based Paint Hazards in Public Housing (2021-OE-0011b)

Please see the attached final report on our evaluation of the U.S. Department of Housing and Urban Development's processes for monitoring elevated blood lead levels and lead-based paint hazards in public housing. It contains eight recommendations.

In response to our draft report, the Office of Lead Hazard Control and Healthy Homes (OLHCHH) and the Office of Public and Indian Housing (PIH) provided technical comments, which we incorporated into the final report as appropriate. Additionally, OLHCHH provided formal comments addressing recommendation 1 but did not indicate concurrence with the recommendation. OLHCHH's formal comments, along with our response to those comments, are included as appendixes in this report. We did not receive formal comments from PIH on recommendations 2 through 8. However, previous documentation provided by PIH showed the implementation of corrective action steps that are responsive to recommendation 7. Therefore, we are changing the status of recommendation 7 to "resolved-closed." Because recommendation 7 is now closed, no further action is required for this recommendation. The status of recommendations 1, 2, 3, 4, 5, 6, and 8 will remain as "unresolved-open" until we receive and agree to proposed management decisions for each recommendation. We will contact OLHCHH and PIH within 90 days of the issuance of this report to discuss the recommendations.

I greatly appreciate the assistance you and your staff provided throughout the evaluation. The report will be posted to our website within 3 days. Please contact Christopher Backley, Director of the Program Evaluations Division, at 202-731-9804 or cbackley@hudoig.gov with any questions.

Executive Summary

IMPROVEMENTS ARE NEEDED TO THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT'S PROCESSES FOR MONITORING ELEVATED BLOOD LEAD LEVELS AND LEAD-BASED PAINT HAZARDS IN PUBLIC HOUSING | 2021-OE-0011b

Why We Did This Evaluation

We conducted this evaluation to assess the U.S. Department of Housing and Urban Development's (HUD) processes for addressing cases of elevated blood lead levels (EBLL) in children residing in public housing and to determine the effectiveness of the EBLL tracker and the Lead-Based Paint Response (LBPR) tracker in providing accurate and complete data.

One of HUD's objectives in its Fiscal Year (FY) 2022-2026 Strategic Plan is to "reduce exposure to health risks, environmental hazards, and substandard housing, especially for low-income households and communities of color." HUD's plan established a goal to make an additional 20,000 units of at-risk housing units healthy and lead safe throughout out FYs 2022 and 2023. HUD's plan also outlined strategies to achieve this by increasing community awareness of lead, maximizing HUD's relationships with stakeholders across the public and private sectors, aligning and enforcing HUD-assisted housing inspections, aligning and enforcing mitigation measures to consistently address lead-based paint hazards, and designing and delivering targeted lead and healthy homes programs.

Results of Evaluation

According to the Centers for Disease Control and Prevention (CDC), lead-based paint and lead-contaminated dust are some of the most widespread and hazardous sources of lead exposure for young children in the United States. There is no safe blood lead level in children, and there is no cure for lead poisoning. Therefore, it is important to prevent exposure to lead, especially among children.

HUD officials reported that policies and guidance related to lead-based paint hazards and EBLLs were clear and well written. However, HUD did not align its EBLL value to CDC's blood lead reference value (BLRV)[1] for children under the age of 6. As of August 2022, HUD was using the EBLL value of 5 micrograms of lead per deciliter of blood (µg/dL), despite CDC lowering the BLRV to 3.5 µg/dL in October 2021. By aligning EBLL processes with CDC's BLRV, HUD can help to ensure that cases of children with EBLLs between 3.5 µg/dL and 4.9 µg/dL are reported and monitored.

HUD uses its EBLL tracker to monitor cases of children with identified EBLLs residing in public housing. However, the EBLL tracker's data fields needed improvement. For example, the EBLL tracker did not enable field staff to reference historical EBLL cases; indicate how many children living in a housing unit

[1] CDC does not use the term EBLL and instead uses BLRV to identify children who have more lead in their blood than most children. For consistency, BLRV will be used when referring to CDC's value, and EBLL will be used when referring to HUD's value throughout the report.

had an EBLL; or specify whether the unit, building, or development previously had an EBLL case. Additionally, the EBLL tracker contained instances of unreliable data, which reduced its usefulness to HUD officials and hindered HUD's ability to monitor EBLL cases and ensure that children residing in public housing with confirmed EBLLs were living in lead-safe units. Lastly, we compared the percentage of public housing development buildings constructed before 1978[2] to a snapshot of the EBLL tracker. We found it notable that New York and Pennsylvania together accounted for virtually all (94.1 percent) of EBLL tracker cases of children living in public housing with an EBLL resulting from a confirmed lead-based paint hazard. This result was despite other States' having the same amount or more public housing development buildings built before 1978, when lead-based paint was banned.

HUD uses its LBPR tracker to monitor and resolve cases in which public housing agencies had missing or incomplete lead-related documentation. However, the COVID-19 pandemic halted HUD's Real Estate Assessment Center inspection process, which determines whether HUD needs to create an LBPR tracker case for the inspected property. Additionally, there are no timeliness standards for the LBPR tracker, and we identified several cases in which there was no evidence of HUD action for long periods. Developing timeliness standards for the LBPR tracker would help HUD avoid delays in closing LBPR tracker cases.

By improving its EBLL tracker and LBPR tracker, HUD could better ensure that it has accurate, complete, and useful data regarding where EBLLs and lead-based paint hazards are prevalent.

Recommendations

We offer eight recommendations to improve HUD's monitoring of EBLLs and lead-based paint hazards in public housing. One of the recommendations is aimed at process reform, and the other seven recommendations are designed to ensure the usefulness and reliability of lead-related data in the EBLL tracker and the LBPR tracker. We closed recommendation 7 before issuance of the final report based on documentation the Office of Public and Indian Housing (PIH) provided to us. The status of the remaining recommendations will remain "unresolved-open" until we agree to the Office of Lead Hazard Control and Healthy Homes' and the PIH's proposed management decisions for each recommendation.

[2] According to Office of Policy Development and Research's dataset "Public Housing Buildings" as of November 3, 2021, for public housing development buildings with construction dates available

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Introduction

OBJECTIVES

Our evaluation objectives were to

1. Use available information sources to identify U.S. Department of Housing and Urban Development (HUD) assisted properties owned and managed by public housing agencies (PHA) with the most potential risk of having lead-based paint hazards.
2. Determine the effectiveness of HUD's processes for addressing cases of children residing in public housing with elevated blood lead levels (EBLL).
3. Determine the effectiveness of the EBLL and Lead-Based Paint Response (LBPR) tracking processes in providing accurate and complete data.[3]

Our first report for this evaluation was issued to HUD on September 28, 2022, and identified five HUD regions and six States within those regions with the most potential risk of having lead-based paint hazards. This report, the second for this evaluation, addresses our second and third objectives.[4]

BACKGROUND

HUD's fiscal year (FY) 2022-2026 Strategic Plan has a strategic objective to "strengthen environmental justice" and includes a priority goal to protect families from lead-based paint and other health hazards by making an additional 20,000 at-risk housing units healthy and lead safe by September 30, 2023. In addition, HUD's FY 2021 Annual Performance Plan and FY 2019 Annual Performance Report stated that one of HUD's priorities and strategic goals was to protect vulnerable populations from lead-based paint hazards and remove lead-based paint hazards.[5] We identified "eliminating hazards in HUD-assisted housing" as a top management challenge facing HUD in FY 2022.[6]

Lead-Based Paint Hazards Are Some of the Most Widespread and Hazardous Sources of Lead Exposure for Young Children in the United States

According to the Centers for Disease Control and Prevention (CDC), lead-based paint and lead-contaminated dust[7] are some of the most widespread and hazardous sources of lead exposure for young children in the United States. When lead paint peels and cracks, it results in lead paint chips and dust. Children may be exposed to lead poisoning if they chew on surfaces coated with lead-based paint, such as windowsills and door edges; eat flaking lead-based paint chips; or eat or breathe in lead dust. Exposure

[3] Our scope was limited to data for public housing. For more information on our scope, methodology, and limitations, see appendix A.

