



December 2020

# LEAD PAINT IN HOUSING

## HUD Has Not Identified High-Risk Project-Based Rental Assistance Properties

Accessible Version

## LEAD PAINT IN HOUSING

### HUD Has Not Identified High-Risk Project-Based Rental Assistance Properties

#### Why GAO Did This Study

Exposure to lead paint hazards can cause serious harm to children under 6 years old. HUD is required by law to reduce the risk of lead paint hazards in HUD-assisted rental housing—including project-based rental assistance (subsidies to make privately owned multifamily properties affordable to low-income households).

The 2019 Consolidated Appropriations Act Joint Explanatory Statement includes a provision for GAO to review, among other things, HUD's oversight of lead paint and related hazards in affordable rental housing. This report (1) describes how HUD programs and guidance address lead paint hazards in HUD-assisted and other low-income rental housing, and (2) examines HUD's oversight procedures for assessing risk for lead paint hazards in project-based rental assistance housing.

GAO reviewed HUD and Environmental Protection Agency (EPA) lead paint regulations and documents on lead programs and methods for addressing lead paint hazards. GAO reviewed HUD oversight policies and procedures and analyzed HUD data on building and tenant age. GAO interviewed staff at HUD, EPA, and organizations that advocate for safe affordable housing.

#### What GAO Recommends

GAO recommends that HUD (1) conduct periodic risk assessments for the Project-Based Rental Assistance Program and (2) develop and implement plans to proactively manage identified lead paint risks. HUD agreed to conduct periodic risk assessments and develop and implement a plan to proactively manage risks.

View [GAO-21-55](#). For more information, contact John H. Pendleton at (202) 512-8678 or [pendletonj@gao.gov](mailto:pendletonj@gao.gov).

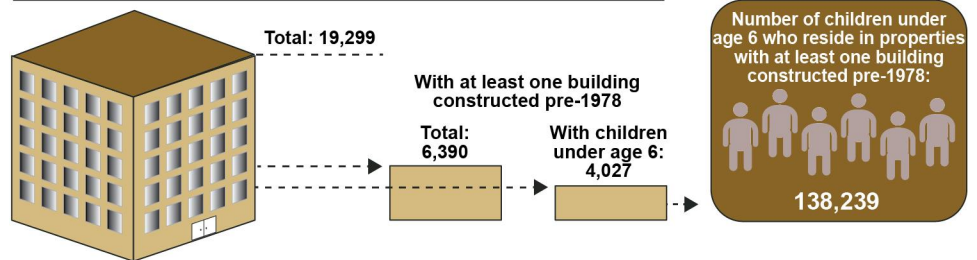
#### What GAO Found

During fiscal years 2018 and 2019, the Department of Housing and Urban Development (HUD) obligated about \$421 million through two grant programs to state and local governments to help identify and control lead paint hazards in housing for low-income households. HUD also issued guidelines for evaluating and controlling lead paint hazards, generally encouraging abatement (such as replacing building components containing lead) as the preferred long-term solution. HUD has supported research on lead paint hazard control and provided education and outreach to public housing agencies, property owners, and the public through publications and training events.

HUD monitors lead paint-related risks in its Project-Based Rental Assistance Program, one of HUD's three largest rental assistance programs, through management reviews and periodic physical inspections, but has not conducted a comprehensive risk assessment to identify properties posing the greatest risk to children under the age of 6. HUD's management reviews include assessing property owners' compliance with lead paint regulations—such as by reviewing lead disclosure forms, records of lead inspections, and plans to address lead paint hazards. Inspectors from HUD's Real Estate Assessment Center also assess the physical condition of properties, including identifying damaged paint that could indicate lead paint risks. According to HUD officials, they have not conducted risk assessments in project-based rental assistance housing because they believe the program has relatively few older and potentially riskier properties. However, GAO's analysis of HUD data found that 21 percent of project-based rental assistance properties have at least one building constructed before 1978 (when lead paint was banned in homes) and house over 138,000 children under the age of 6. If HUD used available program data to inform periodic risk assessments, HUD could identify which of the properties pose the greatest risk of exposure to lead paint hazards for children under the age of 6. Unless HUD develops a strategy for managing the risks associated with lead paint and lead paint hazards in project-based rental assistance housing, it may miss the opportunity to prevent children under the age of 6 from being inadvertently exposed to lead paint in those properties.

#### Project-Based Rental Assistance Properties with at Least One Building Built before 1978 and That House Children under Age 6, as of December 31, 2019

##### Project-Based Rental Assistance properties



Source: GAO analysis of Department of Housing and Urban Development data. | GAO-21-55

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**Data for Project-Based Rental Assistance Properties with at Least One Building Built before 1978 and That House Children under Age 6, as of December 31, 2019**

- Total: 19,299
- Total w/at least one building constructed pre-1978: 6,390
- With children under age 6: 4,027
- # of children on properties: 138,239

Note: Children under the age of 6 are at the greatest risk of lead exposure because they have frequent hand-to-mouth contact, often crawl on the floor, and ingest nonfood items. Lead paint exposure in children under the age of 6 can cause brain damage, slowed development, and learning and behavioral problems.

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**Abbreviations**

CDC	Centers for Disease Control and Prevention
EPA	Environmental Protection Agency
Guidelines	Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing
HUD	Department of Housing and Urban Development
Lead Office	Office of Lead Hazard Control and Healthy Homes
PBRA	Project-Based Rental Assistance
PHA	public housing agency
REAC	Real Estate Assessment Center

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December 16, 2020

The Honorable Lisa Murkowski  
Chairwoman  
The Honorable Tom Udall  
Ranking Member  
Subcommittee on Interior, Environment, and Related Agencies  
Committee on Appropriations  
United States Senate

The Honorable Betty McCollum  
Chairwoman  
The Honorable Dave Joyce  
Ranking Member  
Subcommittee on Interior, Environment, and Related Agencies  
Committee on Appropriations  
House of Representatives

The Department of Housing and Urban Development (HUD) reported that as of 2013, nearly 500,000 children under the age of 6 were estimated to be living in HUD-assisted rental housing units built before 1978, the year that lead paint was banned for residential use in homes.<sup>1</sup> Children under the age of 6 are particularly vulnerable to lead paint, which can cause brain damage, slowed development and growth, and learning and behavioral problems. According to the Centers for Disease Control and Prevention (CDC), no “safe” blood lead level in children has been identified, and even low levels of lead in blood can have damaging effects. One aspect of HUD’s mission is to reduce these risks by

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<sup>1</sup>Department of Housing and Urban Development, *Economic Analysis of the Proposed Rule on Lead-Based Paint: Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Response to Elevated Blood Lead Levels* (Washington, D.C.: Jan. 13, 2017). The analysis was based on the 2013 American Housing Survey. The HUD-assisted rental housing units included Project-Based Rental Assistance, public housing, and Housing Choice Voucher units. For the Consumer Product Safety Commission’s ban on lead-containing paint, see *Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint: Establishment as Banned Hazardous Products*, 42 Fed. Reg. 44193 (Sept. 1, 1977).

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promulgating and enforcing lead-based paint regulations for HUD-assisted rental housing.<sup>2</sup>

The Consolidated Appropriations Act 2019 Joint Explanatory Statement on Environmental Programs and Management includes a provision for us to report on efforts by HUD and the Environmental Protection Agency (EPA) to address lead paint and related hazards in affordable rental housing.<sup>3</sup> In this report, we (1) describe how HUD programs and guidance address lead paint hazards in HUD-assisted and other low-income rental housing and (2) examine HUD's oversight procedures for assessing risk for lead paint hazards in the Project-Based Rental Assistance (PBRA) program. In appendix I, we provide information about EPA's efforts to address lead paint and related hazards in housing.

To address the first objective, we identified HUD grant and other programs and activities that may be used to address lead paint hazards. We reviewed HUD documents and interviewed agency officials regarding agency guidance for addressing lead paint hazards in housing. Additionally, we compared HUD guidance against current and proposed regulations related to lead paint. We also reviewed technical studies on lead paint hazards funded by HUD between 2010 and 2019 and documentation of HUD's training and outreach on these hazards.

To address the second objective, we reviewed HUD documentation and guidance for overseeing compliance with lead paint regulations at PBRA

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<sup>2</sup>Throughout this report, we refer to lead-based paint hazards as "lead paint hazards" and lead-contaminated dust as "lead dust" or "related hazards." Lead paint hazards include any condition that can cause harmful exposure to lead from lead dust, soil, or paint that is deteriorated or present in accessible, friction, or impact surfaces (e.g., walls and windows and door frames).

<sup>3</sup>Making Further Continuing Appropriations for the Department of Homeland Security for Fiscal Year 2019, and for Other Purposes, H.R. Report 116-9 at 741 (Feb. 13, 2019), which was the conference report for the Consolidated Appropriations Act, 2019, Pub. L. No. 116-6 (Feb. 15, 2019). The House conference report includes a provision for us to report on HUD and EPA efforts relating to lead paint removal by 180 days after the law was enacted on February 15, 2019. GAO held a briefing with requesters on August 12, 2019, in response to the provision. This report provides a deeper analysis of issues raised during that meeting.



properties.<sup>4</sup> We interviewed HUD officials on how physical inspections address lead paint compliance in multifamily properties and how program offices share findings. We also analyzed HUD data on the year that PBRA buildings were constructed and the age of household members residing in those properties. All data were current as of December 31, 2019, the last full calendar year of data available at the time of our review. To assess the reliability of HUD's data, we reviewed HUD's documentation and conducted electronic testing, including checks for outliers, missing data fields, and erroneous values. We determined these data were sufficiently reliable for purposes of determining which PBRA properties had at least one pre-1978 building and determining the age of household members residing at those properties. See appendix II for additional details on our scope and methodology.

We conducted additional work, which we present in other appendixes to this report. To identify EPA programs and activities related to lead paint and related lead hazards, we reviewed relevant federal reports and EPA's website and corroborated our list of programs and descriptions with EPA officials. We also interviewed EPA officials and reviewed agency documents about EPA's research, training, and public outreach efforts.

We conducted this performance audit from May 2019 to December 2020 in accordance with 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. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>4</sup>The second objective of this report focuses on HUD's oversight of lead paint regulations in the PBRA program. We issued a report in 2018 that focused on HUD's oversight of lead paint regulations in the Public Housing and Housing Choice Voucher programs. See GAO, *Lead Paint in Housing: HUD Should Strengthen Grant Processes, Compliance Monitoring, and Performance Assessment*, [GAO-18-394](#) (Washington, D.C.: June 19, 2018). In that report, we recommended that HUD establish a plan to mitigate and address oversight deficiencies in its lead paint compliance monitoring processes. HUD took some steps to address this recommendation, such as updating the lead paint questions on a monitoring checklist, working more closely with public housing agencies (PHA) to ensure PHAs submit appropriate documentation, and developing plans to perform in-depth compliance reviews at 30 PHAs. We also recommended that HUD develop and document procedures to ensure that its staff take consistent and timely steps to address PHA noncompliance with lead paint regulations. HUD drafted procedures that could help staff decide when an enforcement action is appropriate. As of October 2020, HUD had not fully implemented either recommendation.

