

LEAD IN OUR HOMES FACTSHEET



A LOOK AT HOUSING EQUITY AND LEAD-BASED PAINT HAZARDS IN NEVADA

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Figure 1. A home in Henderson, Nevada being remediated for lead-based paint hazards.

Lead is a component of a wide variety of products. In U.S. housing it is commonly found in paint of homes built before 1978. Lead was added to paint because of its durability, moisture resistance, quick drying time, and ability to make colors more vibrant.

While the properties of lead were desirable they proved to be hazardous to the health of children. In the U.S., the use of lead-based paint was outlawed for residential use by the Consumer Product Safety Commission in 1978, however residential use of lead-based paint may have continued into the early 1980s until the supply of lead-based paint was depleted.¹

A primary source of lead exposure in housing results from deteriorating (peeling, chipping, chalking, cracking, damaged, or damp) lead-based paint.²

Lead-based paint can be found in and around our homes including:

- Windows and windowsills³
- Stairs, railings, banisters, and porches³
- Doors and door frames³
- Varnished flooring and furniture³

For more information about lead poisoning and lead poisoning prevention, visit our website nvcldppp.org. To speak to someone about lead poisoning prevention, or to schedule a presentation, please call **702-895-1040** and ask to speak with a NvCLPPP team member or email nvcldppp@unlv.edu



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LEAD IN OUR HOMES

Dust from lead-based paint in poor condition may accumulate near high-friction areas such as doors, windowsills, and surrounding floors.⁴ The deterioration of exterior surfaces can also result in a buildup of lead in the soil. Lead was used in pipes and solder commonly found in homes until 1986. Finally, lead can be found in other items in the home such as pottery, ceramic dishes, tiles, old silverware, and many antiques.

Today, lead paint is still present in millions of homes across U.S.⁴ While most homes in Nevada were constructed after the ban of lead-based paint, there are nearly 300,000 homes constructed before 1980 in Nevada.⁵

WHO IS MOST AT RISK?

Children under the age of 6 are most at risk of lead poisoning because their nervous systems are still developing and their bodies absorb more lead than adults' bodies.⁶ Children absorb about 50% of the lead they ingest with a full stomach, and up to 100% of ingested lead on an empty stomach, compared to an adult's 20% and 60%, respectively.⁷

Young children aged 12 – 24 months are at the greatest risk for lead poisoning because their bodies are rapidly developing, and they often put their hands and other objects that may be contaminated with lead dust into their mouths.⁷

Several factors affect a child's risk for elevated blood lead levels, including:

- Age
- Age of housing
- Poverty
- Race and ethnicity
- Refugee status
- Immigration status

Children living in older housing where lead-based paint is more likely to be present are at greater risk for elevated blood levels than children who live in newer housing, particularly if the painted surfaces are in poor repair.⁸ Fine dust made up of leaded paint chips can coat the surfaces and flooring of older homes on which young children play and crawl around.²

**No safe
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Photo by
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WHO IS MOST AT RISK?

Poverty is also a risk factor for lead poisoning because low-income families are more likely to live in homes built before 1978 with poorly maintained or damaged lead painted surfaces.⁸

Furthermore, Medicaid status is also a determinant of lead exposure. Steinhardt and colleagues (1998) found that young children enrolled in Medicaid were three time more likely to have elevated blood lead levels ($>10 \mu\text{g/dL}$) compared to children not enrolled in Medicaid.⁹

Overall, race and ethnicity are associated with lead exposure. More specifically, racial discrimination in housing and lending practices have led to the systemic devaluation of Black and Latinx-owned properties, which reduces available home equity to maintain said properties, subsequently leading to greater lead exposure.^{10, 23} Although blood lead levels have decreased across all racial and ethnic groups since the 1970's, racial/ethnic health inequities persist, with Black communities being most severely affected.¹¹ Black children are twice as likely to have elevated blood lead levels compared to their White counterparts.¹¹

Immigration and refugee status are also social determinants of lead exposure. Refugees in particular may have up to 14 times greater lead exposure compared to their US-born counterpart.¹² This is attributed to lead exposure in one's country of origin and malnutrition, which facilitates lead uptake in the body. However, there is another key source of lead exposure in refugees. Evidence suggests that some refugees are being resettled into poorly maintained homes in the US with lead hazards.¹³ As a result, some refugees have shown a substantial increase in blood lead levels following resettlement in the US.¹⁴

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HOW DOES LEAD IMPACT HEALTH?