[4] The first evaluation, 2021-OE-0011a, was issued to HUD on September 28, 2022.

[5] HUD FY 2021 Annual Performance Plan and FY 2019 Annual Performance Report, February 10, 2020

[6] HUD OIG Top Management Challenges Facing the U.S. Department of Housing and Urban Development in FY 2022, November 12, 2021

[7] Lead-contaminated dust can be created from deteriorated lead-based paint, lead-based paint on friction surfaces, sources from outside the home but tracked inside, and during remediation activities that disturb deteriorated lead-based paint.

to lead could seriously harm a child's health, particularly if the child is younger than age 6. CDC has linked lead poisoning to well-documented adverse effects, such as damage to the brain and nervous system; slowed growth and development; and problems pertaining to behavior, learning, hearing, and speech.

CDC reported that no safe blood lead level in children exists and there is no cure for lead poisoning. Therefore, it is important to prevent exposure to lead, especially among children. In October 2021, HUD estimated that 22.3 million housing units in the United States had significant lead-based paint hazards, including deteriorated paint and lead-contaminated house dust, and about 2.6 million of these units housed young children.

Laws and Regulations Prohibit the Use of Lead-Based Paint

The Lead-Based Paint Poisoning Prevention Act of 1971[8] prohibits the use of lead-based paint in residential housing constructed, rehabilitated, or assisted by the Federal Government. The U.S. Consumer Product Safety Commission issued a ban on paint containing lead, which took effect in 1978.[9] Despite these efforts, Congress found that the pre-1980 housing stock contained more than 3 million tons of lead in the form of lead-based paint.

The Residential Lead Based Paint Hazard Reduction Act of 1992 established the national goal to eliminate lead-based paint hazards in housing as quickly as possible and required HUD to establish procedures to eliminate, as far as practicable, the hazards of lead-based paint. On September 15, 1999, HUD published the Lead Safe Housing Rule (LSHR).[10] The LSHR implemented the requirements of the Lead Based Paint Poisoning Act, as amended, and the Lead Based Paint Hazard Reduction Act of 1992 to eliminate lead-based paint hazards, as far as practicable, in certain HUD-assisted properties. These procedures require property owners of pre-1978 housing, including PHAs that own such properties receiving Office of Public and Indian Housing (PIH) assistance, to make certain notifications to residents of lead-based paint in their unit.

One of the purposes of the LSHR is to protect young children from lead-based paint hazards in federally assisted housing and to establish procedures for evaluating whether a hazard may be present, controlling or eliminating the hazard, and notifying occupants of what was found. The LSHR defined an EBLL[11] as a "confirmed concentration of lead in whole blood of a child under age 6 equal to or greater than the concentration in the most recent guidance published by the U.S. Department of Health and Human Services on recommending that an environmental intervention be conducted" and stated that HUD will publish, through notice and comment, changes to the EBLL value within the LSHR.[12] An EBLL is measured in micrograms of lead per deciliter of blood (µg/dL).[13] A study in Clinical Pediatric Emergency Medicine from September 2017 estimated that there were approximately 500,000 children in the United States under the age of 6 who had EBLLs greater than or equal to 5 µg/dL, the CDC reference value at the time

8 42 U.S.C. (United States Code) chapter 63

9 16 CFR (Code of Federal Regulations) part 1303

10 24 CFR part 35, subparts B-R

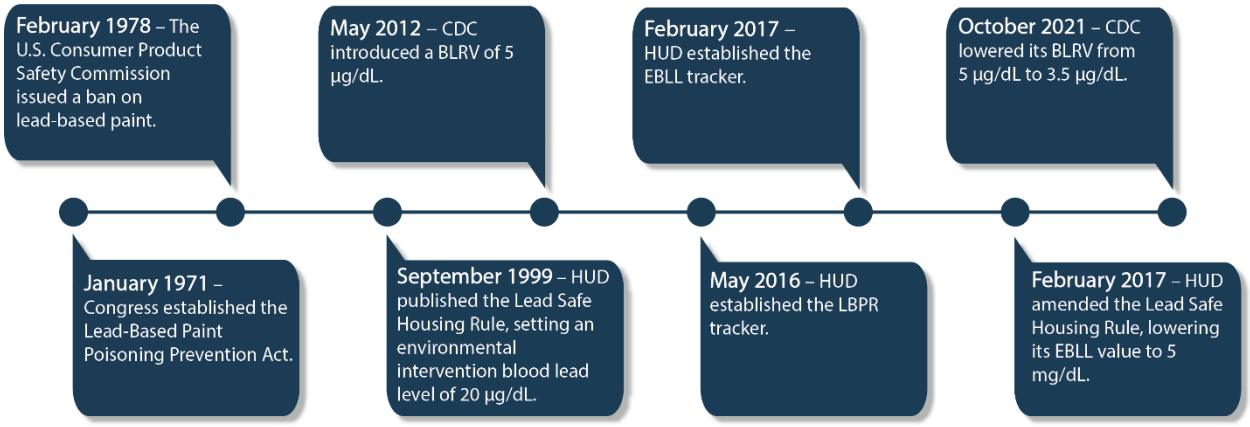
11 Before its 2017 amendment, the LSHR used the term "Environmental Intervention Blood Lead Level," or EIBLL, to describe an EBLL. For consistency, EBLL will be used throughout the report.

12 CDC is the agency within the U.S. Department of Health and Human Services that defines criteria for interpreting blood lead levels in children.

13 CDC does not use the term EBLL. Instead, it uses blood lead reference value (BLRV), which is measured in µg/dL to identify children with blood lead levels that are higher than most children's levels.

of the study.[14] In October 2021, the CDC lowered its blood lead reference value (BLRV) from 5 µg/dL to 3.5 µg/dL. See figure 1 for a timeline of noteworthy lead-related developments.

Figure 1 – Timeline of noteworthy lead-related developments



HUD Has Two Program Offices With Lead-Related Roles and Responsibilities

There are two main program offices within HUD that have lead-related responsibilities for public housing: the Office of Lead Hazard Control and Healthy Homes (OLHCHH) and PIH.

OLHCHH Establishes Policy and Provides Guidance

OLHCHH enforces HUD's lead-based paint regulations, provides public outreach and technical assistance, and conducts technical studies to help protect children and their families from health and safety hazards in the home. OLHCHH supports and assists PIH by helping to address lead hazard-related questions, reviewing past PHA inspection documentation to determine whether past abatement work remains relevant, and working to prevent lead-based paint hazard exposure in HUD-assisted properties.

PIH's Office of Field Operations Oversees Compliance With Lead-Based Paint Regulations

Within PIH, two offices, the Office of Field Operations (OFO) and the Real Estate Assessment Center (REAC), have lead-related responsibilities. OFO oversees and enforces PHAs' compliance with lead-based paint regulations for PIH's rental assistance programs. OFO is responsible for tracking children with EBLLs and monitoring PHAs' lead-based paint-related documentation, such as lead inspection reports and disclosure forms.

OFO uses two trackers: the EBLL tracker is used to monitor EBLL cases in children living in public housing,[15] and the LBPR tracker is used to track lead-based paint documentation that REAC inspections

[14] This estimate is based on data from 2006 to 2014. This is the most recent study available.

[15] The EBLL tracker also includes EBLL cases from HUD's Housing Choice Voucher Programs, which we excluded from our scope and analysis. For more information on our scope, see appendix A.

indicate PHAs are missing. OFO measures and evaluates the impact of work related to lead-based paint hazards by prioritizing the closure of cases on both the EBLL and LBPR trackers.[16]

PIH's REAC Conducts Physical Inspections

REAC is responsible for inspecting the physical condition of HUD-assisted public housing developments, buildings, or units. REAC uses the Uniform Physical Condition Standards to ensure a uniform objective protocol for performing physical inspections of all property types. However, these standards do not include protocols to inspect for lead hazards.[17]

Under the Uniform Physical Condition Standards, the inspectors review tenant files for two pieces of lead-related documentation for all properties built before 1978 — a completed lead-based paint disclosure form and, if the property has been inspected or assessed for lead, the lead inspection or risk assessment report.[18] In addition, the inspections capture deficiencies related to observable peeling paint or other damaged exterior or interior surfaces in buildings, which are the most common sources of lead-based paint hazards. REAC reports such deficiencies to identify properties that are at risk of having unreported lead-based paint hazards. Reports are meant to trigger a response from OFO staff responsible for monitoring PHAs' compliance with the LSHR.