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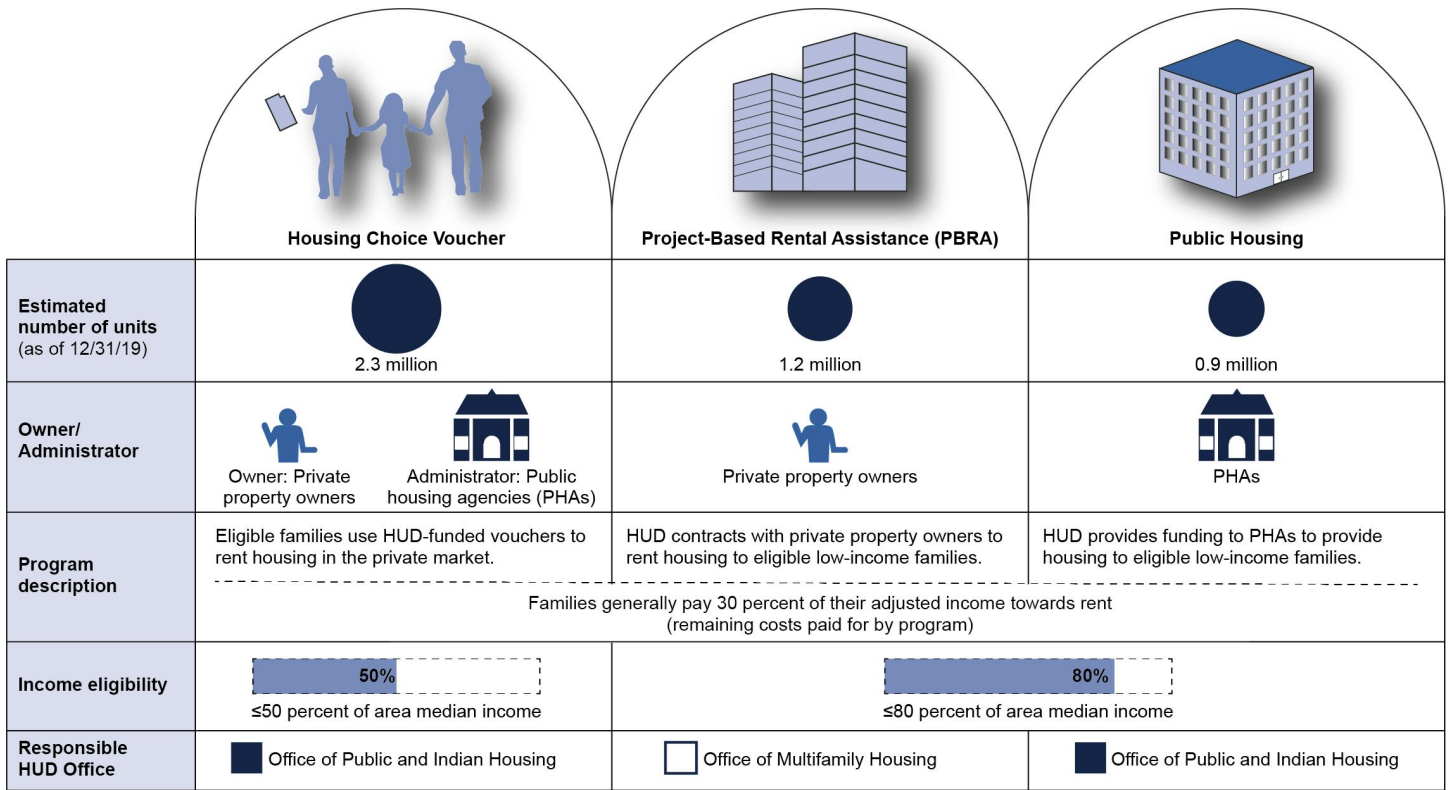
## Background

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### HUD-Assisted Rental Housing Programs

HUD administers several rental housing assistance programs that allow families to pay affordable, income-based rents. Rental assistance is provided primarily through rent vouchers that families can use in the private market and for below-market rental units owned by private landlords or public housing agencies (PHA) under contract with HUD. As of December 2019, HUD provided assistance to roughly 4.4 million low-income households through its three largest rental housing assistance programs: Housing Choice Voucher, PBRA, and Public Housing (see fig. 1). The Housing Choice Voucher program provides subsidies for eligible households to rent a housing unit in the private rental market. Under PBRA, HUD provides subsidies to make privately-owned multifamily properties affordable to eligible low-income households. Assistance under PBRA is tied to specific units rented to eligible low-income households. Public Housing is government-owned housing for eligible households. Both Housing Choice Voucher and Public Housing are administered by state and local PHAs.

**Figure 1: Largest HUD Rental Assistance Housing Programs**



Source: Department of Housing and Urban Development (HUD). | GAO-21-55

## Lead Paint Hazards

Lead paint hazards include any condition that causes exposure to lead from paint in lead-contaminated dust or soil or from deteriorating paint that could result in adverse human health effects. Lead-contaminated dust and deteriorating lead paint (peeling, chipping, chalking, cracking, or damaged) continue to be large sources of lead exposure in children, particularly in homes built before 1978. As lead paint ages, it starts to crumble and flake, releasing lead into household dust. In addition, methods used to remove interior or exterior lead paint release lead dust and particles that contaminate the indoor or outdoor environment. Children under the age of 6 can be exposed to lead from paint by ingesting cracked or peeling paint chips or flakes, or lead-contaminated dust, and are at greater risk of lead exposure than older children and adults. Lead paint hazards in housing can cause serious health effects in children, such as brain and nervous system damage, slowed growth and development, and learning and behavior problems. A national survey administered by HUD from 2005 through 2006 estimated that 23.2 million homes in the United States had one or more significant lead paint hazards.<sup>5</sup>

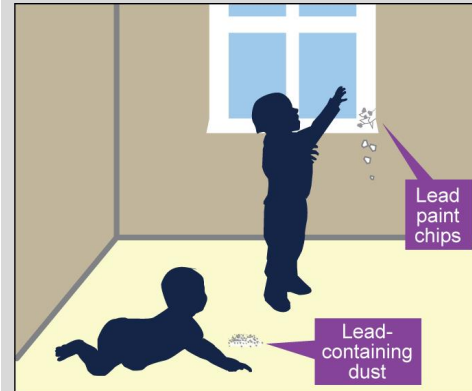
## Roles of Federal Agencies and Key Federal Regulations Related to Lead Paint

Several federal regulations address lead exposures in children under the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of the Housing and Community Development Act of 1992), the Toxic Substances Control Act, and other laws.<sup>6</sup> HUD and EPA have issued and implemented regulations covering lead safety in housing (see table 1).

<sup>5</sup>Gary F. Dewalt, et al., "Prevalence of Lead Hazards and Soil Arsenic in U.S. Housing," *Journal of Environmental Health*, vol. 78, no. 5 (December 2015): 22-29.

<sup>6</sup>The Housing and Community Development Act of 1992 contains Title X, entitled the Residential Lead-Based Paint Hazard Reduction Act of 1992, which created the statutory requirements regarding the Residential Lead-Based Paint Hazard Reduction Act and also amended the Toxic Substances Control Act provisions regarding lead paint. Housing and Community Development Act of 1992, Pub. L. No. 102-550, title X, § 1001 et. seq. (1992) (codified generally at 42 U.S.C. § 4851-4856; 15 U.S.C. § 2681-2692) (hereinafter Title X). Provisions related to lead exposure reduction in Toxic Substances Control Act are codified in 15 U.S.C. § 2681-2692; 42 U.S.C. § 4851-4856.

**Common Sources of Lead Paint Hazards in a Child's Home**



Children under the age of 6 are at the greatest risk of lead exposure because they have frequent hand-to-mouth contact, often crawl on the floor, and ingest nonfood items. Their small body size and weight compared to adults, and the rapid development of their neurological and other systems cause young children to be more affected by lead exposure.

Source: GAO. | GAO-21-55

**Table 1: Statutory and Selected Regulatory Requirements Related to Lead Paint Hazards in Housing**

**Residential Lead-Based Paint Hazard Reduction Act<sup>a</sup>**

Statutory requirements	Selected regulations under the statute	Agency
<ul style="list-style-type: none"> <li>Requires the Department of Housing and Urban Development (HUD) to promulgate regulations on lead safety in HUD-assisted pre-1978 housing and lead disclosure in pre-1978 housing.</li> <li>Authorizes the lead hazard control grant programs.</li> <li>Provides authority for HUD to conduct research on lead paint hazards, particularly for children.</li> <li>Requires disclosure of certain information about lead paint in the sale or lease of certain properties.</li> </ul>	<p><u>Lead Disclosure Rule:</u><sup>b</sup></p> <ul style="list-style-type: none"> <li>Requires sellers and lessors of most housing built before 1978 to disclose any known information, available records, and reports on the presence of lead paint and lead paint hazards in the housing.</li> </ul> <p><u>Lead Safe Housing Rule:</u><sup>c</sup></p> <ul style="list-style-type: none"> <li>Establishes procedures for evaluating whether a lead paint hazard exists in various categories of HUD-assisted housing and for controlling or eliminating the hazard.</li> <li>Notifies occupants of any lead paint and lead paint hazards identified and related remediation efforts.</li> </ul>	<p>HUD/EPA HUD</p>

**Toxic Substances Control Act:<sup>d</sup>**

Statutory requirements	Selected regulations under the statute	Agency
<ul style="list-style-type: none"> <li>Relative to lead paint hazards, requirements include reporting, record-keeping and testing, and abatement education.</li> </ul>	<p><u>Renovation, Repair, and Painting Rule:</u><sup>e</sup></p> <ul style="list-style-type: none"> <li>Applies to renovations for compensation that disturb lead paint in pre-1978 homes and child-occupied facilities.</li> <li>Requires that firms performing renovation, repair, and painting projects that disturb lead paint in homes built before 1978 are certified and use certified renovators, who are trained by an Environmental Protection Agency (EPA)-authorized, state-accredited training provider.</li> <li>Permits training programs to seek accreditation to offer courses to train, or provide refresher courses for, lead renovation professionals.</li> </ul> <p><u>Abatement Rule:</u><sup>f</sup></p> <ul style="list-style-type: none"> <li>Requires firms and lead abatement professionals conducting lead paint activities in pre-1978 housing or child-occupied facilities to be certified to conduct such work.</li> <li>Permits training programs to seek accreditation to offer courses to train, or provide refresher courses for, lead abatement professionals.</li> </ul>	<p>EPA</p>

Source: GAO analysis of statutory and selected regulatory requirements. | GAO-21-55

<sup>a</sup>42 U.S.C. §§ 4851-4856. Title X of the Housing and Community Development Act of 1992, entitled the Residential Lead-Based Paint Hazard Reduction Act of 1992, also amended the Toxic Substances Control Act by adding Title IV, the Lead Exposure Reduction Housing and Community Development Act of 1992, Pub. L. No. 102-550, title X, 106 Stat. 3897-3927 (codified generally at 42 U.S.C. §§ 4851-4856; 15 U.S.C. §§ 2681-2692).

<sup>b</sup>24 C.F.R. § 35.80-98.

<sup>c</sup>24 C.F.R. pt. 35, Subparts B-R. The purpose statement for the Lead Safe Housing Rule also states it implements the Lead-Based Paint Poisoning Prevention Act and the Residential Lead-Based Paint Hazard Reduction Act of 1992. 24 C.F.R. § 35.100(a).

<sup>d</sup>Provisions related to lead exposure reduction in Toxic Substances Control Act are codified in 15 U.S.C. §§ 2681-2692.

<sup>e</sup>40 C.F.R. §§ 745.80-745.87.

<sup>f</sup>40 C.F.R. §§ 745.89-745.92.

In addition, HUD, EPA, and CDC have specific roles and responsibilities related to reducing lead exposure (see table 2).

**Table 2: Roles and Responsibilities of HUD, EPA, and CDC Related to Lead Paint Hazards in Housing**

Agency	Roles and responsibilities
Department of Housing and Urban Development (HUD)	Provides funding to state and local governments to reduce lead paint hazards in pre-1978 housing Develops and enforces, with EPA, Lead Disclosure Rule for sale or rental of pre-1978 housing Develops and enforces lead paint safety regulations in pre-1978 HUD-assisted housing Conducts public outreach Supports lead research
Environmental Protection Agency (EPA)	Sets federal standards for lead hazards in paint, soil, and dust Sets federal standards for safe work practices for lead paint activities (inspection, risk assessment, and abatement) and renovation, repair, and painting activities Develops and enforces, with HUD, Lead Disclosure Rule for sale or rental of pre-1978 housing Educates the public on the risks of lead paint and how best to manage those risks Provides grant funds to support authorized state and tribal programs to implement the lead paint programs under the Toxic Substances Control Act
Centers for Disease Control and Prevention (CDC)	Sets a public health guideline known as the “blood lead reference value” to be used as a population-based screening tool. It helps to identify children who have been exposed to lead and whose blood lead levels are much higher than those of most children. It enables health providers and public health professionals to identify the most highly exposed children for intervention and follow-up. <sup>a</sup> CDC provides grants to states for the initiation and expansion of community programs designed to (A) provide infants and children, (i) screening for elevated blood lead levels; (ii) referral for treatment of such levels; and (iii) referral for environmental intervention associated with such levels; and (B) to provide education about childhood lead poisoning.

Source: GAO. | GAO-21-55

<sup>a</sup>CDC began using a blood lead reference value of 5 micrograms of lead per deciliter of blood in 2012 to identify children who had been exposed to lead and recommended case management. Until 2012, CDC identified children under the age of 6 as having a blood lead “level of concern,” if the test result was greater than or equal to 10 micrograms of lead per deciliter of blood. The new reference level of 5 micrograms is based on survey results of blood lead levels (the highest 2.5 percent) in U.S. children ages 1–5 years from the 2007–2008 and 2009–2010 National Health and Nutrition Examinations.

HUD, EPA, and CDC work together on an ongoing basis to develop programs, activities, and strategies for reducing children’s exposure to

lead paint hazards. For example, the agencies coordinate, among other ways, through the President's Task Force on Environmental Health Risks and Safety Risks to Children, which the Secretary of the Department of Health and Human Services and the Administrator of EPA co-chair.<sup>7</sup> In 2018, the task force published the *Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts*, which serves as a blueprint for federal agencies for addressing lead paint with stakeholders, states, tribes and local communities, businesses, property owners, and families.<sup>8</sup>

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## HUD Seeks to Address Lead Paint Hazards through Grants, Guidance, and Education

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### HUD Funds Programs That Help Communities Identify and Control Lead Paint Hazards in Housing for Low-Income Households

As of September 2020, HUD funded two grant programs to help identify and control lead paint hazards in housing for low-income households—the Lead Hazard Reduction Grant Program and the Lead-Based Paint Capital Fund Grant Program (see table 3). The Lead Hazard Reduction Grant program is designed to assist state and local governments in identifying and controlling lead paint hazards in eligible privately owned, rental or owner-occupied housing through interim controls and

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<sup>7</sup>Protection of Children from Environmental Health Risks and Safety Risks, Exec. Order No. 13045 (Apr. 21, 1997). The order established the task force, which, as of May 2020, comprised representatives from 18 federal departments and agencies and White House offices.

