

**LEAD HAZARD CONTROL AND HEALTHY HOMES  
LEAD HAZARD REDUCTION  
2018 Summary Statement and Initiatives  
(Dollars in Thousands)**

LEAD-BASED PAINT HAZARD REDUCTION PROGRAM	<u>Enacted/ Request</u>	<u>Carryover</u>	<u>Supplemental/ Rescission</u>	<u>Total Resources</u>	<u>Obligations</u>	<u>Outlays</u>
2016 Appropriation .....	\$110,000	\$3,139	...	\$113,139	\$108,878	\$95,080
2017 Annualized CR .....	110,000	4,262	-\$209 <sup>a/</sup>	114,053	110,000	101,000
2018 Request .....	<u>130,000</u>	<u>4,053</u>	...	<u>134,053</u>	<u>130,000</u>	<u>101,000</u>
Change from 2017 .....	+20,000	-209	+209	+20,000	+20,000	...

a/ Public Law 114-254 requires a reduction from the fiscal year 2016 enacted budget authority of 0.1901 percent.

**1. Program Purpose and Fiscal Year 2018 Budget Overview**

The mission and goals of the Office of Lead Hazard Control and Healthy Homes is to promote healthy and lead safe homes through the identification and mitigation of lead based paint hazards in low income homes, especially those in which children under the age of 6 reside. The fiscal year 2018 President's Budget request of \$130 million, is \$20 million more than the fiscal year 2017 Annualized CR level.

**2. Request**

This request will allow the Department to fund four activities, for which the fiscal years 2016 – 2018 funding and request levels are as follows:

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<b>Lead Hazard Control and Healthy Homes Activity</b>	<b>FY 2016 Enacted</b>	<b>FY 2017 Annualized CR</b>	<b>FY 2018 Request</b>	<b>Increase/Decrease. from FY 2017</b>
Lead Hazard Control (LHC)	\$41,982,984	\$43,000,000	\$55,000,000	\$12,000,000
Lead Hazard Reduction Demonstration (LHRD)	46,017,016	45,000,000	45,000,000	\$0
Healthy Homes (HH)	20,000,000	20,000,000	25,000,000	\$5,000,000
Lead Technical Studies and Programmatic Support (LTS)	2,000,000	2,000,000	5,000,000	\$3,000,000
<b>Program Total</b>	<b>\$110,000,000</b>	<b>\$110,000,000</b>	<b>\$130,000,000</b>	<b>\$20,000,000</b>

- a. Under the Lead Hazard Control Program, HUD will use \$55 million in grants to make 4,600 unassisted low-income older homes free of lead-based paint hazards, based on an average per-unit cost of \$12,000.
- b. Under the Lead Hazard Reduction Demonstration Program, HUD will use \$45 million in grants to make 3,800 unassisted low-income older homes free of lead-based paint hazards, based on an average per-unit cost of \$12,000.
- c. Under the Healthy Homes Program, HUD will use \$20 million in Healthy Homes Supplements to Lead Hazard Control and Lead Hazard Reduction Demonstration grants to mitigate 6,700 unassisted low-income older homes having lead-based paint hazards being controlled of multiple health hazards in order to address conditions that contribute to asthma, cancer, and unintentional injuries, based on an average per-unit cost of \$3,000, and will use \$5 million in grants and contracts to further our understanding of housing conditions and their connections to resident health, identify effective interventions and preventive practices, demonstrate health benefits of targeting interventions to reduce or eliminate health and safety hazards in homes, and provide technical support and training, grant management and evaluation tools regarding housing-related health and safety issues.

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- d. Under the Lead Technical Studies and Programmatic Support Program, HUD will use \$5 million in grants and contracts to identify effective interventions and preventive practices for producing and maintaining lead safe housing, and provide technical support and training, grant management and evaluation tools regarding lead safety issues.

### **3. Justification**

The mission of the Office of Lead Hazard Control and Healthy Homes (OLHCHH) is to provide safe and healthy homes for at-risk families and children by promoting and funding the identification and repairs in at-risk housing to address conditions that threaten the health of residents. As part of this mission, the OLHCHH is involved in coordinating disparate health and housing agendas, supporting key research, targeting enforcement efforts, and providing tools to build sustainable local programs that mitigate housing-related health hazards. The OLHCHH assists States and local governments in remedying unsafe housing conditions and addressing the acute shortage of decent and safe dwellings for low-income families.

#### Lead Hazard Control

Lead paint in housing presents one of the largest threats to the health, safety, and future productivity of America's children. The OLHCHH's Lead Hazard Control programs currently include both the Lead Based Paint Hazard Control (LBPHC) and Lead Hazard Reduction Demonstration (LHRD) grant programs. Although they are similar in their overall goal of producing lead-safe homes for low-income residents, the LHRD grant program is focused, in accordance with the annual HUD Appropriations Acts, on jurisdictions with higher numbers of pre-1940 rental housing and higher rates of childhood lead poisoning cases. Funding assists States, Native American Tribes, cities, counties/parishes, or other units of local government to identify and eliminate lead-based paint hazards in low- and very low-income private housing where children under 6 years of age reside or are likely to reside. These programs are authorized under Section 1011 of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of the Housing and Community Development Act of 1992; Public Law 102-550; 42 U.S.C. 4852; "Title X").