Lead is a potent neurotoxin that, once absorbed, can affect the development of the brain, body, and nervous system. Lead has the ability to mimic calcium once it is absorbed into the blood stream.⁷ By mimicking calcium, lead can disrupt growth and development, including the development of the nervous system – causing long term neurological issues.⁶

Lead is extremely dangerous; however, the physical and neurological symptoms of lead poisoning often do not appear until many years after the lead poisoning has already occurred. Once absorbed by the body and stored in the skeletal system, lead can have a half-life of more than 25 years– leading to long-term lead toxicity.⁶

Even children who appear healthy may have dangerously elevated blood lead levels, and lead poisoning may not be diagnosed until moderate or severe symptoms appear. Exposure to lead can cause well-documented adverse effects such as:

- damage to the brain and nervous system
- slowed physiological growth and development
- learning and behavior problems
- hearing and speech problems¹⁵
- decreased cognition
- poor school achievement and high dropout rate
- increased rate of substance abuse, ADHD, and conduct disorder.^{15,16}



No safe level of lead exposure in children has been identified. The CDC's current reference value for identifying children with high blood lead levels is 5 micrograms per deciliter (µg/dL), however research shows that adverse health effects in children can occur at blood lead levels lower than this.¹⁷

LEAD IN NEVADA HOMES

According to U.S. Census Bureau's American Community Survey 5-year estimates, there are nearly 300,000 homes in Nevada built before 1980. While the year that a home was built does not indicate the condition of lead-based paint in the home or account for whether a home has received lead abatement, the older the home, the more likely it is to contain lead-based paint hazards. Consequently, children living in older housing are at greater risk of having elevated blood lead levels.^{3,8} This is especially true for children living in poverty, whose homes may be in poor condition.⁸

**The CDC
regards
childhood
lead
poisoning as
the single
most
preventable
environmental health
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the U.S.**



LEAD IN NEVADA HOMES

Older housing stock exists across the state of Nevada. Although age of housing is a key predictor of childhood lead exposure, the percentage of children under 5 years old living in poverty should also be accounted for. The Nevada Childhood Lead Poisoning Prevention Program (NvCLPPP) used these two metrics (i.e., age of housing and percentage of children living in poverty) to create a lead risk index.

Use of this index revealed zip codes with the highest lead exposure in the State of Nevada could be found in Clark, Washoe, Elko, Mineral, and Nye Counties. The methodology and maps are published in the 2020 NvCLPPP Blood Lead Testing Plan.¹⁸



Figure 2 Deteriorated lead-based paint from a home in Henderson, Nevada

THE HENDERSON PROJECT

Between 2014-2015, the Henderson Project, funded by the US Department of Housing and Urban Development, examined lead risk in homes in Henderson, NV. The analysis revealed a significant number of lead hazards in homes built before 1978. Of the 136 homes tested, 78.7% contained a lead hazard (Table 1).^{19, 20}

Table 1. Homes identified with lead-based paint hazards in Henderson, NV

Homes tested for lead hazards	n	%
Lead hazards found	107	78.7%
Lead hazards not found	29	21.3%
Total	136	100.00%

SUGGESTED CITATION

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THE HENDERSON PROJECT

The older the year of construction, the more likely homes are to contain lead-based paint hazards.³ Based on national estimates it expected that 43% of homes built between 1940-1959 will have a lead risk (Table 2). In this sample, 84% of the Henderson homes built between 1940-1959 were found to contain lead-based paint hazards, nearly two times higher than the national estimate of homes built during that time period.⁴

Table 2. Estimated Number of Homes in Nevada with a Lead Risk Based on National Data.⁴

Year built	% National estimate of homes with lead risk ⁴	# of Homes in Nevada	# of Homes in Nevada with potential lead risk
1960-1979	8%	232,569	18,606
1940-1959	43%	49,262	21,183
Pre-1940	68%	13,693	9,311
Total	-	295,524	49,100

Overall, the Henderson Project identified lead in a higher percentage of pre-1980 homes than national estimates would suggest are present in Nevada (Table 3).⁴ Although Henderson may not accurately reflect housing age throughout Nevada, it is important to note that national estimates may be significantly underestimating the number of homes in Nevada with a lead hazard.

Table 3. Potential Number of Nevada Homes with a Lead Risk Based on Henderson Project Results

Year built	# of Homes inspected	% of Homes with lead hazards	% National estimate of homes with lead risk ⁴
1960-1979	69	70.1%	8%
1940-1959	38	84.1%	43%
Pre-1940	ND	ND	68%
Total	107	-	-

ND = No Data; Note: The convenience sampling method was used for this analysis and data should be interpreted with caution.