<sup>8</sup>President's Task Force on Environmental Health Risks and Safety Risks to Children, *Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts* (Washington, D.C.: December 2018).

abatement.<sup>9</sup> This grant consists of three categories of grants: (1) Lead-Based Paint Hazard Control, (2) Lead Hazard Reduction Demonstration, and (3) High Impact Neighborhoods. While each grant may be used to fund lead hazard evaluation and control work, the grants' eligibility criteria differ. Of the three categories, HUD obligated the most money for the Lead Hazard Reduction Demonstration Grant category, which grant recipients can use to mitigate lead paint hazards in pre-1978 housing for low-income households.

HUD's Lead-Based Paint Capital Fund Grant program is designed to assist PHAs identify and control lead paint hazards in pre-1978 public housing through interim controls and abatement.<sup>10</sup> For more information on these and other HUD lead paint-related programs, see appendix III.

**Table 3: HUD Obligations to Grant Programs for Identifying and Controlling Lead Paint, Fiscal Years 2018–2019**

Program	Description	Total obligations for fiscal years 2018 and 2019 (thousands of dollars)
Lead Hazard Reduction Grant Program		402,354
Lead-Based Paint Hazard Control Grant category	<ul style="list-style-type: none"> <li>Grants for state, urban, suburban, or rural jurisdictions to identify and mitigate lead paint hazards in privately owned (owner-occupied or rental), pre-1978 housing for low-income households</li> <li>Requires a grantee match of 10 percent</li> </ul>	143,143

<sup>9</sup>The Office of Lead Hazard Control and Healthy Homes funds and administers HUD's Lead Hazard Reduction Grant, provides guidance on HUD lead regulations, and tracks HUD's efforts to make housing lead-safe. Interim controls refer to any set of measures designed to reduce temporarily human exposure or likely exposure to lead paint hazards. Interim controls include, but are not limited to, repairs, painting, temporary containment, specialized cleaning, clearance, ongoing lead paint maintenance activities, and the establishment and operation of management and resident education programs. Abatement refers to any set of measures (designed in accordance with standards established by appropriate federal agencies) to remove the lead paint hazard, contain it (a process known as "encapsulation"), or replace the lead painted surfaces or fixtures.

<sup>10</sup>The Lead-Based Paint Capital Fund Grant program, administered by HUD's Office of Public and Indian Housing, is authorized by section 9 of the United States Housing Act of 1937 (42 U.S.C. § 1437g), with funding provided by appropriations.



Program	Description	Total obligations for fiscal years 2018 and 2019 (thousands of dollars)
Lead Hazard Reduction Demonstration Grant category	<ul style="list-style-type: none"> <li>Grants for state and local governments to identify and mitigate lead paint hazards in urban jurisdictions that have at least 3,500 pre-1940, occupied rental housing units. Grants are targeted to privately owned (owner-occupied or rental) pre-1978 housing for low-income households.</li> <li>Requires a grantee match of 10 or 25 percent (may vary by year)</li> </ul>	197,166
High Impact Neighborhoods Grant category	<ul style="list-style-type: none"> <li>Grants for urban jurisdictions with compact areas with high concentrations of pre-1940 low-income housing, and elevated blood lead level cases that are significantly higher than the state average. Grants must be used for privately owned (owner-occupied or rental) housing for low-income households.</li> <li>Requires a grantee match of 10 percent</li> </ul>	62,045
Lead-Based Paint Capital Fund Grant Program	<ul style="list-style-type: none"> <li>Grants for public housing agencies to identify and mitigate lead-based paint hazards in pre-1978 low-income public housing units</li> <li>Grants are targeted toward older public housing developments that are occupied by low-income families and have a high proportion of children under age 6</li> <li>Requires no grantee match</li> </ul>	19,000

Source: Department of Housing and Urban Development (HUD). | GAO-21-55

## HUD Provides Information on Abatement Methods, Interim Controls, and Compliance with Lead Regulations

HUD’s *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* (Guidelines)—last updated in 2012—provide technical information on identifying and controlling lead paint hazards.<sup>11</sup> According to the HUD Guidelines, there are two approaches to address lead paint hazards: abatement or interim controls that temporarily reduce exposure. HUD prefers abatement to interim controls.

**Abatement.** The HUD Guidelines state that abatement and removal are longer-term solutions—lasting at least 20 years—that require less

<sup>11</sup>Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes, *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* (Washington, D.C.: July 2012). The office collaborates with other HUD program offices to oversee and enforce lead paint regulations—for example, by providing training and technical assistance to PHA staff and property owners.

monitoring and re-evaluation than interim controls. Acceptable abatement methods cited in the Guidelines include replacing building components that contain lead, removing the paint itself, enclosing or encapsulating lead paint hazards, and covering lead-contaminated soil with durable coverings.<sup>12</sup>

The HUD Guidelines acknowledge that some abatement methods, such as enclosure or encapsulation, do not permanently remove lead paint. Therefore, these guidelines recommend that property owners monitor and maintain potential hazards on an ongoing basis. In addition, the HUD Guidelines caution against some methods (e.g., on-site paint removal) and prohibit others (e.g., hydro-blasting) because they produce high levels of lead paint exposure.<sup>13</sup> Since methods that disturb lead paint can create lead dust hazards, the HUD Guidelines recommend using certified lead paint professionals, taking safety precautions around lead, and requiring an evaluation (known as a clearance examination) to determine that no lead paint hazards remain in the area after lead hazard control or renovation.<sup>14</sup> They also recommend regularly conducting a re-evaluation by a certified risk assessor following lead hazard control treatments that do not completely remove the lead paint.

Sometimes abatement is not feasible because the cost is prohibitive. In the Congressional Budget Justification for fiscal year 2021, HUD reported an average cost of \$12,000 per housing unit for lead hazard reduction from the agency's Lead Hazard Reduction Grant program. HUD officials told us that in some cases, the actual cost to remove lead paint from a housing unit may be higher, closer to \$20,000 or \$30,000, and is therefore cost prohibitive.

**Interim controls.** When abatement is too costly or the required remediation is minor, HUD Guidelines recommend interim controls. Interim controls may include specialized cleaning, repairs, and maintenance, such as stabilizing paint, removing excess levels of leaded

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<sup>12</sup>Enclosure involves covering the lead-painted surface with a solid barrier. Encapsulation coats the painted surface so that it is not accessible.

<sup>13</sup>Hydroblasting refers to the use of high-pressure washing to clean surfaces.

<sup>14</sup>Clearance examinations generally involve combined visual and quantitative environmental evaluation procedures used to determine that no lead paint hazards remain in an area after paint-disturbing renovation or maintenance has been performed or lead hazard controls put in place.

dust, and smoothing rough surfaces to remove friction.<sup>15</sup> After performing interim controls, HUD Guidelines require ongoing maintenance to ensure potential hazards do not persist.

HUD-funded research found that various types of interim controls were effective at addressing lead paint hazards and making housing units lead-safe for a significant number of years.<sup>16</sup> The research also suggested that local communities could expand the number of housing units treated by applying low-cost treatments to housing units that have limited lead paint hazards. HUD officials said that the agency has been looking at additional ways to reduce or control lead paint hazards without complete removal.

**Compliance with lead regulations.** HUD issues notices that describe the activities property owners can complete to comply with lead paint regulations. For example, in July 2011, HUD issued a notice summarizing regulatory requirements pertaining to both the Lead Disclosure Rule and the Lead Safe Housing Rule in Public Housing, Housing Choice Voucher, and Project-Based Voucher programs.<sup>17</sup> In 2017, HUD subsequently issued a notice on the final rule amending the Lead Safe Housing Rule to align it with updated CDC guidance on elevated blood lead levels in children.<sup>18</sup> In the 2017 notice, the Office of Public and Indian Housing also

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<sup>15</sup>Paint stabilization entails removing deteriorated paint, addressing the cause of the paint deterioration, preparing the surface for repainting, and repainting.

<sup>16</sup>Jonathan Wilson, et al., "Evaluation of HUD-Funded Lead Hazard Control Treatments at 6 Years Post-Intervention," *Journal of Environmental Research* vol. 102, (2006): 237-248.

<sup>17</sup>Department of Housing and Urban Development, Guidance on EPA's Lead-Based Paint Renovation, Repair and Painting Rule, HUD's Lead Safe Housing Rule, and the EPA-HUD Lead Disclosure Rule, Notice PIH 2011-44 (HA); OHHLHC 2011-01 (July 29, 2011). In this notice, HUD summarized the regulations, included a description of EPA enforcement and fines, and provided PHAs and property owners with examples of possible compliance issues to avoid. The Project-Based Voucher program is a tenant-based voucher program and differs from the Project-Based Rental Assistance program.

<sup>18</sup>Department of Housing and Urban Development, Guidance on HUD's Lead Safe Housing Rule Pertaining to Elevated Blood Lead Levels for the Public Housing, Housing Choice Voucher, and Project-Based Voucher Programs, Notice PIH 2017-13 (HA); OHHLHC 2017-01 (Aug. 10, 2017). The final rule on which the notice was based was issued in January 2017. Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Response to Elevated Blood Lead Levels, 82 Fed. Reg. 4151 (Jan. 13, 2017).

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described the rule's application to the Public Housing, Housing Choice Voucher, and Project-Based Voucher programs.<sup>19</sup>

HUD's Guidelines, the 2012 version of which remained in place as of August 2020, do not reflect EPA's revised dust-lead hazard standards. In July 2019, EPA issued a final rule to lower the dust lead hazard standards to 10 micrograms per square foot and to 100 micrograms per square foot for floors and window sills, respectively.<sup>20</sup> These lead hazard standards help property owners, lead paint professionals, and government agencies identify lead hazards in residential dust. HUD officials told us that the agency plans to update their guidelines to reflect EPA's revised dust lead hazard standards in fiscal year 2021 or the first half of fiscal year 2022. In June 2020, EPA issued a proposed rule that updates its dust level post-abatement clearance standards on floors and window sills.<sup>21</sup> HUD officials told us the agency also plans to update its guidelines to reflect EPA's final rulemakings related to dust lead post-abatement clearance levels.

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## HUD Conducts Lead Hazard Control Education and Outreach through Research, Information Sharing, and Training

HUD provides lead hazard control education and outreach through lead research, information sharing, and training.

### Lead Research

HUD supports research studies through its Lead Technical Studies grants and contracts, which respond to a statutory requirement for HUD to conduct research on topics such as improved methods for evaluating and reducing lead paint hazards in housing.<sup>22</sup> HUD officials told us they use findings from these research studies to help issue policy guidance and best practices for grantees. Among the studies funded from 2010 to 2019,

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<sup>19</sup>Notice PIH 2017-13 (HA); OHHLHC 2017-01 (Aug. 10, 2017).

<sup>20</sup>Review of the Dust-Lead Hazard Standards and the Definition of Lead-Based Paint, 84 Fed. Reg. 32632 (Jul. 9, 2019).

<sup>21</sup>Review of Dust-Lead Post-Abatement Clearance Levels, 85 Fed. Reg. 37810 (Jun. 24, 2020).

<sup>22</sup>42 U.S.C. § 4854a.

one study evaluated the effectiveness of lead hazard control treatments in reducing children's blood lead levels and found that interventions by grantees in the Lead Hazard Control Grant category were successful in reducing children's blood lead levels by 18–30 percent 1 year after intervention, and 2 years after intervention saw greater reductions in children's blood lead levels.<sup>23</sup> HUD told us that their future research priorities include reducing dust lead exposure, identifying high-risk communities, and ensuring lead safe practices in housing with children.

HUD sometimes coordinates its lead research efforts with other agencies, such as CDC. For example, a joint study covering data collected between 2005 and 2012 linked administrative records of HUD's largest rental assistance programs with data from CDC's National Health and Nutrition Examination Survey respondents. This data analysis allowed HUD to identify more children living in HUD-assisted rental housing who had been exposed to lead.<sup>24</sup> The same study compared blood lead levels among children aged 1–5 years living in assisted housing to children aged 1–5 years in non-assisted housing. The results showed that children in HUD-assisted rental housing from 2005 to 2012 had lower blood lead levels than expected given their demographics, socio-economic, and family characteristics.<sup>25</sup>

### Information Sharing

HUD provides information on lead paint hazards for PHAs, property owners, the public, and other stakeholders. For example, HUD published a best practices manual (last updated in 2012) of effective healthy homes practices for local organizations and community programs.<sup>26</sup> Additionally, HUD offers lead safety tips and resources to protect consumers online and in printed materials. For example, *Consumer Tips for Post-Disaster Home Restoration* describes how to identify hazards and work with

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<sup>23</sup>Scott Clark, et al., "Effects of HUD-Supported Lead Hazard Control Interventions in Housing on Children's Blood Lead," *Journal of Environmental Research*, vol. 111, (December 2010): 301-311.