#### Healthy Homes

The Healthy Homes program goes beyond just addressing lead-based paint hazards and covers other serious threats to residents' health and safety. Grantees can use Lead Hazard Control funds to remove the lead paint in a residence, but these grants cannot clean up mold, install smoke detectors, replace lead-containing water supply components, or fix other unsafe or unhealthy conditions present in those same houses. Healthy Homes funding complements Lead Hazard Control grants to give communities a more holistic approach to creating and maintaining safe homes. Title X, which authorizes HUD's two Lead Hazard Control Grant Programs, addresses lead in residential paint, dust, and soil, but not lead in air or water, nor does it address other compounds, conditions, or biological materials in or around housing that can pose risks to residents. The major portion of the Healthy Homes funding is for the Healthy Homes Supplements to the Lead Hazard Control grants. These allow grantees – state and local governments – to address residential hazards other than the lead-based paint hazards for which the grants can use their Lead funds authorized by Title X, in

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the unassisted low-income older homes in which the grantees are controlling lead-based paint hazards. In addition to enabling grantees to address a broader range of housing-related health and safety hazards in these homes, the Healthy Homes Supplement approach is efficient in that the outreach recruitment, enrollment, and monitoring processes for getting work done in the home have already been developed and implemented in regard to the lead hazard control work, with relatively small incremental efforts are needed in regard to the additional hazards, primarily in assessing homes for the presence of those hazards and conducting the hazard mitigation.

The OLHCHH's Healthy Homes program currently includes:

- Healthy Homes Supplemental funding for Lead Hazard Control Grants, which allows Lead Hazard Control grantees to conduct housing interventions to address multiple health hazards in addition to lead, including hazards that contribute to, trigger, or cause asthma, cancer, and unintentional injuries. Healthy Homes Supplemental funding can be used for replacement of lead service lines (which feed water from the street or alley water main to the home), while neither Lead Hazard Control nor Lead Hazard Reduction Demonstration funds can do so, because addressing lead in water is not within the scope of Title X. With heightened national interest in lead in residential water, HUD expects widespread use of Healthy Homes Supplement funds for lead service line and interior lead plumbing replacement. This work typically costs about \$2,000 - \$5,000 per housing unit, and is expected to increase the average per-unit expenditures under the Healthy Homes Supplement Program accordingly.
- Healthy homes contracts for national surveys, training, and public education programs that help State, local, and nongovernmental agencies, housing industry stakeholders, and the public to understand the health-and-housing relationship and identify and address housing-related health and safety hazards.
- The Healthy Homes Technical Studies Grant Program, which develops and evaluates effective interventions and preventive practices to reduce or eliminate health and safety hazards in homes. The grant program and the related Lead Technical Studies Grant Program are discussed in the Technical Studies and Programmatic Support section below.

### Technical Studies and Programmatic Support

For fiscal year 2018, the Department proposes \$10 million (including \$5 million from the Healthy Homes program) for Lead and Healthy Homes Technical Studies and Programmatic Support. The requested funding will continue the significant progress we have made to further our understanding of housing conditions and their connections to resident health. This includes identifying effective interventions and preventive practices, and demonstrating health benefits of targeting interventions to reduce or eliminate health and safety hazards in homes. The OLHCHH's lead and healthy homes technical studies and programmatic support activities advance and support OLHCHH programs. These activities include contracts, grants and cooperative agreements, technical support and training, grant management and evaluation tools, and interagency collaboration projects. The technical studies conducted under

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these programs have helped develop detection, evaluation, and control technologies regarding lead and other residential hazards, and provided the basis for the building, housing, scientific, and public health communities to address the hazards more efficiently and broadly.

The program identifies and addresses home-based health and safety hazards that contribute to a wide range of illnesses and injuries, including lead poisoning, asthma, home injuries, and lung cancer.

Researchers have found that more children than previously thought have too much lead in their blood. The CDC redefined the level at which children are considered to have too much lead in their blood in January 2012, from a "level of concern" (a blood lead level of 10 micrograms of lead per deciliter of blood ( $\mu\text{g}/\text{dL}$ ) in a child under age 6) to a new "blood lead reference range value" based on the distribution of blood lead levels among U.S. children under age 6. This change in the threshold increased the number of children considered to have too much lead in their bodies from less than 100,000 to about 535,000. Because this program targets children with too much lead in their blood, 435,000 more children than previously thought are in the most urgent need of its services. Twenty-three million U.S. homes have one or more lead based paint hazard, 1.1 million of which are low-income households with one or more children under age 6.<sup>1</sup> Because residential lead-based paint hazards are the primary source of lead intake for United States children,<sup>2</sup> continued investment and effort is needed to reduce lead hazards in older homes. This funding will be used to protect children against lead exposure by targeting the highest risk properties for priority action, to ensure that lead-safe practices are followed during renovation, repair and painting of pre-1978 homes, and to eliminate lead-based paint hazards in as many pre-1978 homes as feasible. This program has contributed to the significant decrease in childhood lead poisoning from the early 1990s to today.<sup>3</sup>