[16] The Compliance and Coordination Division in OFO is responsible for ensuring that housing is safe and in sanitary condition. Staff in the Compliance and Coordination Division has the final administrative approval to determine when to close cases on both trackers.

[17] See Report 2021-OE-0011a, published September 28, 2022, for more information on REAC physical inspections.

[18] A lead-based paint disclosure provides notice of the presence of any known lead-based paint or lead-based paint hazards to residents; any available records or reports on lead-based paint or lead-based paint hazards in the house, such as from construction, repair, or maintenance work; and a lead warning statement that describes the risks of lead. Lead-based paint disclosure records must be retained for 3 years.

Findings

HUD officials reported that processes related to lead-based paint hazards and EBLLs were clear. We found that the guidance driving those processes needs to be updated by HUD to have HUD's EBLL value align with CDC's lower BLRV. Additionally, the EBLL tracker and the LBPR tracker allowed HUD to monitor and resolve cases of children identified as having EBLLs and PHAs with missing lead-related documentation, but we found significant opportunities for improvement for each of the trackers. The EBLL tracker lacked data field completeness, accuracy, and clarity, and field offices lacked access to historical information. The LBPR tracker did not have timeliness standards.

HUD HAD CLEAR GUIDANCE; THAT GUIDANCE DID NOT ALIGN WITH CDC'S BLRV

HUD officials reported that HUD had clear guidance for HUD staff, PHAs, and landlords related to lead-based paint hazards and EBLLs. In October 2021, CDC lowered its BLRV, yet as of August 2022, HUD had not lowered its EBLL to align with the CDC BLRV. HUD guidance stated that HUD would update its EBLL value if CDC revised its BLRV, which had not occurred at the time of our fieldwork completion.

OFO Staff Reported That Key HUD LSHR Guidance Was Clear

On August 10, 2017, HUD issued Notice PIH 2017-13 (HA); OHHLHC 2017-01.[19] The Notice described actions a PHA must take when a child under 6, who lives in a pre-1978 unit receiving PIH assistance, is identified with an EBLL. These actions include

1. notifying HUD, as well as the health department when necessary, of the confirmed case;
2. verifying the case with the health department or medical health care provider if someone other than a health care provider reported the EBLL;
3. conducting an environmental investigation of the child's unit and the common areas servicing that unit within 15 calendar days in accordance with chapter 16 of the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing;[20]
4. if lead-based paint hazards are found in the index unit[21] in a multiunit property, performing risk assessments in other covered units with a child under age 6 and the common areas servicing those units;
5. ensuring that any lead-based paint hazards identified by the environmental investigation are controlled within 30 calendar days by a certified lead-based paint abatement firm or certified lead renovation firm; and
6. notifying all residents in a multiunit property of the lead evaluation and hazard control activities.

[19] Notice PIH 2017-13 (HA); OHHLHC 2017-01 is a joint notice issued by both PIH and OLHCHH. We refer to it as Notice PIH 2017-13 in the remainder of our report.

[20] The Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing were issued in 1995 and amended in 2012. The Guidelines provide technical guidance primarily to certified lead-based paint professionals.

[21] For multiunit properties, Notice PIH 2017-13 referred to the home of the child diagnosed with an EBLL as the index unit.

OFO's field offices conduct monitoring and oversight work to ensure that PHAs comply with HUD requirements and regulations in relation to lead-based paint hazards. During interviews, HUD staff demonstrated awareness and understanding of HUD's policies and guidance related to lead-based paint hazards and EBLLs. Field office staff referred to Notice PIH 2017-13 as the main document used for responding to EBLLs and said that it provided clear guidance to HUD staff, PHAs, and landlords with lead-related responsibilities.[22]

HUD's EBLL Did Not Align With CDC's BLRV

Although the CDC lowered its BLRV from 5 µg/dL to 3.5 µg/dL in October 2021, HUD has not aligned its EBLL to reflect the new lower level set by CDC.

CDC's BLRV is based on the 97.5 percentile of the blood lead values among U.S. children ages 1-5 years from its National Health and Nutrition Examination Survey.[23] Every 4 years, CDC reanalyzes blood lead data from the two most recent survey cycles to determine whether it should update the EBLL. CDC changed its EBLL value in May 2012 to 5 µg/dL to identify children with higher levels of lead in their blood compared to most children.

However, HUD did not lower the EBLL value in the LSHR from 20 µg/dL to 5 µg/dL until February 2017, almost 5 years later. Notice PIH 2017-13 from August 2017 implemented the February 2017 changes to the LSHR and stated that HUD would amend its EBLL value to be consistent with CDC's guidance.[24] The Notice also stated, "CDC may revise this level in the future, and if so, HUD will update its EBLL as used under the LSHR, via the notice and comment process, as provided by the definition of EBLL."[25] The Notice does not prescribe a timeframe in which HUD should update the LSHR. As of August 2022, HUD had not aligned its EBLL value with CDC's new lowered BLRV of 3.5 µg/dL. While the BLRV generally determines CDC's recommendation for conducting an environmental investigation of the home to identify potential sources of lead, CDC recognizes that EBLLs below 5 µg/dL may not trigger such an investigation in housing covered by HUD's LSHR or some health departments when it is not required. Without revision of HUD's EBLL value to align with CDC's BLRV, a child under 6 residing in public housing with a blood lead level between 3.5 and 4.9 µg/dL may not be identified as having an EBLL under Notice PIH 2017-13 and, therefore, would not trigger HUD's EBLL protocol.

During interviews for this evaluation, HUD officials told us that they were discussing the lowered BLRV with CDC and there was "extensive regulatory activity under consideration regarding lead exposure." However, they also indicated that HUD would lower the EBLL to match CDC's BLRV only if it was found to be scientifically justified. They explained that if HUD lowered the EBLL, there would need to be strong evidence that environmental interventions in cases of children with EBLLs between 3.5 and 4.9 µg/dL

[22] We did not interview parties external to HUD, such as PHA staff or landlords.

[23] The survey is a population-based survey that assesses the health and nutritional status of adults and children in the United States biannually.

[24] According to HUD officials, HUD will publish a notice in the Federal Register for public comment and then those comments will be considered before changing an EBLL value.

[25] If a State or local government established more protective standards in response to lead in children's blood, the LSHR directed PHAs to follow those standards.

have been found to be effective in reducing their EBLLs, thereby contributing to justifying the increased regulatory burden of using a lower EBLL value.

Recommendation

Recommendation 1: We recommend that the Director of OLHCHH update HUD regulations, policies, and procedures, following the regulatory process required by the amended LSHR, in consideration of CDC's lowered BLRV of 3.5 µg/dL.

THE EBLL TRACKER LACKED DATA FIELD COMPLETENESS, ACCURACY, AND CLARITY, AND FIELD STAFF LACKED ACCESS TO HISTORICAL DATA

The EBLL tracker allowed OFO to monitor cases of children residing in public housing diagnosed with EBLLs, but its data fields did not allow the main users of the EBLL tracker, OFO field office staff, the ability to reference historical EBLL information. The data fields also did not ensure the completeness, accuracy, and clarity of data entered into the EBLL tracker.

OFO Used the EBLL Tracker To Monitor Cases

In February 2017, OFO established the EBLL tracker to collect and monitor information reported by PHAs on instances of children with EBLLs living in public housing or voucher homes. The EBLL tracker centralized the tracking of EBLL cases across PIH's rental assistance programs and ensured that all OFO field office staff had one place to enter information and maintain documentation related to EBLL cases. Before the EBLL tracker, the EBLL tracking process required PIH to sort through files maintained by PHAs to ensure that PHAs complied with the lead regulations and mitigated hazards in affected housing units.