<sup>24</sup>Katherine A. Ahrens, et al., "Housing Assistance and Blood Lead Levels: Children in the United States, 2005–2012," *American Journal of Public Health*, vol.106, no. 11 (November 2016): 2049-2056.

<sup>25</sup>The HUD-assisted rental housing programs included in the review were Public Housing, Housing Choice Voucher, and privately owned, subsidized multifamily housing.

<sup>26</sup>Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes, *The Healthy Homes Program Guidance Manual* (Washington, D.C.: July 2012).

contractors to remove them. Another guide, *Protect Your Family From Lead in Your Home*, provides prospective buyers and renters of pre-1978 homes with information on how to check their homes for lead and steps that can be taken to reduce a family's risk.

### Training for PHAs and Property Owners

HUD conducts training for PHA staff and property owners via webinars and in-person classes that address lead paint regulations, healthy home practices, and elevated blood lead level requirements, among other topics. According to HUD, the agency conducted 25 in-person and web-based trainings on these topics in fiscal year 2019 and 19 in-person and web-based trainings on these topics in the first half of fiscal year 2020. For fiscal year 2019 and the first half of fiscal year 2020, HUD officials said that they trained more than 850 in-person attendees. For the latter half of fiscal year 2020 and fiscal year 2021, HUD officials told us the agency has been developing remote training because of the Coronavirus Disease 2019, which has delayed training development and implementation. The remote training will cover the Lead Safe Housing Rule, as it applies to Public Housing, Housing Choice Voucher, and PBRA, among other topics. HUD plans to record and post these webinars on its lead resources website and the HUD Exchange, an online portal for HUD training.<sup>27</sup>

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## HUD Monitors PBRA Lead Risk through Reviews and Inspections but Does Not Conduct a Comprehensive Risk Assessment to Identify Highest-Risk Properties

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### Oversight of Lead Paint Regulations in PBRA Properties

HUD's Office of Multifamily Housing Programs oversees property owners' management and the physical safety and soundness of PBRA properties and their component buildings. The office addresses lead safety by assessing compliance with the Lead Disclosure Rule and Lead Safe Housing Rule through two of its oversight functions: management reviews

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<sup>27</sup>Department of Housing and Urban Development, <https://www.hudexchange.info/>.

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and Real Estate Assessment Center (REAC) inspections at PBRA properties.<sup>28</sup>

### Management Reviews

During management reviews, regional HUD staff and contract administrators (reviewers) assess property owners in seven categories, two of which have components that address compliance with lead paint regulations.<sup>29</sup> For example, when conducting follow-up work, reviewers are to revisit prior physical inspection findings and determine whether the property owner has records of a lead inspection, and if applicable, a lead hazard control plan. In addition, while reviewing property owners' leasing and occupancy practices, reviewers are to check a sample of tenant files to determine whether the property owner has maintained signed lead disclosure forms. Once management reviews are complete, the reviewers summarize their findings in a report, develop a corrective action plan, and give it to the property owners with a deadline for correcting any identified deficiencies. Management reviews are generally conducted annually for each property by contract administrators and, when resources are available, by HUD regional staff.

### Real Estate Assessment Center Inspections

REAC inspectors conduct physical inspections to help identify physical deficiencies at PBRA properties.<sup>30</sup> As part of these inspections, inspectors are to make note of peeling paint deficiencies as they inspect common areas and a sample of individual units. According to HUD officials, if peeling paint is found in a building constructed before 1978, REAC is to include it in the building's REAC inspection report and notify HUD's Office

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<sup>28</sup>REAC is an office within HUD responsible for conducting physical inspections of multifamily and public housing properties and assigning them an inspection score. See GAO, *Real Estate Assessment Center: HUD Should Improve Physical Inspection Process and Oversight of Inspectors*, [GAO-19-254](#) (Washington, D.C.: Mar. 21, 2019).

<sup>29</sup>The two categories with components addressing lead paint regulations are (1) follow-up and monitoring and (2) leasing and occupancy. The other five categories are (1) general appearance and security; (2) maintenance and standard operating procedures; (3) financial management/procurement; (4) tenant/management relations; and (5) general management practices.

<sup>30</sup>During REAC inspections, inspectors are to assess (1) the site, including fences and parking lots; (2) the building exterior, including the foundation and roof; (3) building systems, including the electrical system and heating and ventilation systems; (4) dwelling units; and (5) common areas, including the garage and stairs.

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Letter

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of Lead Hazard Control and Healthy Homes (Lead Office) and the appropriate Multifamily Housing Programs regional office via a weekly summary report.<sup>31</sup> The regional office then sends a letter to the property owner assigning the owner a point of contact in HUD's Lead Office and asking the owner for information on actions taken to address the lead paint deficiencies (see fig. 2). REAC inspections are to be conducted every 1 to 3 years depending on a property's prior inspection score.<sup>32</sup>

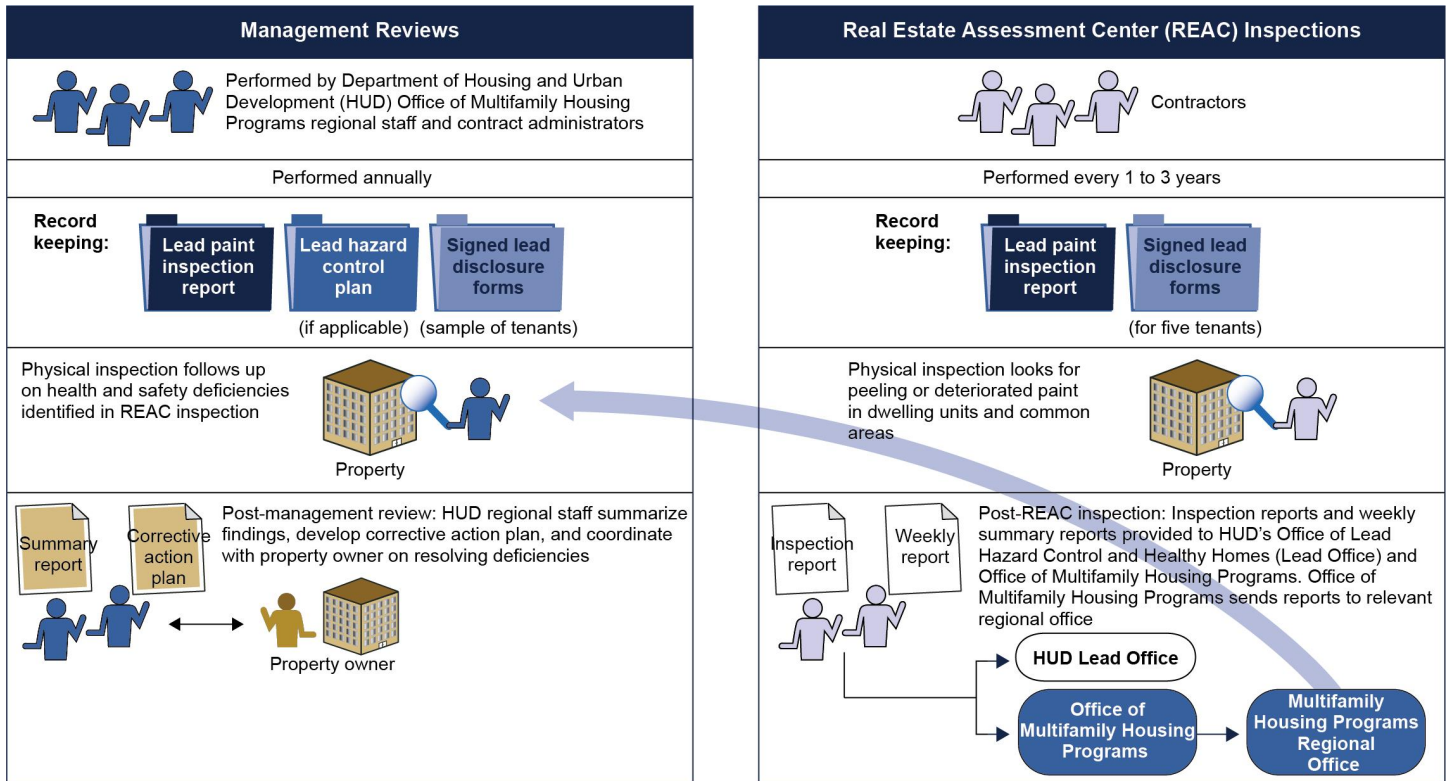
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<sup>31</sup>REAC inspection reports and the weekly summary reports provided to HUD's Lead Office and the relevant Multifamily Housing Programs regional office do not indicate whether peeling paint identified in a property is lead paint. According to HUD officials, REAC presumes that peeling paint in buildings constructed prior to 1978 contains lead paint.

<sup>32</sup>REAC generates an overall inspection score for a property from 0 to 100 based on the REAC inspector's findings. Generally, properties that receive an inspection score below 80 are inspected within 1 year of the previous inspection; between 80 to 89 within 2 years; and 90 to 100 every 3 years.



**Figure 2: HUD Oversight of Property Owner Compliance with Lead Paint Regulations for the Project-Based Rental Assistance Program**



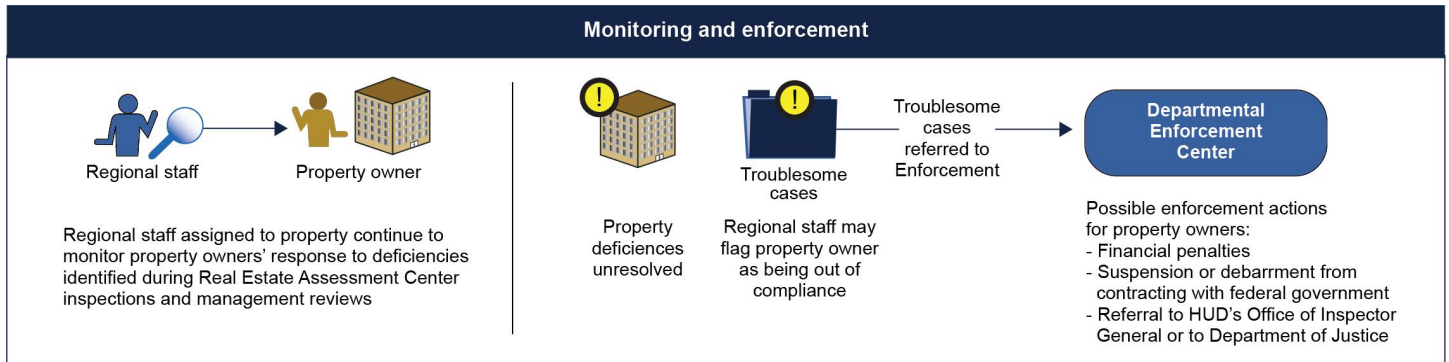
Source: GAO analysis of HUD guidance. | GAO-21-55

### Monitoring and Enforcement

According to HUD guidance, HUD’s Office of Multifamily Housing Programs must monitor how property owners address any deficiencies identified during management reviews and REAC inspections, including deficiencies related to lead paint and related hazards, until they are resolved (see fig. 3). As part of this process, HUD assigns regional staff to coordinate with property owners on corrective action plans, which include specific time frames for resolving the deficiencies. In instances in which property owners do not take corrective action, HUD regional staff may flag a property owner as being out of compliance with their contract. In particularly troublesome cases, regional HUD staff may refer a property to HUD’s Departmental Enforcement Center, which can take enforcement actions against property owners such as financial penalties, suspension

or debarment from federal contracting, or referral to HUD’s Office of Inspector General or the Department of Justice.<sup>33</sup>

**Figure 3: HUD Monitoring and Enforcement of Property Owner Compliance with Lead Paint Regulations for the Project-Based Rental Assistance Program**



Source: GAO analysis of Department of Housing and Urban Development (HUD) guidance. | GAO-21-55

HUD regional staff may also learn about potential lead paint risks in PBRA properties through PBRA property owners. By regulation, property owners must notify the relevant HUD field office and HUD’s Lead Office when a child under age 6 who resides in a PBRA property has an elevated blood lead level.<sup>34</sup> In addition to notification, the property owner must also investigate and identify the source of the lead exposure, and if found in the property, address the lead paint hazards with interim controls.<sup>35</sup> HUD then monitors the property owner’s response when conducting a management review and REAC inspection.

HUD guidance states that management reviews are designed to work in conjunction with other HUD reviews, and HUD officials told us that management review and REAC inspection results are shared among the

<sup>33</sup>In 2018, we reported that the Departmental Enforcement Center received 199 automatic and elective referrals from the Office of Multifamily Housing Programs for issues related to physical noncompliance at multifamily properties in fiscal years 2014–2017. See GAO, *Department of Housing and Urban Development: Better Guidance and Performance Measures Would Help Strengthen Enforcement Efforts*, [GAO-19-38](#) (Washington, D.C.: Oct. 30, 2018).

<sup>34</sup>24 C.F.R. § 35.730(e)(2).