THE LINK BETWEEN HOUSING INEQUITY AND LEAD POISONING

Our health and wellbeing are profoundly shaped by our neighborhood and home environment. Yet these vital health influencing resources do not look the same for everyone, especially when accounting for differences by race/ethnicity and socioeconomic status.

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THE LINK BETWEEN HOUSING INEQUITY AND LEAD POISONING

Compared to Whites, Blacks and Latinxs disproportionately experience greater health disparities due to housing inequities.²² Notably, the foundation of housing inequity is tied to racially discriminatory policies and practices that continue to shape housing and health outcomes to this day.²² As a result, Black and low-income households are 1.7 and 2.2 times more likely, respectively, to live in homes with extreme physical problems.²² Resultantly, Black children have been found to have higher blood lead levels compared to their White counterparts.²³ Similarly, children living in low-income housing were more likely to have elevated blood lead levels compared to children living in homes with higher property values.²⁴ To provide context, in the US there are approximately 1.1 million homes occupied by low income populations that still contain lead based paint hazards.²⁵

While national level data shows racial/ethnic and socioeconomic-based disparities in lead exposure,²⁶ this pattern has yet to be confirmed in Nevada due to data limitations. However, given the strength of these relationships at the national level, it is probable that these same patterns will be found in Nevada.

Nevada is home to over 217,000 children under six years of age.⁵ Of those children, less than 4 percent are tested for lead. Resultantly, Nevada has one of the lowest lead testing rates in the nation. In order to ensure that every child in Nevada has the opportunity to attain their full health potential, it is essential to tackle upstream inequitable housing policies and practices to reduce downstream lead hazards and lead poisonings. Prioritizing those at higher risk will have the greatest impact and will promote health equity.

NATIONAL POLICY

Young children spend over 85% of their time in their home,²⁷ national policy on residential lead-based paint can play a key role in reducing children's exposure to lead. According to the Residential Lead-Based Paint Hazard Reduction Act (Title X), federal law requires the disclosure of known lead-based paint and lead-based paint hazards in housing units built prior to 1978.²⁸ Specifically, landlords must disclose known information on lead-based paint and lead-based paint hazards before leases take effect. Additionally, real estate contracts must include a written disclosure about the presence of lead-based paint on the property and buyers have up to 10 days to check for lead. Sellers may not deny a purchaser the opportunity to have a home inspected for lead or have a lead risk assessment completed.

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RECOMMENDATIONS TO MAKE NEVADA HOMES SAFER

NvCLPPP recommends the following steps for policymakers and homeowners/tenants to reduce lead exposure.

For Policymakers:

- Require lead-risk assessments and remediation of lead hazards in rental housing.
- Adopt proactive code enforcement policies that conduct scheduled visual inspections. This promotes equity as some communities are hesitant to report housing issues due to fears of immigration status repercussions.
- Develop strategies/collaborations to seek federal and state funding opportunities to remediate lead hazards.
- Gear efforts towards reducing risk where it is most prevalent. Allocate funds and services for lead remediation to older homes in high poverty and minority zip codes where the presence of lead hazards tend to be higher. Doing so will help address the significant disparities among low-income and minority groups.
- Implement a health in all policies approach to encourage policymakers to support anti-poverty programs such as Supplemental Nutrition Assistance Programs (SNAP) and Women, Infants, and Children (WIC), that support good nutrition for low-income families. Proper nutrition, especially in children and pregnant women, can reduce the absorption of lead in the body.²²

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RECOMMENDATIONS TO MAKE NEVADA HOMES SAFER

For Homeowners/Tenants:

- In order to reduce the prevalence of childhood lead poisoning in older homes, the following recommendations should be observed. Older homes are defined as those built before 1978—the year residential lead-based paint was banned
- If your home is older, have it inspected by a trained professional for the presence of lead-based paint.²
- Visually inspect painted areas regularly for any signs of deterioration.²
- Use wet cleaning methods such as a mop or damp cloth to control potentially hazardous lead dust.³
- Cover bare soil with mulch, sand, wood chips, stone, or sod to reduce children and pets' access to potentially lead contaminated soil.²⁹
- If undertaking renovations, repairs, or painting projects in a pre-1978 home or apartment: read EPA's website Renovation, Repair, and Painting Program: Do-It-Yourselfers to learn how to work safely and prevent lead dust from spreading.³⁰

By following the proper recommendations and national guidelines, homeowners and tenants can better understand lead-based paint hazards and limit their risk of exposure within the home.



Figure 3 . A home in Henderson, Nevada after being remediated for lead-based paint hazards.

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