Reports of EBLL cases can come from many sources, including PHAs, health departments, families, physicians, or landlords. According to an OFO official, health departments typically report an EBLL case to the PHA. Then, the PHA must notify the OFO field office and OLHCHH of a confirmed EBLL case within 5 business days. OFO then enters the EBLL case into the EBLL tracker.

OFO uses the EBLL tracker to monitor and close EBLL cases. OFO reported that it would close a case if the answers and documentation in the EBLL tracker made it clear that the family was residing in a lead-safe unit. This condition generally meant that the PHA had either relocated the family, the PHA's environmental investigation determined that the source of a child's EBLL was not the home, or the PHA had remediated the lead-based paint hazard.[26] Although we did not verify the resolution of EBLL cases, there was evidence that OFO was taking action to close cases, such as notating questions and concerns about the EBLL cases, and asking for additional information and documentation from the PHAs. The number of open cases on the EBLL tracker, which accounts only for those EBLL cases reported to HUD, declined between November 2021 and April 2022. According to a November 2021 snapshot of the EBLL

[26] To provide guidance to users of the EBLL tracker, in May 2022, OFO developed and presented a training, How to Track Lead-Based Paint and Elevated Blood Lead Levels, for employees who work on lead-related issues. The training gave a broad overview of lead-related issues, the inspection process, and how to report and close cases using the EBLL tracker.

tracker, 13.5 percent of reported EBLL cases were open, while only 10.9 percent of the cases remained open in the April 2022 snapshot.[27]

HUD officials who used the EBLL tracker reported that the EBLL tracker was easy to use and also supplied a process so that OFO could monitor the status and closure of EBLL cases. OFO field office staff members reported that they measure success toward lead-related goals by working to resolve EBLL cases and then OFO headquarters staff determines when the cases should be closed.

OFO Planned To Move the EBLL Tracker to a New Platform

To increase the functionality of the EBLL tracker, OFO reported that it planned to move the EBLL tracker from its current platform in SharePoint to another internal system used for other OFO processes. One interviewee mentioned finding SharePoint, the EBLL tracker's platform, to be slow and not user friendly, which impeded data entry and collection. As of August 2022, OFO officials reported that they planned to update the LBPR tracker and would address the EBLL tracker next. For more information on the LBPR tracker, see the finding, The LBPR Tracker Was Affected by the COVID-19 Pandemic and Had No Timeliness Standards.

Recommendation

Recommendation 2: We recommend that the Deputy Assistant Secretary for Field Operations create a plan and timeline that outlines OFO's proposal to make necessary improvements to the EBLL tracker, such as moving it to a different platform.

Field Offices Could Not See Historical Data or the Number of Children With EBLLs in the EBLL Tracker

OFO allowed only select OFO headquarters staff to view cases that had been marked as resolved in the EBLL tracker. Restricting field office staff from having the ability to close EBLL cases may be necessary and appropriate to ensure proper oversight of the case closures, but viewing historical cases could be beneficial to field office staff. OFO field office staff members responsible for working directly with PHAs to verify and resolve EBLLs reported that they wanted to be able to refer to prior EBLL cases if they needed guidance on how cases had been documented or resolved. Additionally, field office staff members said that they wanted to determine the number of children in the unit diagnosed with EBLLs and whether another unit, building, or development within a PHA had EBLL cases. Access to this level of information may help OFO identify patterns and determine whether a particular PHA development or building is prone to lead-based paint hazards.

When field offices cannot view certain historical and detailed EBLL information, they can contact OFO headquarters staff for the information or keep their own localized copies of the EBLL tracker. A PIH official reported that historical cases were treated as need-to-know due to the substantial personally identifiable information (PII) involved. Reportedly, if OFO field offices asked for historical information or for other detailed EBLL-related information for a specific PHA, OFO would provide it to them. Despite

[27] This represents EBLL cases reported to HUD and entered into the EBLL tracker. EBLL cases that HUD is not aware of would not be on the EBLL tracker.

such an approach, field offices' keeping their own copies would result in multiple localized copies of the EBLL tracker, each containing substantial PII.

According to the U.S. Government Accountability Office's (GAO) Standards for Internal Control in the Federal Government,[28] when designing control activities for security management of an entity's information system, management should consider whether data, reports, and other relevant information are readily available to users as needed. If field offices cannot determine whether a PHA previously had an EBLL case, indicators of lead-based paint hazards could get missed. A PHA with a history of EBLL cases may have a higher risk of having lead-based paint hazards and require a higher level of monitoring to prevent additional children from being diagnosed with EBLLs.[29] Notice PIH 2017-13 requires a PHA to perform risk assessments in other units where children under age 6 reside in a multiunit property if lead-based paint hazards are found in the unit where the EBLL case was identified. However, risk assessments and lead-based paint testing are not required in other units where children under the age of 6 do not reside at the time of the EBLL case, which could change as residents move in and out.

Recommendations

Recommendation 3: We recommend that the Deputy Assistant Secretary for Field Operations provide field office staff access to historical data in the EBLL tracker to be readily available as needed, with adequate protection of PII.

Recommendation 4: We recommend that the Deputy Assistant Secretary for Field Operations update the EBLL tracker to show whether one or multiple children have an EBLL and whether the unit, building, or development previously had an EBLL reported.

The EBLL Tracker Contained Instances of Unreliable Data

During our review of the April 2022 snapshot of the EBLL tracker, we did not independently verify each EBLL case to determine whether OFO properly tracked or closed the case. However, we found instances of unreliable data. First, some data fields that OFO reported as being required were incomplete when the EBLL cases were closed, indicating that the EBLL tracker allows cases with missing required information to be closed. For example, 231 of the 319 closed EBLL cases in the April 2022 snapshot of the EBLL tracker, or 72.4 percent, did not have an EBLL confirmation date[30] entered, despite its being identified as a required field.

Additionally, some closed EBLL cases had inaccurate information. For example, there were two cases with future years entered into the tracker for events that occurred in the past, and there were three cases marked as having lead-based paint hazard work done, despite being marked as having no lead-based paint hazards. Additionally, on an April 2022 snapshot of the EBLL tracker, we found 11 properties with units that had multiple EBLL cases; however, the data fields for the EBLL cases varied slightly, such as "date confirmed EBLL test reported to PHA" and "date field office notified of hazard control completion."

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[28] GAO-14-704G, GAO Standards for Internal Control in the Federal Government, September 2014

[29] HUD has identified five indicators for its risk ranking of lead-based paint hazards, one of which is EBLL cases of children under 6 years old. Our first report for this evaluation, 2021-OE-0011a, provides more information on HUD's lead risk ranking approach.

[30] The EBLL confirmation date field is the date when the local health department or the child's medical health care provider confirmed the EBLL using a venous blood test.

While these cases might represent multiple children with EBLLs in one unit at the same time or represent different children with EBLLs over time in the same unit, the cases could be instances of inaccurate or inconsistent data. According to GAO's Standards for Internal Control in the Federal Government, management should design appropriate types of application controls in information systems to achieve validity, completeness, accuracy, and confidentiality of transactions and data during application processing.

OFO field office personnel manually completed data fields in the EBLL tracker, which increased the chance of human error. OFO did not use naming conventions or drop-down menus for data fields. This practice could hinder OFO's ability to ensure that specific fields contain only reliable information. If the EBLL tracker contains unreliable information, it becomes less useful to HUD officials and hinders HUD's ability to monitor EBLL cases and ensure that children residing in public housing with confirmed EBLLs are living in lead-safe units.

Recommendation

Recommendation 5: We recommend that the Deputy Assistant Secretary for Field Operations update the EBLL tracker by including which data fields are required, establishing what type of information can be entered into each data field, and disallowing case closure if required information is missing.