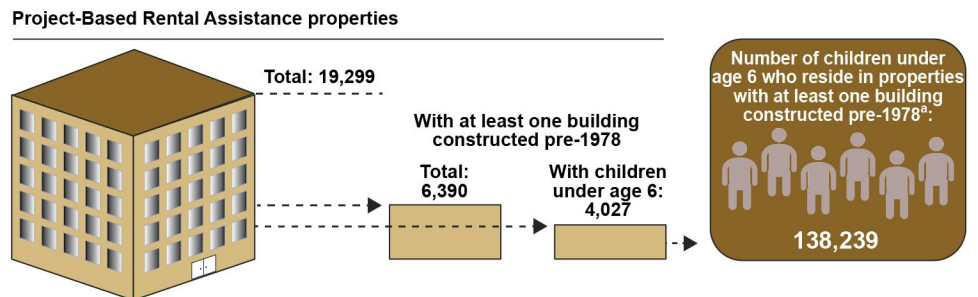
<sup>35</sup>The Lead Safe Housing Rule requires property owners to conduct an environmental investigation if they are notified that a child under 6 residing in a PBRA property has been identified as having an elevated blood lead level. Property owners must ensure that any lead paint hazards identified during the investigation are abated or receive interim controls by a certified renovation or abatement firm and that the repairs are cleared by a certified risk assessor before the unit is habitable again. 24 C.F.R. §§ 35.730, 35.1325, 35.1330.

Office of Multifamily Housing Programs, the Lead Office, and REAC. REAC inspectors can access electronic data and findings from a property’s management review. Similarly, management reviewers have access to REAC inspection results and can follow up on deficiencies those inspections identified.

### Our Analysis of HUD Data Indicates 21 Percent of PBRA Properties Had Pre-1978 Buildings and Housed Children under 6

Our analysis of HUD property- and tenant-level data determined that 21 percent of PBRA properties had at least one pre-1978 building and housed children under the age of 6.<sup>36</sup> Specifically, our analysis identified 19,299 PBRA properties, as of December 31, 2019. Of these properties, 6,390 had at least one building constructed before 1978 and 4,027 properties among that group also housed children under the age of 6 (see fig. 4).

**Figure 4: Project-Based Rental Assistance Properties with at Least One Building Constructed Before 1978 and That Housed Children under Age 6, as of December 31, 2019**



Source: GAO analysis of Department of Housing and Urban Development data. | GAO-21-55

<sup>a</sup>Children under the age of 6 are at the greatest risk of lead exposure because they have frequent hand-to-mouth contact, often crawl on the floor, and ingest nonfood items. Lead paint exposure in children under the age of 6 can cause brain damage, slowed development, and learning and behavioral problems.

A total of 138,239 children under the age of 6 lived in these properties, which may consist of one or more buildings. However, because HUD’s tenant data are reported at the property-level, rather than at the building-level, we were unable to determine how many of the children in these properties lived in buildings constructed before 1978. Nevertheless, our

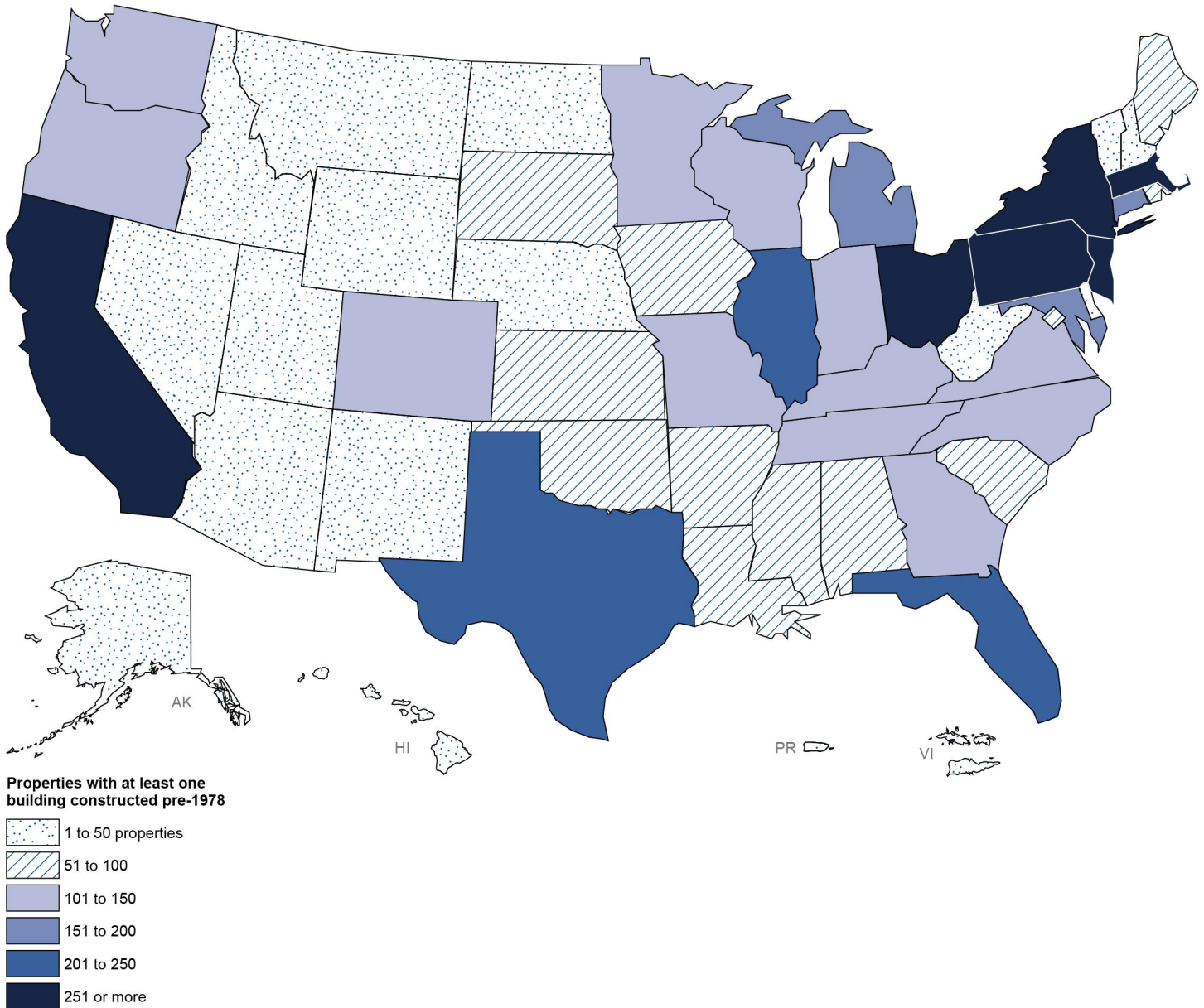
<sup>36</sup>All references to PBRA properties refer to properties that had contracts, as of December 31, 2019.

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analysis highlights the significant number of PBRA properties where children are at the greatest risk of exposure to lead paint and related hazards. Furthermore, children in these properties may face increased risk even if they live in a newer building because they may visit pre-1978 buildings that are part of the property.

Our analysis of HUD data indicates that states with the highest number of PBRA properties that have buildings constructed before 1978 are concentrated in the Northeast, the Midwest, and California (see fig. 5). HUD officials told us that these areas are not prioritized for oversight beyond their management reviews and REAC inspections. As noted earlier, HUD reviewers are to conduct management reviews at each PBRA property annually and REAC inspectors are to conduct physical inspections every one to three years depending on a property's prior inspection score. (For additional information on the number of PBRA properties by state, see app. IV).

**Figure 5: Number of Project-Based Rental Assistance Properties with at Least One Building Constructed Prior to 1978, as of December 31, 2019**



Sources: GAO analysis of Department of Housing and Urban Development data. | GAO-21-55

State	Number of properties
AK	13
AL	69
AR	53
AZ	44
CA	615
CO	108
CT	158
DC	64
DE	30
FL	205
GA	144
HI	17
IA	57
ID	25
IL	216
IN	140
KS	53
KY	116
LA	54
MA	390
MD	162
ME	84
MI	198
MN	148
MO	103
MS	71
MT	36
NC	105
ND	33
NE	40
NH	43
NJ	262
NM	36

State	Number of properties
NV	10
NY	486
OH	381
OK	71
OR	114
PA	298
PR	24
RI	83
SC	76
SD	54
TN	114
TX	248
UT	25
VA	130
VI	8
VT	44
WA	143
WI	142
WV	31
WY	16

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### HUD's Oversight of PBRA Properties Has Not Included a Comprehensive Assessment of Potential Risk of Lead Paint or Lead Paint Hazards

While the number of PBRA properties with at least one building constructed before 1978 is not likely to change, the population of children under the age of 6 who reside in those properties can change over time. HUD has not used readily available program data to identify which PBRA properties pose the highest risk of exposing children under the age of 6 to

lead paint or lead paint hazards—those properties with at least one building constructed before 1978.<sup>37</sup>

Federal internal control standards require management to identify, analyze, and respond to risks related to achieving defined objectives.<sup>38</sup> This includes identifying risks to provide a basis for analyzing those risks; this analysis, in turn, provides a basis for responding to those risks.

HUD officials from the Office of Multifamily Housing Programs said that they have not conducted a formal risk assessment for the PBRA program because the lead paint regulations do not require them to do so. Management reviews and REAC inspections may identify risks of lead paint and lead paint hazards at individual properties, but they do not take a comprehensive look at these risks for the whole PBRA program. Officials from the Office of Multifamily Housing Programs said that they consider lead paint and lead paint hazards in PBRA properties a low risk to tenants because most PBRA properties generally were constructed after 1978—the year lead was banned from paint in the United States. However, we identified 6,390 properties with at least one building constructed before 1978, and over 4,000 of those properties housed children under the age of 6, as of December 31, 2019. By not performing periodic risk assessments to identify which PBRA properties have buildings constructed before 1978 and house children under age 6, HUD is missing the opportunity to proactively use readily available program data to identify the PBRA properties that pose the greatest potential risk of lead paint exposure and lead poisoning to children under 6.

Furthermore, since HUD has not conducted a risk assessment for the PBRA program, it also has not developed strategies to address identified risks. HUD's current approach to monitoring PBRA property owners' compliance with lead paint regulations does not proactively manage the potential risks of exposing children under 6 to lead paint hazards. Instead,

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<sup>37</sup>HUD's Office of Multifamily Housing Programs has administrative data on PBRA properties that include (1) the year each building within a PBRA property was constructed and (2) the date of birth of each PBRA household member.

<sup>38</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014). HUD officials told us that they retired the *Departmental Management Control Program, Handbook 1840.1* in 2018 and have been updating their internal control program. According to HUD officials, the agency is using accepted industry standards, including *Standards for Internal Control in the Federal Government*, as its interim guidance.



HUD relies on other mechanisms—mainly management review and REAC inspection results and notifications from property owners—to discover potential lead paint or lead paint hazards at a property.

The federal internal control standard requirement to respond to identified risks in order to achieve defined objectives includes the need for management to design specific actions to respond to risks.<sup>39</sup> By conducting periodic risk assessments, HUD will have the necessary information to develop and implement an action plan to address identified risks. Furthermore, by developing and implementing an action plan, HUD will have the opportunity to proactively manage these risks and prevent the inadvertent exposure of children under the age of 6 to those hazards.

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## Conclusions

Children under the age of 6 exposed to lead paint hazards may experience brain damage, slowed development and growth, and learning and behavioral problems. HUD has been partly addressing these hazards through its lead grant programs, its oversight of lead paint regulations, and its training, information sharing, and outreach to property owners and others. However, HUD has not conducted a comprehensive risk assessment of the PBRA program to identify which properties are at risk of having lead paint or lead paint hazards. By using available administrative program data on (1) building construction date and (2) household member birthdates and by periodically conducting risk assessments, HUD could proactively identify which PBRA properties pose the greatest risks of exposure to lead paint and lead paint hazards to children under the age of 6. HUD could then develop and implement plans to proactively manage those risks and prevent inadvertent cases of lead poisoning in PBRA properties.

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## Recommendations

We are making the two following recommendations to HUD:

- The Deputy Assistant Secretary for the Office of Multifamily Housing Programs, in collaboration with the Director of HUD's Office of Lead Hazard Control and Healthy Homes, should periodically conduct a risk assessment for the PBRA program to identify which properties have

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<sup>39</sup>[GAO-14-704G](#).

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the greatest risk of exposing children under the age of 6 to lead paint hazards. (Recommendation 1)

- The Deputy Assistant Secretary for the Office of Multifamily Housing Programs, in collaboration with the Director of HUD's Office of Lead Hazard Control and Healthy Homes, should develop and implement plans to proactively manage the risks associated with lead paint hazards in PBRA properties identified in the periodic risk assessments. (Recommendation 2)

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## Agency Comments and Our Evaluation

We provided a draft of this report to HUD, EPA, and CDC for their review and comment. In comments, reproduced in appendix V, HUD concurred with both recommendations by agreeing to conduct periodic assessments and to develop and implement a plan to proactively manage risks. HUD also provided technical comments, which we incorporated as appropriate.

In its technical comments, HUD took issue with our methodology for determining the number of children under age 6 who lived in PBRA properties with at least one building that was constructed before 1978 as of December 31, 2019. HUD suggested that we revise our methodology to use data from the American Housing Survey and the American Healthy Homes I Survey, rather than actual HUD administrative data. The methodology that HUD proposed raised several concerns, including a lack of precision, the use of assumptions when actual data are available, and proposed calculations that would undercount the number of children under age 6 at risk of exposure to lead paint hazards. For example, HUD suggests we use an estimate from the 2013 American Housing Survey for the percentage of PBRA units constructed before 1978. This information is dated and the estimates are subject to sampling and non-sampling error. We used HUD administrative data because they provide the actual—not the estimated—years in which each building in a PBRA property was constructed. HUD also suggests applying the American Healthy Homes I Survey estimate of the percentage of pre-1978 buildings with lead-based paint to the number of children we identified (138,000) as living in PBRA properties (with at least one pre-1978 building). This calculation would result in a potential undercount of at-risk children because the 138,000 figure represents a subset of children under the age of 6 in PBRA properties. We believe that our calculation is a fair and accurate representation of the number of children at greatest risk of exposure to lead paint hazards in PBRA housing.

We revised the Objectives, Scope, and Methodology appendix of our report (app. II) to further clarify our methodology. Both EPA and CDC provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Housing and Urban Development, Administrator of EPA, Director of CDC, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-8678 or [PendletonJ@gao.gov](mailto:PendletonJ@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix VI.

A handwritten signature in black ink that reads "John H. Pendleton". The signature is written in a cursive style with a long horizontal flourish extending to the right.

John H. Pendleton  
Director, Financial Markets and  
Community Investment

# Appendix I: Environmental Protection Agency Lead Paint Programs, Education, and Outreach

## Environmental Protection Agency Lead Paint Programs and Activities

The Environmental Protection Agency (EPA) has 13 programs or activities related to lead paint. EPA's programs and activities support certification and training of lead professionals to perform renovation and abatement work, lead research, and education and outreach, among other things. Table 4 provides descriptions of each lead paint-related program or activity and table 5 summarizes characteristics of the programs and activities.

**Table 4: Description of Lead Paint-Related Programs and Activities at the Environmental Protection Agency (EPA), as of August 2020**

Program or activity	Description
Abatement and Evaluation Program	<ul style="list-style-type: none"><li>• Administered by EPA's Office of Chemical Safety and Pollution Prevention, this program focuses on inspection, risk assessment, and abatement of lead paint hazards (longer-term solutions for removal of lead paint) by<ul style="list-style-type: none"><li>• establishing standards for these activities that are safe, reliable and effective; and</li><li>• establishing training and certification programs for these lead professionals and their firms.</li></ul></li><li>• This program ensures a regulatory infrastructure is in place to provide a supply of qualified professionals trained and certified to implement these standards. EPA implements the abatement training and certification program in 11 states, and for most tribes and territories. As of April 2020, EPA had authorized 39 states, four tribes, the District of Columbia, and Puerto Rico to implement lead paint abatement training and certification programs in their jurisdictions.</li></ul>

**Appendix I: Environmental Protection Agency  
Lead Paint Programs, Education, and Outreach**

Program or activity	Description
Deterrent Enforcement to Lead Exposure	<ul style="list-style-type: none"> <li>• EPA’s Office of Enforcement and Compliance Assurance and its regional Enforcement and Compliance Assurance Divisions provide funds to regions, authorized states, tribes, and territories to conduct inspections and take enforcement actions against violators of lead paint rules administered under the Toxic Substances Control Act.</li> <li>• These inspections and other compliance monitoring activities identify industry noncompliance with lead paint rules and requirements in the context of abatement, renovations, and other lead paint-related activities.</li> <li>• Enforcement actions are intended to bring violators into compliance, deter future noncompliance, and protect the public from lead exposure.</li> </ul>
Global Alliance to Eliminate Lead in Paint	<ul style="list-style-type: none"> <li>• The alliance is a voluntary collaborative partnership of governments, private industry, and nongovernmental organizations that works to promote the phase-out of the use of lead in paint.</li> <li>• EPA is a participant in the alliance, coordinated through its Office of International and Tribal Affairs and Office of Chemical Safety and Pollution Prevention.</li> <li>• For example, EPA has worked with the alliance in               <ul style="list-style-type: none"> <li>• developing a regulatory toolkit and model law that can be used globally, and</li> <li>• promoting the annual International Lead Poisoning Prevention Week of Action.</li> </ul> </li> </ul>
Lead-Based Paint Environmental Programs and Management Funding	<ul style="list-style-type: none"> <li>• EPA’s Office of Enforcement and Compliance Assurance distributes Environmental Programs and Management funding to regional Toxic Substances Control Act enforcement and compliance programs, specifically to support lead-based paint inspections.</li> </ul>
Lead Categorical Grant Program	<ul style="list-style-type: none"> <li>• EPA’s Office of Chemical Safety and Pollution Prevention administers this grant program, which provides support to authorized state and tribal programs that administer training and certification programs for lead professionals and renovation contractors.</li> <li>• Grants are awarded to develop and implement               <ul style="list-style-type: none"> <li>• Abatement and Evaluation training and certification programs;</li> <li>• Lead Renovation, Repair, and Painting training and certification programs; and</li> <li>• Lead Pre-Renovation Education programs.</li> </ul> </li> </ul>
Lead Research	<ul style="list-style-type: none"> <li>• EPA’s Office of Research and Development conducts research to support the agency’s efforts to reduce childhood exposure to lead. Research topics include               <ul style="list-style-type: none"> <li>• characterizing lead exposure risk from soil and dust ingestion;</li> <li>• mapping locations with elevated blood lead levels and identifying key factors to target mitigation;</li> <li>• providing state-of-the-art modeling of multimedia exposure and estimated blood lead levels for rule-making and other regulatory determinations; and</li> <li>• identifying best practices and innovative methods for characterizing bioavailability and mitigating lead exposure from different environmental sources.</li> </ul> </li> </ul>

**Appendix I: Environmental Protection Agency  
Lead Paint Programs, Education, and Outreach**

Program or activity	Description
Pediatric Environmental Health Specialty Units	<ul style="list-style-type: none"> <li>• EPA’s Office of Children’s Health provides funding to this program, administered by the Agency for Toxic Substances and Disease Registry—which supports a network of pediatricians and health care provider experts in children’s environmental health issues that</li> <li>• works with health care professionals to provide medical education and training on prevention, management, and treatment of children vulnerable to or exposed to environmental hazards, and</li> <li>• provides community education and outreach on children’s environmental health issues, such as exposures.</li> </ul>
Providing Outreach, Improving National Consistency in the Lead-Based Paint Inspection Program and Identifying Priority Areas for Inspection	<ul style="list-style-type: none"> <li>• EPA’s Office of Enforcement and Compliance Assurance provides coordination and educational activities related to lead paint inspection and enforcement programs, including conducting telephone meetings and providing training and tools to lead inspectors and enforcement practitioners to promote consistency in inspections and compliance monitoring activities and enforcement.</li> <li>• EPA’s Office of Enforcement and Compliance Assurance and its regions use enforcement actions to ensure that regulated entities, including contractors, operate in compliance with lead paint rules administered by EPA.</li> <li>• Fiscal year 2020–2021 National Program Guidance from EPA’s Office of Enforcement and Compliance Assurance encourages regions to prioritize investigations of regulated entities that have a large footprint and far-reaching influence on the compliance landscape and take enforcement actions as appropriate.</li> </ul>
Public Education and Outreach Program	<p>EPA’s Office of Chemical Safety and Pollution Prevention administers this program, which</p> <ul style="list-style-type: none"> <li>• educates parents, homeowners, and the medical community on the risks of lead paint and how to reduce those risks;</li> <li>• manages a website for the public and the National Lead Information Center, which provides regulated contractors and consumers with information on lead poisoning prevention and lead-safe abatement and renovation practices;</li> <li>• coordinates with the Department of Housing and Urban Development and the Centers for Disease Control and Prevention to develop print, web, and social media materials; and</li> <li>• partners with organizations to reach key audiences about lead paint and lead-safe practices, such as contractor locator firms, Historically Black Colleges and Universities, the United Nations Environment Programme, and the World Health Organization.</li> </ul>
Real Estate Lead Disclosure Program	<p>EPA’s Office of Chemical Safety and Pollution Prevention administers this program in coordination with the Department of Housing and Urban Development. The program</p> <ul style="list-style-type: none"> <li>• implements the legal requirements for disclosure of lead paint and lead paint hazards in home sales and rentals for units built before 1978, which include providing an approved lead hazard information pamphlet and any known site-specific information on the presence of lead paint and lead paint hazards in the unit and its potential hazards to buyers or renters; and</li> <li>• educates the public on the risks of lead paint and how best to manage those risks.</li> </ul>

**Appendix I: Environmental Protection Agency  
Lead Paint Programs, Education, and Outreach**

<b>Program or activity</b>	<b>Description</b>
Renovation, Repair, and Painting Program	<ul style="list-style-type: none"> <li>The Office of Chemical Safety and Pollution Prevention administers training and certification requirements and accredits training programs for renovators (which includes those involved in renovation, repair, painting, and similar work) that may disturb lead paint in the course of their work. The training entails preventing lead-dust hazards by adhering to lead-safe work practices and specialized cleaning practices.</li> <li>EPA implements this training and certification program in 36 states and all territories and for most tribes. As of April 2020, EPA had authorized 14 states and one tribe to implement the program in their jurisdiction.</li> <li>The Office of Chemical Safety and Pollution Prevention provides guidance to EPA's 10 regional offices to promote national consistency in regulatory implementation and interpretation.</li> </ul>
Resource Conservation and Recovery Act Corrective Action Program	<ul style="list-style-type: none"> <li>EPA's Office of Land and Emergency Management, its 10 regional offices, and authorized states perform a range of activities to clean up contaminated sites, including               <ul style="list-style-type: none"> <li>investigating sites to determine the extent of contamination;</li> <li>assessing risks using site-specific information; and</li> <li>developing and implementing a plan, when appropriate, to reduce and prevent exposures, which often requires the removal or capping of contaminated soils or both.</li> </ul> </li> <li>The program is directed at facilities that manage hazardous waste, such as treatment, storage, and disposal facilities and addresses any lead contaminant, not just lead paint.</li> <li>The Office of Land and Emergency Management coordinates with federal, state, and local partners to address multimedia sources of lead exposures.</li> </ul>
State and Tribal Assistance Grant	<ul style="list-style-type: none"> <li>EPA's Office of Enforcement and Compliance Assurance administers this grant as a cooperative agreement program to assist states, tribes, and territories in developing and maintaining compliance monitoring programs to prevent or eliminate risks to health or the environment associated with chemical substances or mixtures, specifically lead-based paint.</li> <li>Recipients may also use grant funds to encourage regulatory activities within the states to establish their own EPA-authorized federally equivalent programs and to fund enforcement activities for lead paint.</li> </ul>

Source: EPA. | GAO-21-55

**Table 5: Characteristics of the EPA's Lead Paint-Related Programs and Activities, as of August 2020**

<b>Name of program or activity</b>	<b>Provides a grant</b>	<b>Identifies lead paint and/or lead paint hazards</b>	<b>Addresses lead paint through abatement or interim controls</b>	<b>Provides education, research, or information</b>	<b>Related to enforcement of lead-related statutes</b>
Abatement and Evaluation Program	n/a	√	√	√	√
Deterrent Enforcement to Lead Exposure	n/a	√	√	√	√
Global Alliance to Eliminate Lead in Paint	n/a	n/a	n/a	√	n/a

**Appendix I: Environmental Protection Agency  
Lead Paint Programs, Education, and Outreach**

<b>Name of program or activity</b>	<b>Provides a grant</b>	<b>Identifies lead paint and/or lead paint hazards</b>	<b>Addresses lead paint through abatement or interim controls</b>	<b>Provides education, research, or information</b>	<b>Related to enforcement of lead-related statutes</b>
Lead-Based Paint Environmental Programs and Management Funding	n/a	√	√	√	n/a
Lead Categorical Grant Program	√	√	√	√	√
Lead Research	n/a	n/a	√	√	n/a
Pediatric Environmental Health Specialty Units	n/a	n/a	n/a	√	n/a
Providing Outreach, Improving National Consistency in the Lead-Based Paint Inspection Program and Identifying Priority Areas for Inspection	n/a	√	n/a	√	√
Public Education and Outreach Program	n/a	n/a	n/a	√	n/a
Real Estate Lead Disclosure Program	n/a	n/a	n/a	√	n/a
Renovation, Repair, and Painting Program	n/a	√	√	√	√
Resource Conservation and Recovery Act Corrective Action Program	n/a	√	√	n/a	n/a
State and Tribal Assistance Grant	√	√	√	√	√

Legend: n/a = not applicable.