EBLL Cases Were Primarily Located in Only Two States

According to a snapshot of the EBLL tracker from April 2022, 94.1 percent of reported children living in public housing diagnosed with an EBLL resulting from a confirmed lead-based paint hazard lived in either New York or Pennsylvania. However, New York and Pennsylvania accounted for only 10.4 percent of the public housing development buildings built before 1978.[31] The remaining States each had two or fewer reported children with a diagnosed EBLL from a confirmed lead-based paint hazard. While the median age of housing stock for both New York and Pennsylvania was between 51 and 60 years, among the oldest in the country, there were eight other States that also had a median age of between 51 and 60 years for their housing stock.[32]

In our first report for this evaluation, we identified five HUD regions and six States within those regions with the most potential risk of having PHAs with lead-based paint hazards: New York, Pennsylvania, Texas, Illinois, Georgia, and Kentucky. However, besides New York and Pennsylvania, these States were not prevalent on the EBLL tracker. See figure 2 for more information.

[31] According to Office of Policy Development and Research's dataset "Public Housing Buildings" as of November 3, 2021, for public housing development buildings with construction dates available

[32] The eight other States with a housing stock median age of between 51 and 60 were Connecticut, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, and Rhode Island.

Figure 2 – Comparison of EBLL cases to public housing development buildings built before 1978 and median age range of housing stock

State	Percentage of total EBLL cases as of April 2022[33]	Percentage of State's public housing development buildings built before 1978[34]	Median age range of housing stock[35]
New York	77.4%	3.2%	51-60 years
Pennsylvania	16.7%	7.1%	51-60 years
Texas	0.5%	6.0%	23-30 years
Illinois	0.5%	3.4%	41-50 years
Georgia	0.0%	6.3%	23-30 years
Kentucky	0.0%	3.5%	36-40 years

In an August 2022 meeting, HUD officials provided information on what they thought might be potential causes of the disproportionate number of EBLL cases among States. First, some States and localities may be better at reporting and documenting EBLLs than others. Second, some PHAs may not have EBLL cases very often and, therefore, may be unaware of how to report EBLL cases.

An official from OLHCHH described how health departments may be hesitant to share EBLL-related data with PHAs due to privacy concerns. According to an OLHCHH official, health departments may prefer to work directly with HUD instead of the PHAs. In the past, OLHCHH has worked to establish data-sharing processes between health departments and PHAs.[36] Additionally, staff members from one OFO field office were developing data-sharing policies between local health departments and local PHAs to address those concerns. This data-sharing practice may allow other field offices to mitigate this concern.

Recommendation

Recommendation 6: We recommend that the Deputy Assistant Secretary for Field Operations, in coordination with other HUD offices as necessary, research and address potential causes of the variance in the number of EBLL cases among States on the EBLL tracker and identify solutions that are within HUD's control.

[33] According to a snapshot of the EBLL tracker from April 13, 2022

[34] According to Office of Policy Development and Research's dataset "Public Housing Buildings" as of November 3, 2021, for public housing development buildings with construction dates available

[35] According to the National Association of Home Builders' report, Age of Housing Stock by State, March 26, 2021

[36] These processes could be memorandums of understanding, confidentiality agreements, or some other type of document.

THE LBPR TRACKER WAS AFFECTED BY THE COVID-19 PANDEMIC AND HAD NO TIMELINESS STANDARDS

The LBPR tracker allowed OFO to resolve lead-based paint hazard cases, which means that all of the proper documentation has been submitted to designate that a development was free of lead paint or was exempt.[37] However, the COVID-19 pandemic impacted HUD's ability to conduct inspections and caused time delays on the LBPR tracker.

OFO Used the LBPR Tracker To Review Lead-Based Paint Documentation

OFO established the centralized LBPR tracker in May 2016 to track and monitor PHA compliance with the LSHR. Monitoring PHA compliance includes following up with PHAs that were reported by REAC as missing a lead-based paint inspection report or a lead-based paint disclosure form. PHAs are expected to provide documentation to REAC supporting their compliance with the requirements of the LSHR, which will often include a copy of the summary page of the lead-based paint inspection report and a copy of a lead-based paint disclosure form. Developments[38] are entered into the LBPR tracker if REAC inspectors check "No" for the lead-based paint inspection report and "No" for the completed lead-based paint disclosure form.

OFO staff enters potentially noncompliant developments that REAC identifies into the LBPR tracker, and then the regional or field office program staff obtains, evaluates, and enters supporting documentation, such as evidence of a lead-based paint inspection or support showing that the development was exempt. OFO reviews the support documentation and either approves the resolution of the LBPR tracker case or requests that additional actions be taken by the OFO field office or PHA. Only OFO headquarters staff can decide to resolve a case. OFO headquarters staff reviews each case and determines whether field office staff has gathered all of the proper documentation. Once OFO staff determines that everything has been documented correctly in the LBPR tracker, the case is then resolved.

Interviewees expressed both positive and negative opinions of the LBPR tracker. Some interviewees said that the LBPR tracker was straightforward and simple to use, while other interviewees said the LBPR tracker was slow, outdated, and not user friendly. OFO officials said they planned to move the LBPR tracker from its current platform to another internal system used for other OFO processes by October 2022.

There is evidence that OFO had reduced the number of cases on the LBPR tracker. There were 178 cases on the November 2021 snapshot of the LBPR tracker and only 138 cases in the April 2022 snapshot.

OFO staff received training on both the EBLL and LBPR trackers. As mentioned previously, OFO developed a training in May 2022 to give new OFO staff members who had lead-based paint and EBLLs in their

[37] Properties exempt from the LSHR follow 24 CFR 35.115 and have supporting documentation showing that the HUD-designated housing is for the elderly or disabled and there are no children under the age of 6 living in the residence.

[38] In the LBPR tracker, a development can mean a mix of housing types without a designated minimum or maximum number of units.

portfolio a broad overview of lead-related issues, the inspection process, how to report EBLL cases, and the case closure process.

Recommendation

Recommendation 7: We recommend that the Deputy Assistant Secretary for Field Operations create a plan and timeline that outlines OFO's proposal to move the LBPR tracker to a different platform.

The COVID-19 Pandemic Impacted the Timeliness of the Inspection Processes and Caused Time Delays on the LBPR Tracker

The COVID-19 pandemic impacted HUD's ability to inspect HUD-assisted housing and delayed lead-related work and inspections of PHAs. On March 16, 2020, REAC postponed physical inspections on all properties out of concern for the health, safety, and welfare of residents, HUD staff, and inspectors. REAC inspections resumed in June 2021. The 15-month break resulted in a backlog of approximately 41,500 inspections. This backlog far surpassed the prepandemic backlog of approximately 1,500 inspections.[39]

According to interviews we conducted, the pandemic also affected the lead inspection process by making it harder to find inspectors for lead-related work and onsite compliance reviews. These actions paused onsite compliance reviews, which may have lessened visibility. In addition, OFO said that PHA staff members were working remotely and residents were not comfortable with inspectors coming into their units to conduct necessary testing.

OFO did not have a timeliness standard for the LBPR tracker. Without a timeliness standard, many records remained on the tracker for months. One HUD official stated that during the pandemic, timeliness issues and nonresponsiveness increased. According to interviewees, there was no consistent timeframe reported for the frequency of communication between OFO field offices and PHAs. Different field offices reported meeting with PHAs biweekly, monthly, and as needed. The April 2022 snapshot of the LBPR tracker revealed that for 18 of the 138 records, or 13.0 percent, no one had updated them for at least 24 months. See figure 3 below for more details.

[39] REAC developed an initiative called the Big Inspection Plan to reduce the thousands of backlogged inspections caused by the COVID-19 pandemic to a more manageable number.

Figure 3 – Time elapsed since a case was last modified on the LBPR tracker[40]

Elapsed time since the LBPR case was updated in the LBPR tracker	Number of LBPR cases	Percentage of LBPR cases
0-6 months	102	73.9%
6-12 months	18	13.0%
12-18 months	-	-
18-24 months	-	-
24-30 months	18	13.0%
Total	138	99.9%[41]

The pandemic made it difficult to resolve cases on the LBPR tracker. If no action is taken to resolve cases that remain on the LBPR tracker for a long period, it could delay the discovery of lead-based paint hazards and, if appropriate, the need for abatement and remediation efforts. According to GAO's Standards for Internal Control in the Federal Government, management defines objectives in specific terms, so they are understood at all levels of the entity, including clearly defining timeframes for achievement.