Source: GAO analysis of Environmental Protection Agency (EPA) information. | GAO-21-55

## EPA's Lead Research, Training, and Outreach

### Lead Research

EPA's Office of Research and Development conducts lead research to support the agency's efforts to reduce childhood exposure to lead. Research topics include characterizing lead exposure risk from soil and dust ingestion; mapping locations with elevated blood lead levels and identifying key factors to target mitigation; modeling of multimedia exposure and estimated blood lead levels for rule-making and other regulatory determinations; and identifying best practices and innovative



methods for characterizing bioavailability and mitigating lead exposure from different environmental sources.<sup>1</sup>

EPA officials told us that their current research priorities track national progress in reducing the number of homes with lead-based paint and identify locations with high prevalence of elevated blood lead levels and the key drivers for risk mitigation in those locations. EPA also uses its research in rulemakings related to lead.

EPA collaborates with the Department of Housing and Urban Development (HUD) as a part of an interagency effort to achieve Goal 4 (Research) of the Federal Action Plan to Reduce Childhood Lead Exposure and Associated Health Impacts. Through this collaboration, EPA shares relevant research with HUD, such as research that uses data from HUD's American Healthy Homes Survey on lead concentration in soil and dust. EPA officials also told us that HUD recently shared its newly developed Deteriorating Paint Index with EPA for use in its development of spatial analytical methods for multimedia lead targeting and mapping.

### Training

As a part of its regulatory function, EPA sets federal standards for training and certification programs for individuals to become certified in lead safe abatement, renovation, and other lead paint work. Lead abatement is an activity designed to eliminate hazards from lead paint, and abatement work is sometimes ordered by a state or local government. EPA's role is to set standards and accredit training programs to maintain a pool of qualified professionals to safely conduct abatement or renovation work to reduce lead-based paint hazards.

In 2019, EPA accredited lead renovation, repair, and paint training providers through 513 courses and those training providers delivered 4,660 courses, according to EPA officials. The courses included certifications to become a lead-safe renovator or lead-dust sampling technician for the renovation program, and certifications to perform risk assessments, paint inspections, or abatement activities for the abatement program. There were 2,440 EPA-certified lead paint activities firms and

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<sup>1</sup>EPA's Office of Research and Development's lead research portfolio also includes research and technical assistance on quantifying lead exposure from drinking water, identifying lead service lines, optimizing corrosion control to prevent the release of lead from service lines or other sources within plumbing systems, and point-of-use filters.

69,020 EPA-certified lead paint renovation firms, as of December 2019. EPA also helps to ensure renewal of contractor certifications by conducting education and outreach campaigns to reach renovation firms and certified contractors.

### Public Outreach

EPA's Public Education and Outreach program educates parents, homeowners/renters, and the medical community on the risks of lead paint and how to reduce such risks. For example, EPA publishes brochures, such as *Protect Your Family From Lead in Your Home*, which must be provided to prospective buyers and renters of pre-1978 homes and apartments. EPA also publishes guidance on lead-safe work practices for renovators and contractors, such as *Steps to Lead Safe Renovation, Repair, and Painting*, which provides information on how to avoid creating lead-dust hazards during renovation activities. Additionally, EPA manages the National Lead Information Center, a hotline for contractors and the public to obtain information about lead paint, lead hazards, and lead poisoning prevention.

EPA conducts media and outreach campaigns to communicate with the public. During National Lead Poisoning Prevention Week each October, EPA hosts webinars and seminars with HUD and the Centers for Disease Control and Prevention. These events are intended to raise awareness of lead poisoning prevention among individuals, organizations, industry, and state and local governments. EPA told us that budget and resource constraints limit the agency's capacity to assess its outreach on lead safety and expand it to a larger and more diverse audience.

## Appendix II: Objectives, Scope, and Methodology

The objectives of this report were to (1) describe how Department of Housing and Urban Development (HUD) programs and guidance address lead paint hazards in HUD-assisted and other low-income rental housing and (2) examine HUD's oversight procedures for assessing risk for lead paint hazards in the Project Based Rental Assistance (PBRA) program.

To address both objectives, we reviewed relevant HUD regulations, such as the Lead Disclosure Rule and Lead Safe Housing Rule.<sup>1</sup> We interviewed HUD staff from the Office of Lead Hazard Control and Healthy Homes (Lead Office), Office of Public and Indian Housing, Office of Multifamily Housing Programs, Real Estate Assessment Center, Office of Policy Development and Research, and selected field offices. We interviewed staff from organizations that advocate for safe affordable housing. We also reviewed our prior reports and those of HUD's Office of Inspector General related to lead paint in housing or oversight processes at HUD.<sup>2</sup>

To address the first objective, we reviewed the *Key Federal Programs to Reduce Childhood Lead Exposures and Eliminate Associated Health Impacts* report to identify HUD grant and other programs and activities that assist in addressing lead paint and related lead hazards.<sup>3</sup> We

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<sup>1</sup>24 C.F.R. Part 35.

<sup>2</sup>GAO, *Lead Paint in Housing: HUD Should Strengthen Grant Processes, Compliance Monitoring, and Performance Assessment*, [GAO-18-394](#) (Washington, D.C.: Jun. 19, 2018); *Real Estate Assessment Center: HUD Should Improve Physical Inspection Process and Oversight of Inspectors*, [GAO-19-254](#) (Washington, D.C.: Mar. 21, 2019); and *Department of Housing and Urban Development: Better Guidance and Performance Measures Would Help Strengthen Enforcement Efforts*, [GAO-19-38](#) (Washington, D.C.: Oct. 30, 2018). Also see Department of Housing and Urban Development, Office of Inspector General and Office of Public and Indian Housing Real Estate Assessment Center, *REAC Could Improve Its Inspections Processes and Controls*, 2018-FW-0003 (Ft. Worth, Tex.: Aug. 31, 2018); and Office of Inspector General, Office of Evaluation, *Risk Based Enforcement Could Improve Program Effectiveness*, 2014-OE-0002 (Washington, D.C.: Feb. 12, 2016).

<sup>3</sup>President's Task Force on Environmental Health Risks and Safety Risks to Children, *Key Federal Programs to Reduce Childhood Lead Exposures and Eliminate Associated Health Impacts*, November 2016.

included programs that (1) may be used to identify or control lead paint hazards, (2) offer information or education, or (3) are related to enforcement of lead-related statutes. We searched HUD's website for additional programs and to corroborate program descriptions. We sent this list to HUD officials to corroborate information. We also obtained from HUD officials obligations data for the grant programs in fiscal years 2018 and 2019 and for other programs and activities where obligation information was available.

We reviewed HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* from 2012, which provides the agency's guidance on identifying and controlling lead paint hazards in housing.<sup>4</sup> We interviewed HUD officials for any updates on recommended practices since 2012 and any plans to revise the guidelines. We also reviewed lead paint regulations published by the Office of Public and Indian Housing to obtain examples of HUD's direction provided to key stakeholders, such as public housing agencies and PBRA property owners, on requirements for addressing lead paint hazards in HUD-assisted rental housing.

To describe HUD's research, we reviewed lead technical studies on addressing lead hazards that HUD funded between 2010 and 2019.<sup>5</sup> We also reviewed one study related to lead paint jointly conducted by HUD and the Centers for Disease Control and Prevention.<sup>6</sup> To describe HUD's information sharing practices and education and outreach, we reviewed HUD's guidance for the general public on lead hazards in the home, including the publications *Consumer Tips for Post-Disaster Home Restoration* and *Protect Your Family From Lead in Your Home*. We also interviewed HUD officials about their fiscal year 2019 in-person and online training on lead paint regulations and elevated blood lead level requirements.

To address the second objective, we reviewed the Lead Safe Housing Rule and the Lead Disclosure Rule, as well as HUD's documentation and

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<sup>4</sup>Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes, *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* (Washington, D.C.: July 2012).

<sup>5</sup>For example, Scott Clark, et al., "Effects of HUD-Supported Lead Hazard Control Interventions in Housing on Children's Blood Lead," *Journal of Environmental Research*, vol. 111 (December 2010): 301-311.

<sup>6</sup>For example, Katherine A. Ahrens, et al., "Housing Assistance and Blood Lead Levels: Children in the United States, 2005 to 2012," *American Journal of Public Health*, vol. 106, no. 11 (November 2016): 2049-2056.

guidance for overseeing compliance with lead paint regulations at PBRA properties. We also interviewed staff from HUD's Lead Office, the Office of Multifamily Housing Programs, and two regional offices on their oversight of PBRA properties and procedures for monitoring property owners' compliance with lead paint regulations at PBRA properties. Additionally, we interviewed officials from HUD's Real Estate Assessment Center on how its physical inspections address lead paint compliance in multifamily properties and how it shares findings with the Lead Office and HUD's Office of Multifamily Housing Programs.

To determine the number of PBRA properties that pose the greatest risk of lead paint hazards to children under the age of 6 (e.g. those with buildings constructed before 1978), we analyzed HUD-administrative data on the age of PBRA buildings from the Physical Assessment Subsystem and data on multifamily properties with active PBRA contracts, which we refer to as PBRA properties, as of December 31, 2019, the last full calendar year of data available at the time of this review. To determine the number of children under the age of 6 who reside in PBRA properties, we analyzed PBRA contract data, including household members' dates of birth from HUD's Tenant Rental Assistance Certification System and calculated household members' ages as of December 31, 2019. We identified which properties had active PBRA contracts with children under 6 as of December 31, 2019, using HUD's Multifamily Property Reporting Database. We linked the PBRA properties and children under 6 years to the Physical Assessment Subsystem, which contains data on the year that buildings in properties with PBRA contracts were constructed to determine the number of properties with PBRA contracts that had at least one or more buildings that were constructed before 1978. We also used property addresses to determine the number of such properties by state.

We excluded from our analysis PBRA contracts that were expired or terminated, as of December 31, 2019; PBRA subprograms that served fewer than 100 children under the age of 6, as of December 31, 2019; and records for buildings that were constructed before 1901. To assess the reliability of HUD's data, we reviewed HUD's documentation and conducted electronic testing on the data, including checks for outliers, missing data fields, and erroneous values. We determined these data were sufficiently reliable for purposes of describing (1) the number of PBRA properties with one or more buildings that were constructed before 1978, and (2) the number of children under the age of 6 living in PBRA properties with at least one building constructed before 1978, as of December 31, 2019.

We also conducted additional work, which we present in other appendixes to this report. To identify Environmental Protection Agency (EPA) programs and activities that address lead paint and related lead hazards, we reviewed the *Key Federal Programs to Reduce Childhood Lead Exposures and Eliminate Associated Health Impacts* report, searched EPA's website for additional programs, and corroborated our list of programs and descriptions with EPA officials.<sup>7</sup> To describe EPA's research, training, and public outreach, we reviewed documentation published on EPA's website. We also interviewed EPA officials from the Office of Research and Development about EPA's current lead research and data-sharing efforts with HUD. We gathered information from EPA officials on training the agency provided to certify renovation and abatement contractors. We also interviewed EPA officials about the agency's public outreach efforts.

We conducted this performance audit from May 2019 to December 2020 in accordance with 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. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>7</sup>President's Task Force on Environmental Health Risks and Safety Risks to Children, *Key Federal Programs to Reduce Childhood Lead Exposures and Eliminate Associated Health Impacts*, November 2016.

# Appendix III: Department of Housing and Urban Development (HUD) Lead Paint-Related Programs and Activities

HUD has five programs and activities related to lead paint. Two of the programs provide grants to help identify or control lead paint hazards. The other three programs support enforcement of lead regulations, establish goals for HUD’s lead-safety programs, or support research related to lead paint hazard activities. Table 6 provides descriptions of each lead paint-related program or activity and table 7 summarizes characteristics of the programs and activities.

**Table 6: Description of Lead Paint-Related Programs and Activities at HUD, as of August 2020**

Program or activity	Description
Enforcement and technical support for the Lead Disclosure Rule and the Lead-Safe Housing Rule	<ul style="list-style-type: none"> <li>• Allows HUD’s Office of Lead Hazard Control and Healthy Homes (Lead Office) to work with the Environmental Protection Agency (EPA) and the Department of Justice to enforce the Lead Disclosure Rule (24 C.F.R. Part 35, subpart A);</li> <li>• Implements the Lead-Safe Housing Rule (24 C.F.R. Part 35, Subparts B-R), which covers lead evaluations and lead-hazard reduction in HUD programs that provide housing assistance to low-income families; and</li> <li>• Provides co-funding for EPA’s National Lead Information Center, which provides the public and professionals with information about lead hazards and methods for their prevention and control.</li> </ul>
Lead-Based Paint Capital Fund Grant Program	<ul style="list-style-type: none"> <li>• Grants to public housing agencies to identify and mitigate lead-based paint hazards in low-income, pre-1978 public housing.</li> <li>• Awarded annually through a competitive Notice of Funding Availability to public housing agencies that operate public housing projects and are targeted to public housing that is older and occupied by low-income families with high populations of children under age 6.</li> <li>• Focused on creating lead-safe units for low-income public housing households. Scope of grants limited to identification and remediation of lead hazards related to lead-based paint, dust, and soil.</li> <li>• Does not require a grantee match.</li> </ul>

**Appendix III: Department of Housing and Urban Development (HUD) Lead Paint-Related Programs and Activities**

Program or activity	Description
Lead Hazard Reduction Grant Program	<ul style="list-style-type: none"> <li>• Grants to state and local governments to identify and mitigate lead-based paint hazards in low-income housing.</li> <li>• Awarded annually through a competitive Notice of Funding Availability and targeted toward housing that is privately owned (owner-occupied or rental) where income-eligible occupants reside with children.</li> <li>• Has three categories of grants: Lead-Based Paint Hazard Control, Lead Hazard Reduction Demonstration, and High Impact Neighborhoods, with different eligibility criteria priorities.</li> <li>• Focused on creating lead-safe units for low-income households. Scope of grants limited to identification and remediation of lead hazards related to lead-based paint, dust, and soil.</li> <li>• Requires grantee match of 10 or 25 percent, may vary by grant category and by fiscal year.</li> </ul>
Lead-Safe Homes, Lead-Free Kids Toolkit	<p>HUD implemented this toolkit in June 2016 to establish specific goals for HUD related to lead safety programs. Goals of the program include</p> <ul style="list-style-type: none"> <li>• strengthening HUD’s regulatory framework by proposing revisions to HUD’s Lead Safe Housing Rule to align its blood lead level with the reference level of the Centers for Disease Control and Prevention;</li> <li>• increasing monitoring of housing assistance programs to ensure landlords and public housing agencies address lead paint hazards;</li> <li>• enhancing the Lead Safe Housing Rule and Lead Disclosure Rule to clarify guidance;</li> <li>• providing education and targeted outreach to increase lead awareness;</li> <li>• working with health departments to make blood lead level testing available to all children under age 6;</li> <li>• focusing HUD’s lead research program to identify best practices for lead safety in housing; and</li> <li>• determining where best to target federal resources.</li> </ul>
Lead Technical Studies Program	<p>Used since 1997 to competitively award cooperative agreements and contracts, and to award interagency agreements, with its availability varying depending on the annual appropriation. These grants are used to</p> <ul style="list-style-type: none"> <li>• conduct research through cooperative agreements, contracts, and interagency agreements to improve the efficacy and cost-effectiveness of methods for the evaluation and control of lead paint hazards, including studies on lead paint abatement and lead paint hazard abatement; and</li> <li>• support research by federal partners through interagency agreements.</li> </ul>

Source: Department of Housing and Urban Development (HUD). | GAO-21-55



**Appendix III: Department of Housing and  
Urban Development (HUD) Lead Paint-Related  
Programs and Activities**

**Table 7: Characteristics of HUD’s Lead Paint-Related Programs and Activities, as of August 2020**

<b>Name of program</b>	<b>Provides a grant</b>	<b>Identifies lead paint and/or lead paint hazards</b>	<b>Addresses lead paint through abatement or interim controls</b>	<b>Provides education, research, or information</b>	<b>Related to enforcement of lead-related statutes</b>	<b>Intended for low-income housing</b>
Enforcement and technical support for the Lead Disclosure Rule and the Lead-Safe Housing Rule	n/a	Yes	Yes	Yes	Yes	Yes
Lead-Based Paint Capital Fund Grant Program	Yes	Yes	Yes	n/a	n/a	Yes
Lead Hazard Reduction Grant Program	Yes	Yes	Yes	Yes	n/a	Yes
Lead-Safe Homes, Lead-Free Kids Toolkit	n/a	n/a	n/a	Yes	Yes	Yes
Lead Technical Studies Program	Yes	Yes	Yes	Yes	n/a	n/a

Legend: n/a = not applicable.

Source: GAO analysis of Department of Housing and Urban Development (HUD) data. | GAO-21-55

## Appendix IV: Project-Based Rental Assistance (PBRA) Properties by State as of December 31, 2019

**Table 8. Number of Project-Based Rental Assistance (PBRA) Properties and Number of Children Under Age 6 Who Resided in PBRA Properties by State, as of December 31, 2019**

State or territory	Number of Project-Based Rental Assistance (PBRA) properties	Properties with at least one building constructed before 1978	Children under age 6 residing in properties with at least one building constructed before 1978
Alaska	41	13	321
Alabama	338	69	2,321
Arkansas	258	53	1,831
Arizona	146	44	852
California	1,468	615	6,021
Colorado	293	108	1,398
Connecticut	323	158	2,354
District of Columbia	90	64	1,766
Delaware	97	30	530
Florida	562	205	6,747
Georgia	436	144	5,326
Guam	1	0	0
Hawaii	85	17	177
Iowa	227	57	913
Idaho	118	25	199
Illinois	744	216	7,025
Indiana	420	140	4,977
Kansas	253	53	1,216
Kentucky	427	116	2,224
Louisiana	244	54	2,496
Massachusetts	704	390	4,529
Maryland	353	162	2,367

**Appendix IV: Project-Based Rental Assistance (PBRA) Properties by State as of December 31, 2019**

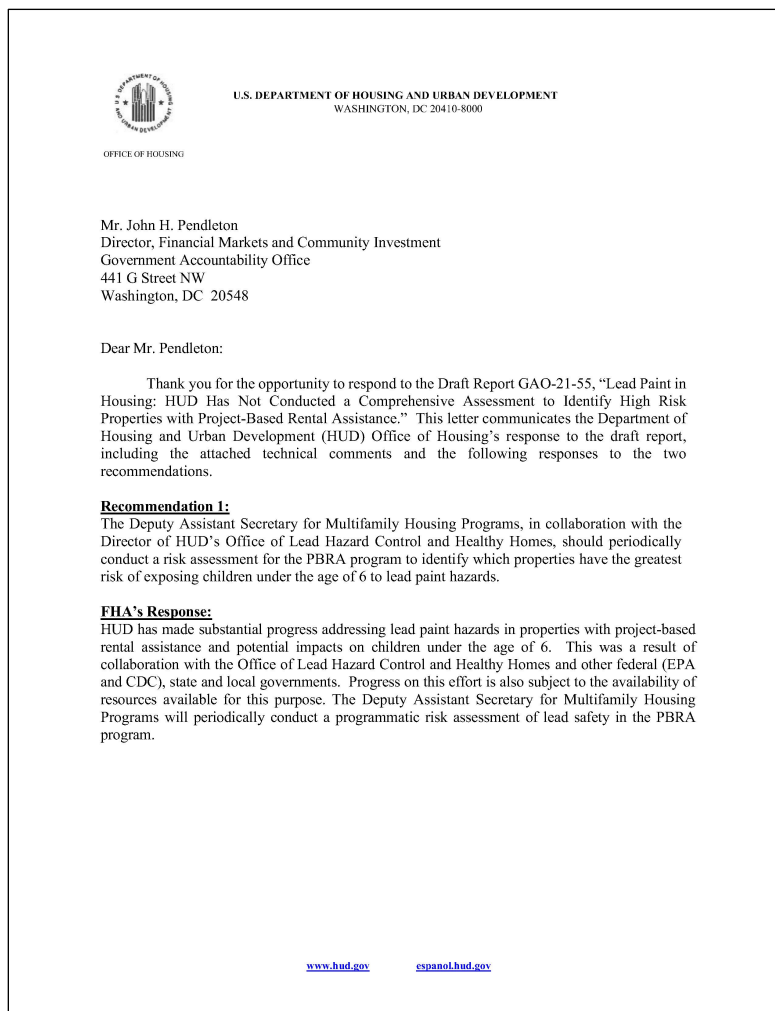
<b>State or territory</b>	<b>Number of Project-Based Rental Assistance (PBRA) properties</b>	<b>Properties with at least one building constructed before 1978</b>	<b>Children under age 6 residing in properties with at least one building constructed before 1978</b>
Maine	253	84	651
Michigan	589	198	6,228
Minnesota	583	148	2,314
Missouri	417	103	2,640
Northern Mariana Islands	4	0	0
Mississippi	309	71	3,196
Montana	101	36	373
North Carolina	761	105	3,343
North Dakota	100	33	277
Nebraska	183	40	533
New Hampshire	154	43	283
New Jersey	526	262	3,688
New Mexico	108	36	868
Nevada	49	10	378
New York	1,070	486	6,940
Ohio	1,074	381	11,747
Oklahoma	212	71	2,955
Oregon	283	114	619
Pennsylvania	807	298	5,306
Puerto Rico	174	24	1,026
Rhode Island	195	83	839
South Carolina	340	76	3,191
South Dakota	172	54	496
Tennessee	449	114	5,154
Texas	719	248	10,724
Utah	88	25	256
Virginia	372	130	4,509
Virgin Islands	15	8	333
Vermont	135	44	169
Washington	357	143	775
Wisconsin	555	142	2,128
West Virginia	207	31	586
Wyoming	59	16	124

**Appendix IV: Project-Based Rental Assistance (PBRA) Properties by State as of December 31, 2019**

<b>State or territory</b>	<b>Number of Project-Based Rental Assistance (PBRA) properties</b>	<b>Properties with at least one building constructed before 1978</b>	<b>Children under age 6 residing in properties with at least one building constructed before 1978</b>
<b>Total</b>	<b>19,299</b>	<b>6,390</b>	<b>138,239</b>

Source: GAO analysis of Department of Housing and Urban Development data. | GAO-21-55

# Appendix V: Comments from the Department of Housing and Urban Development



**Appendix V: Comments from the Department  
of Housing and Urban Development**

2

**Recommendation 2:**

The Deputy Assistant Secretary for Multifamily Housing Programs, in collaboration with the Director of HUD's Office of Lead Hazard Control and Healthy Homes, should develop and implement plans to proactively manage the risks associated with lead paint and lead paint hazards in PBRA properties identified in the periodic risk assessments.

**FHA's Response:**

The Deputy Assistant Secretary for Multifamily Housing Programs and the Director of HUD's Office of Lead Hazard Control and Healthy Homes will develop, and Multifamily will implement, plans to proactively manage the risks associated with lead paint and lead paint hazards in PBRA properties identified in periodic programmatic risk assessments.

We appreciate GAO's review and discussions regarding recommended improvements of FHA's property management procedures.

Sincerely,

**Dana  
Wade**

Digitally signed by Dana Wade  
DN: cn = Dana Wade email = dana.  
wade@hud.gov o = HUD U.S.  
Department of Housing and Urban  
Development ou = Office of Housing  
Date: 2023.11.19 14:09:08 -0500

Dana T. Wade  
Assistant Secretary for Housing – Federal Housing  
Commissioner

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## Text of Appendix V: Comments from the Department of Housing and Urban Development

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Mr. John H. Pendleton

Director, Financial Markets and Community Investment Government Accountability  
Office

441 G Street NW Washington, DC 20548

Dear Mr. Pendleton:

Thank you for the opportunity to respond to the Draft Report GAO-21-55, "Lead Paint in Housing: HUD Has Not Conducted a Comprehensive Assessment to Identify High Risk Properties with Project-Based Rental Assistance." This letter communicates the Department of Housing and Urban Development (HUD) Office of Housing's response to the draft report, including the attached technical comments and the following responses to the two recommendations.

### Recommendation 1:

The Deputy Assistant Secretary for Multifamily Housing Programs, in collaboration with the Director of HUD's Office of Lead Hazard Control and Healthy Homes, should periodically conduct a risk assessment for the PBRA program to identify which properties have the greatest risk of exposing children under the age of 6 to lead paint hazards.

### FHA's Response:

HUD has made substantial progress addressing lead paint hazards in properties with project-based rental assistance and potential impacts on children under the age of 6. This was a result of collaboration with the Office of Lead Hazard Control and Healthy Homes and other federal (EPA and CDC), state and local governments. Progress on this effort is also subject to the availability of resources available for this purpose. The Deputy Assistant Secretary for Multifamily Housing Programs will periodically conduct a programmatic risk assessment of lead safety in the PBRA program.

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Recommendation 2:

The Deputy Assistant Secretary for Multifamily Housing Programs, in collaboration with the Director of HUD's Office of Lead Hazard Control and Healthy Homes, should develop and implement plans to proactively manage the risks associated with lead paint and lead paint hazards in PBRA properties identified in the periodic risk assessments.

FHA's Response:

The Deputy Assistant Secretary for Multifamily Housing Programs and the Director of HUD's Office of Lead Hazard Control and Healthy Homes will develop, and Multifamily will implement, plans to proactively manage the risks associated with lead paint and lead paint hazards in PBRA properties identified in periodic programmatic risk assessments.

We appreciate GAO's review and discussions regarding recommended improvements of FHA's property management procedures.

Sincerely,

Dana T. Wade

Assistant Secretary for Housing - Federal Housing Commissioner



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## Appendix VI: GAO Contact and Staff Acknowledgments

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### GAO Contact

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### Staff Acknowledgments

John H. Pendleton, 202-512-8678 or [PendletonJ@gao.gov](mailto:PendletonJ@gao.gov)

In addition to the contact named above, Lisa Moore (Assistant Director), Rhonda Rose (Analyst in Charge), Hiwotte Amare, Rachel Batkins, Emily Bond, William R. Chatlos, Marc Molino, Shaundra Patterson, Jessica Sandler, and Shenandoah Sowash made key contributions to this report.

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