Recommendation

Recommendation 8: We recommend that the Deputy Assistant Secretary for Field Operations develop a timeliness standard in the LBPR tracker to establish expectations for how often field office staff must reach out to PHAs on the LBPR tracker to discuss measures that will resolve cases in a timely manner.

[40] According to a snapshot of the LBPR tracker from April 13, 2022
[41] These percentages do not sum to 100 percent due to rounding.

Conclusion and Recommendations

HUD should implement changes to its monitoring of EBLLs and lead-based paint hazards in public housing. First, OLHCHH should update its EBLL value to reflect CDC's BLRV. Second, PIH's OFO should improve clarity of the data fields on both trackers to make them more reliable, find the cause of variances of EBLL cases in select States, develop timeliness standards, and move both trackers to a new platform. Therefore, we recommend that OLHCHH and OFO take the following actions.

WE RECOMMEND THAT THE DIRECTOR OF THE OFFICE OF LEAD HAZARD CONTROL AND HEALTHY HOMES

1. Update HUD regulations, policies, and procedures, following the regulatory process required by the amended LSHR, in consideration of CDC's lowered BLRV of 3.5 µg/dL.

HUD should update its EBLL to reflect CDC's BLRV of 3.5 µg/dL by following the proper regulatory processes. This action would ensure that HUD triggers its EBLL protocols, benefiting children, their families, and other residents. HUD Notice PIH 2017-13 stated that HUD would amend its EBLL to be consistent with CDC's guidance: "CDC may revise this level in the future, and if so, HUD will update its EBLL as used under the LSHR, via the notice and comment process, as provided by the definition of EBLL."

WE RECOMMEND THAT THE DEPUTY ASSISTANT SECRETARY FOR FIELD OPERATIONS

2. Create a plan and timeline that outlines OFO's proposal to make necessary improvements to the EBLL tracker, such as moving it to a different platform.

As of January 2023, OFO had gathered requirements and was developing a high-level project plan to address issues with how the current platform operates. OFO's goal is to develop solutions that address complaints related to speed and user friendliness.

3. Provide field office staff access to historical data in the EBLL tracker to be readily available as needed, with adequate protection of PII.

OFO should provide field office staff the ability to view closed EBLL cases in the EBLL tracker, with adequate protection of PII. Access to closed EBLL cases will allow staff to reference prior cases when the need arises. Additionally, this change to the view of the EBLL tracker would ensure that its users have the most transparent and complete information, while still limiting who can close cases to select OFO headquarters staff.

4. Update the EBLL tracker to show whether one or multiple children have an EBLL and whether the unit, building, or development previously had an EBLL reported.

This recommendation was aimed at ensuring that users of the EBLL tracker have the most transparent and complete information. OFO should update the EBLL tracker to ensure that additional information is shown, including the number of children with an EBLL in the unit, and whether the unit, building, or development previously had an EBLL case.

5. Update the EBLL tracker by including which data fields are required, establishing what type of information can be entered into each data field, and disallowing case closure if required information is missing.

OFO should clearly outline in the EBLL tracker which data fields are required as well as the timeframe within which required fields should be completed to ensure that those fields are complete before closing the EBLL case. Additionally, OFO should determine which type of information can be entered into each data field and ensure that those parameters are met to ensure that the information is accurate before closing the EBLL case.

6. In coordination with other HUD offices as necessary, research and address potential causes of the variance in the number of EBLL cases among States on the EBLL tracker and identify solutions that are within HUD's control.

HUD suggested several potential causes for the disproportionate number of EBLL cases on the EBLL tracker for New York and Pennsylvania. To address the situation, OFO should coordinate with other HUD offices as necessary to identify why those States have higher numbers of EBLL cases reported. OFO should then identify and take actions that are within HUD's control to ensure that EBLL cases are reported and recorded appropriately in the EBLL tracker.

7. Create a plan and timeline that outlines OFO's proposal to move the LBPR tracker to a different platform.

To ensure the reliability of data in the LBPR tracker, OFO should move the LBPR tracker to a new platform. The current platform, Microsoft Access, is outdated. Once complete, OFO should use what it learned from this move to also move the EBLL tracker from its current platform, Microsoft Access, to a new platform as planned.

8. Develop a timeliness standard in the LBPR tracker to establish expectations for how often field office staff must reach out to PHAs on the LBPR tracker to discuss measures that will resolve cases in a timely manner.

To ensure that cases on the LBPR tracker are resolved in an efficient manner, OFO should establish timeliness standards so that communication between OFO field offices and PHAs is consistent. There are no timeliness standards, and communication between OFO field offices and PHAs is inconsistent, which could delay the discovery of lead-based paint hazards and, if appropriate, the need for abatement and remediation efforts.

Appendixes

APPENDIX A – AGENCY COMMENTS AND OIG RESPONSE

Summary of the Office of Lead Hazard Control and Healthy Homes and the Office of Public and Indian Housing Comments and the Office of Inspector General Response

We requested that the U.S. Department of Housing and Urban Development's (HUD) Office of Lead Hazard Control and Healthy Homes (OLHCHH) and the Office of Public and Indian Housing (PIH) provide formal comments in response to our draft report and indicate agreement or disagreement with our recommendations. OLHCHH provided formal comments for recommendation 1 but did not indicate concurrence with the recommendations. We did not receive formal comments from PIH in response to recommendations 2 through 8, which were the recommendations addressed to PIH.

Recommendation 1

In response to recommendation 1, OLHCHH indicated that it would further its consideration of supporting research on the effects of lead hazard control activities in the target housing units of children under the age of 6 with confirmed blood levels in the 3.5-4.9 micrograms of lead per deciliter of blood (µg/dL) range in preparation for publishing a Federal Register notice for public comment on this subject as provided in the Lead Safe Housing Rule.

OLHCHH stated that the Centers for Disease Control and Prevention (CDC) specifies that the blood lead reference value (BLRV) is a screening tool that is not health based and is not a regulatory standard. States independently determine action thresholds based on State laws, regulations, and resource availability. CDC encourages healthcare providers and public health professionals to follow the recommended followup actions based on confirmed blood lead levels. OLHCHH highlighted that adopting CDC's BLRV would be warranted if environmental interventions in cases of children with EBLLs between 3.5 and 4.9 µg/dL were found to be effective in reducing their blood lead levels, thereby contributing to justifying the increased regulatory burden of using a lower EBLL value. OLHCHH also stated that changing HUD's EBLL value is not automatic. HUD must publish a notice in the Federal Register that offers the opportunity for public comment on the intent to apply CDC's change of the BLRV from 5 µg/dL to 3.5 µg/dL.

We updated recommendation 1 to reflect OLHCHH's position. The recommendation will remain as "unresolved-open" until we receive and agree to OLHCHH's proposed management decision. We will contact OLHCHH within 90 days of the issuance of this report to discuss this recommendation.

Recommendations 2, 3, 4, 5, 6, and 8

PIH did not provide formal comments in response to the recommendations addressed to it. Recommendations 2, 3, 4, 5, 6, and 8 will remain as "unresolved-open" until we receive and agree to PIH's proposed management decisions for each recommendation. We will contact PIH within 90 days of the issuance of this report to discuss these recommendations.

Recommendation 7

While PIH did not provide formal comments, it previously provided documentation addressing recommendation 7, which recommended the Deputy Assistant Secretary for Field Operations create a

plan and timeline that outlines the Office of Field Operations' proposal to move the LBPR tracker to a different platform. The documentation provided by PIH showed that the LBPR tracker was moved to a new platform on October 4, 2022. We agree with PIH's action and consider recommendation 7 "resolved-closed."

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-3000

OFFICE OF LEAD HAZARD CONTROL
AND HEALTHY HOMES

February 14, 2023

MEMORANDUM FOR: Brian T. Pattison, Assistant Inspector General for Evaluation, Office of Inspector General, G

FROM: Matthew Ammon, Director, Office of Lead Hazard Control and Healthy Homes (OLHCHH), L

SUBJECT: Comments on Draft OIG Report – Improvements Are Needed to the U.S. Department of Housing and Urban Development's Processes for Monitoring Elevated Blood Lead Levels and Lead-Based Paint Hazards in Public Housing (2021-OE-0011b), Recommendation 1

I am providing the Office of Lead Hazard Control and Healthy Homes' (OLHCHH's) comments on draft recommendation 1 of the subject report. I thank you for the diligence of your staff in conducting their evaluation.

Draft recommendation 1, for the OLHCHH to "Update HUD regulations, policies, and procedures, following the regulatory process required by the amended LSHR, to reflect CDC's lowered BLRV of 3.5 µg/dL," where the abbreviations are for the HUD's Lead Safe Housing Rule,[1] the Centers for Disease Control and Prevention, CDC's blood lead reference value (BLRV) for children under age 6,[2] and micrograms of lead per deciliter of blood, concerns the relationship between the CDC's BLRV and the LSHR's elevated blood lead level (EBLL).[3]

On its Blood Lead Reference Value webpage, cited above, CDC specifies that the BLRV "is a screening tool … [that] is not health-based and is not a regulatory standard," describing it more fully as follows:

> CDC's BLRV is a screening tool to identify children who have higher levels of lead in their blood compared with most children. The reference value is not health-based and is not a regulatory standard. States independently determine action thresholds based on state laws, regulations, and resource availability. CDC encourages healthcare providers and public health professionals to follow the recommended follow-up actions based on confirmed blood lead levels.

[1] HUD. Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance. 24 CFR 35, subparts B – R. https://www.ecfr.gov/current/title-24/subtitle-A/part-35.

[2] CDC. Blood Lead Reference Value. https://www.cdc.gov/nceh/lead/data/blood-lead-reference-value.htm.

[3] HUD. 24 CFR 35.110, Definitions. https://www.ecfr.gov/current/title-24/subtitle-A/part-35/subpart-B/section-35.110#p-35.110(Elevated%20blood%20lead%20level)

www.hud.gov **espanol.hud.gov**

The first CDC recommendation for action in the 3.5-19 µg/dL range, which includes the 3.5-4.9 µg/dL range, is on clinical management, specifically, that the physician or other healthcare provider "Follow the recommendations above for BLL < 3.5 µg/dL", which include providing lead exposure education to the family, checking the child's development, discussing diet and nutrition, and conducting follow-up blood lead testing.

As the report notes, the CDC's BLRV recommended action for children under age 6 notes that the BLRV does not prompt such an investigation into blood lead levels (BLLs) below 5 µg/dL when it is not required, such as for housing covered by the LSHR or in jurisdictions of state and local health departments that, depending on their jurisdictional requirements and available resources, have higher BLL criteria for requiring such an investigation.[4] The American Healthy Homes Survey (AHHS)[5,6] and AHHS II,[7] conducted by HUD, both found that lead-based paint hazards were substantially more prevalent in unassisted target housing than in assisted target housing. Based on these surveys, children under age 6 in assisted housing are expected to have lower blood lead levels, and this was confirmed by CDC-HUD research;[8] after adjustment for sociodemographic factors, children under age 6 residing in HUD-assisted housing had a significantly lower geometric mean BLL than did comparable children under age 6 residing in housing not receiving HUD assistance. In particular, the prevalence of children's BLL at or above 3 µg/dL for children in HUD-assisted units was half (51%) that of children in unassisted units. EBLL cases in children under age 6, whether using 3.5 µg/dL or 5 µg/dL as the threshold, are less likely in HUD-assisted housing units.

As specified in its LSHR, specifically, in its definition of "elevated blood lead level" (EBLL),[9] HUD (through the OLHCHH) will be publishing a notice in the Federal Register, with the opportunity for public comment, on its intent to apply CDC's change of the BLRV from 5 µg/dL to 3.5 µg/dL[10] to the rule, and, after considering comments, publish a notice on the Department's applying the changed value to the rule. HUD's changing the EBLL value is not automatic; if it were, the public commenting would be moot, in the sense of being "deprived of practical significance : made abstract or purely academic."[11] This was not HUD's intent – as the

[4] CDC. Recommended Actions Based on Blood Lead Level. https://www.cdc.gov/nceh/lead/advisory/acclpp/actions-blls.htm.

[5] HUD OLHCHH. American Healthy Homes Survey: Lead and Arsenic Findings. April 2011. www.hud.gov/sites/documents/AHHS_Report.pdf.

[6] Dewalt FG, Cox DC, O'Haver R, Salatino B, Holmes D, Ashley PJ, Pinzer EA, Friedman W, Marker D, Viet SM, Fraser A. Prevalence of Lead Hazards and Soil Arsenic in U.S. Housing. Journal of Environmental Health 78(5):22-29, December 2015. www.neha.org/node/6429.

[7] HUD OLHCHH. American Healthy Homes Survey II Lead Findings. October 29, 2021. https://www.hud.gov/sites/dfiles/HH/documents/AHHS_II_Lead_Findings_Report_Final_29oct21.pdf.

[8] Ahrens KA, Haley BA, Rossen, LM, Lloyd PC, Aoki Y. Housing Assistance and Blood Lead Levels: Children in the United States, 2005–2012. American Journal of Public Health 106(11): 2049-2056 (November 1, 2016). https://doi.org/10.2105/AJPH.2016.303432.

[9] HUD. 24 CFR 35.110, Definitions. https://www.ecfr.gov/current/title-24/subtitle-A/part-35/subpart-B/section-35.110#p-35.110(Elevated%20blood%20lead%20level)

[10] CDC. Blood Lead Reference Value. *Op. cit.*

[11] Merriam-Webster. "Moot." Merriam-Webster.com Dictionary. https://www.merriam-webster.com/dictionary/moot.

definition notes, HUD will be "considering comments [before] publish[ing] a notice on its applying the changed value to [the rule]."

In particular, the argument for adopting the BLRV would be strong if environmental interventions in cases of children with EBLLs between 3.5 and 4.9 µg/dL were found to be effective in reducing their BLLs, thereby contributing to justifying the increased regulatory burden of using a lower EBLL value.

A recent review of the peer-reviewed literature conducted for HUD by Healthy Housing Solutions[12] (Solutions) found, however, that their "search did not identify any studies that examined the effect of housing interventions on children's BLLs for children [under age 6] with a BLL of 3.5-5 µg/dL."

For contrast, Solutions searched the peer-reviewed literature for research on the effect of lead hazard reduction activities on homes where children under age 6 with BLL of 5-9 µg/dL resided, on their post-intervention BLL. They found two papers, one on lead hazard reduction activities in Maine[13] and the other on such activities in 14 jurisdictions participating in the National Evaluation of the HUD Lead-Based Paint Hazard Control Grant Program.[14] Both studies found beneficial effects from lead hazard reduction activities in target (essentially, pre-1978) housing in cases of children under age 6 with BLLs starting in that higher range.

Thus, while there is scientific support for lead hazard reduction in cases of children under age 6 with BLL of 5-9 µg/dL, and a basis for evaluating the benefits and costs of requiring, under the LSHR, intervention in such cases in HUD-assisted target housing, there is not yet such support regarding cases of children under age 6 with BLL of 5-9 µg/dL and, thus, no basis for evaluating the benefits and costs of requiring, under the LSHR, intervention in such cases in HUD-assisted target housing. Accordingly, it is not yet possible to make "a reasoned determination that the benefits of the intended regulation justify its costs," as specified by Executive Order 12866,[15] and, thus, for the OLHCHH to commit to "updat[ing] HUD's regulations" regarding the EBLL.

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[12] Healthy Housing Solutions. Summary of literature review: Reduction of children's blood lead levels post-intervention using interim controls of lead-based paint hazards for those children with blood lead levels at the CDC blood lead reference value of 3.5 µg/dL. February 6, 2023.

[13] Cluett, Rachel, Abby Fleisch, Kathy Decker, Eric Frohmberg, and Andrew E. Smith. 2019. Findings of a Statewide Environmental Lead Inspection Program Targeting Homes of Children with Blood Lead Levels as Low as 5 µg/dL. *Journal of public health management and practice: JPHMP*, 25 Suppl 1, Lead Poisoning Prevention, S76–S83. https://doi.org/10.1097/PHH.0000000000000869.

[14] National Center for Healthy Housing, and University of Cincinnati Department of Environmental Health. May 1, 2004. Evaluation of the HUD lead-based paint hazard control grant program: Final report. Columbia, MD: National Center for Healthy Housing, a peer reviewed report, with results also presented in Clark S, Galke W, Succop P, Grote J, McLaine P, Wilson J, Dixon S, Menrath W, Roda S, Chen M, Bornschein R, Jacobs D. Effects of HUD-supported lead hazard control interventions in housing on children's blood lead. *Environmental Research* 111(2): 301–311, 2011. https://doi.org/10.1016/j.envres.2010.11.003.

[15] Executive Order 12866. Regulatory Planning and Review. September 30, 1993. Par. 1(b)(6). https://www.archives.gov/files/federal-register/executive-orders/pdf/12866.pdf.

With CDC[16] and the Environmental Protection Agency (EPA)[17] both noting that there is no BLL greater than zero that is known not to be associated with adverse health effects on children under age 6, the OLHCHH will issue guidance recommending that assisted housing programs and providers undertake lead hazard control activities in the target housing units of children under age 6 with confirmed blood levels at or above 3.5 µg/dL. HUD will also, based on the recent literature review results cited above, further its consideration of supporting research on the effects of lead hazard control activities in the target housing units of children under age 6 with confirmed blood levels in the 3.5-4.9 µg/dL range, in preparation for publishing a *Federal Register* notice for public comment on this subject as provided in the LSHR.

If you have any questions on these comments, please contact Dr. Warren Friedman, Senior Advisor to the Director, OLHCHH.

Cc: Christopher Backley, Director, Program Evaluations Division, OIG
Gabrielle Foster, Assistant Director, Program Evaluations Division, OIG
Kaitlyn Large, Assistant Director, Program Evaluations Division, OIG
Felicia Gaither, Deputy Assistant Secretary for Field Operations, Office of Public and Indian Housing
Michelle Miller, Deputy Director, OLHCHH
Bruce Haber, Director, Program and Regulatory Support Division, OLHCHH

[16] CDC. Health Effects of Lead Exposure. https://www.cdc.gov/nceh/lead/prevention/health-effects.htm.

[17] EPA. Integrated Science Assessment (ISA) for Lead. https://www.epa.gov/isa/integrated-science-assessment-isa-lead.

APPENDIX B – SCOPE, METHODOLOGY, AND LIMITATIONS

We completed this evaluation under the authority of the Inspector General Act of 1978 as amended and in accordance with the Quality Standards for Inspection and Evaluation issued by the Council of the Inspectors General on Integrity and Efficiency (January 2012).

Scope

The scope of this evaluation focused on potential lead-based paint hazards in the nearly 1 million public housing units subject to U.S. Department of Housing and Urban Development (HUD) oversight and physical inspections that the approximately 3,050 public housing agencies (PHA) own and operate.

Methodology

To meet our evaluation objectives, we reviewed and analyzed

- Laws and regulations, as well as internal policies and procedures, related to elevated blood lead levels (EBLL).
- Relevant documentation from HUD and sources external to HUD.
- Copies of the EBLL tracker and of the lead-based paint response (LBPR) tracker.

We conducted interviews with staff from the Office of Lead Hazard Control and Healthy Homes and the Office of Public and Indian Housing, including staff from the Real Estate Assessment Center and the Office of Field Operations. Then, we compared and analyzed information collected from interviews and followup emails with applicable laws, regulations, policies, and HUD guidance.

Limitations

The evaluation team did not independently verify the data in snapshots of the EBLL or LBPR trackers or complete a sample document review. The team requested and received exported snapshots of the EBLL tracker in November 2021 and April 2022 and of the LBPR tracker in November 2021 and April 2022. The trackers were valid only for those points in time, as the trackers are nonstatic and subject to change.

APPENDIX C – PRIOR WORK RELATED TO LEAD HAZARDS

In June 2018, the U.S. Government Accountability Office (GAO) published report GAO-18-394,[42] highlighting the U.S. Department of Housing and Urban Development's (HUD) need to strengthen grant processes, compliance monitoring, and performance assessment regarding lead paint in housing. The report offered two recommendations that directed HUD to enhance compliance monitoring and enforcement of lead paint regulations. As of November 28, 2022, these recommendations remained open. In June 2022, GAO referenced the same report in its priority recommendation letter[43] to the current HUD Secretary. The report stated that implementing these priority recommendations would improve HUD's efforts to identify and address lead paint hazards in low-income housing.

The HUD, Office of Inspector General (OIG), Office of Audit, and GAO have issued several work products related to lead in HUD-assisted properties. In March 2020, the Office of Audit issued report 2020-CH-0003,[44] stating that HUD did not have adequate oversight of public housing agencies' (PHA) compliance with the Lead Safe Housing Rule (LSHR). This condition resulted in HUD lacking assurance that PHAs complied with the LSHR, thus potentially exposing children under 6 years of age to lead-based paint hazards.

On September 28, 2022, the HUD OIG, Office of Evaluation, published Risk Indicators of Lead-Based Paint Hazards in Public Housing Agencies,[45] the results of the first part of this evaluation. The report identified nine indicators of potential risk for lead-based paint hazards in public housing, including the number and percentage of public housing units in the region constructed before 1978. The report then identified six States – New York, Pennsylvania, Georgia, Kentucky, Illinois, and Texas – with the most potential risk of having PHAs with lead-based paint hazards. The report did not include recommendations.

The Office of Audit also issued a report on October 11, 2022, entitled HUD's Oversight of Lead-Based Paint Hazards Remediation in Public Housing,[46] which described how HUD did not have a plan for eliminating lead-based paint hazards from public housing, despite having strategic objectives for making housing units lead safe.

[42] GAO-18-394, Lead Paint in Housing: HUD Should Strengthen Grant Processes, Compliance Monitoring, and Performance Assessment, June 2018

[43] GAO-22-105539, HUD Priority Recommendations, June 2022. Priority recommendations are those that GAO believes warrant priority attention from heads of key departments or agencies. Priority recommendation letters provide an update on the overall status of the implementation of GAO's recommendations and call attention to areas in which agencies should give high priority to open recommendations.

[44] 2020-CH-0003, HUD Lacked Adequate Oversight of Public Housing Agencies' Compliance With the Lead Safe Housing Rule, March 18, 2020

[45] 2021-OE-0011a, Risk Indicators of Lead-Based Paint Hazards in Public Housing, September 28, 2022

[46] 2023-CH-0001, HUD's Oversight of Lead-Based Paint Hazards Remediation in Public Housing, October 11, 2022

APPENDIX D – ABBREVIATIONS

Abbreviation	Definition
BLRV	blood lead reference value
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
EBLL	elevated blood lead level
FY	fiscal year
GAO	U.S. Government Accountability Office
HUD	U.S. Department of Housing and Urban Development
LBPR	lead-based paint response
LSHR	Lead Safe Housing Rule
µg/dL	micrograms of lead per deciliter of blood
OFO	Office of Field Operations
OIG	Office of Inspector General
OLHCHH	Office of Lead Hazard Control and Healthy Homes
PHA	public housing agency
PIH	Office of Public and Indian Housing
PII	personally identifiable information
REAC	Real Estate Assessment Center
U.S.C.	United States Code

APPENDIX E – ACKNOWLEDGEMENTS

This report was prepared under the direction of Brian T. Pattison, Assistant Inspector General for Evaluation; Christopher Backley, Director, Program Evaluations Division; Kaitlyn Large, Assistant Director; and Gabrielle Foster, Assistant Director. The Office of Evaluation staff members who contributed are recognized below.

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