HUD has aligned its lead hazard control and research activities with the Department of Health and Human Services' (HHS') Healthy People 2020 Environmental Health objective 8.2, to, "Reduce the mean blood lead levels in children" aged 1 to 5 years from HHS' baseline of 1.5  $\mu\text{g}/\text{dL}$  over the 2005–08 period, to HHS' target for 2020 of 1.4  $\mu\text{g}/\text{dL}$ .<sup>4</sup> To maintain progress made and reduce remaining disparities, efforts must continue to test children at high risk for lead poisoning, and identify and control sources of lead. Coordinated prevention strategies at National, State, and local levels will help achieve the goal of eliminating lead poisoning in children. The OLHCHH's lead hazard control grants and lead regulatory enforcement efforts will reduce the exposure by young children – particularly those most at risk – to lead-contaminated paint chips, dust, and soil. This will reduce the blood lead level in these children, and, over time, contribute to moving the national distribution of children's blood lead values downward.

<sup>1</sup> Dewalt, G, Cox, D, O'Haver, R, et al. Prevalence of Lead Hazards and Soil Arsenic in U.S. Housing. *Journal of Environmental Health*. Vol. 78, no. 5, pp. 22-29, December 2015, <http://www.neha.org/node/6429>.

<sup>2</sup> Lanphear BP, Dietrich KN, Berger O. Prevention of lead toxicity in US children. *Ambulatory Pediatrics*. 2003 Jan-Feb;3(1):27-36. <http://www.ncbi.nlm.nih.gov/pubmed/12540251>.

<sup>3</sup> Centers for Disease Control and Prevention. Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention. 2012. [http://www.cdc.gov/nceh/lead/acclpp/final\\_document\\_030712.pdf](http://www.cdc.gov/nceh/lead/acclpp/final_document_030712.pdf).

<sup>4</sup> <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=12>.

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Unhealthy and unsafe housing conditions continue to affect the health of millions of people from all income levels and geographic areas in the United States; however, these hazards disproportionately affect children, the poor, minorities, people with medical conditions, people with disabilities, and older adults. In addition to lead hazards, discussed above, the following housing-related health hazards are of particular importance:

- According to the most recent data available, more than 6.8 million housing units have radon levels above the current EPA action level; radon exposure causes approximately 21,000 deaths per year from lung cancer attributable to this preventable hazard.<sup>5</sup>
- Approximately 24 million homes have elevated levels of 4 or more different types of allergens that have been associated with increased negative health outcomes among residents with asthma.<sup>6</sup>
- Falls are the leading cause of non-fatal injuries for all children ages 0 to 19 and for older adults (65 years of age or older).<sup>7</sup> Each year, approximately 2.8 million children and 2.4 million older adults have an initial emergency department visit for injuries from a fall.<sup>8</sup> Research suggests that the total direct and indirect costs for unintentional injuries (e.g., falls, poisonings, fires) in the home have averaged over \$200 billion annually, with falls alone responsible for almost half of those costs.<sup>9</sup>

HUD grantees will use their Healthy Homes grants and supplemental funding to perform simple radon tests, remediate mold, install allergen filtering, and provide basic safety upgrades, such as installing grab bars and hand rails, repairing tripping hazards, fixing stairs, and installing safety bars or child locks on windows, among other actions.

As noted above, using Healthy Homes Supplemental funding along with Lead Hazard Control Grants will allow grantees to conduct housing interventions to address multiple health hazards in addition to lead.

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<sup>5</sup> U.S. Environmental Protection Agency. 2003. EPA Assessment of Risks from Radon in Homes. <http://www.epa.gov/sites/production/files/2015-05/documents/402-r-03-003.pdf>.

<sup>6</sup> The number of homes was calculated by multiplying 18% (Salo PM, Arbes, Crockett PW, Thorne PS, Cohn RD, Zeldin DC. 2008. Exposure to multiple indoor allergens in US homes. *J Allergy and Clinical Immunology*. 2008 Mar; 121(3): 678–684.e2. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2376121/>) by 133 million (U.S. Department of Housing and Urban Development and U.S. Census Bureau. (HUD and Census). 2013. American Housing Survey <http://www.census.gov/programs-surveys/ahs/data/2013/national-summary-report-and-tables---ahs-2013.html>).

<sup>7</sup> Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. Accessed August 15, 2013. <http://www.cdc.gov/injury/wisqars/>.

<sup>8</sup> Centers for Disease Control and Prevention. 2008. CDC Childhood Injury Report: Patterns of Unintentional Injuries among 0-19 Year Olds in the United States, 2000-2006. <http://www.cdc.gov/safecild/images/CDC-ChildhoodInjury.pdf>; Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. Accessed August 15, 2013. <http://www.cdc.gov/injury/wisqars/>.

<sup>9</sup> Zaloshnja E, Miller TR, Lawrence BA, Romano E. 2005. The costs of unintentional home injuries. *American Journal of Preventive Medicine* 28(1):88-94. <http://www.ncbi.nlm.nih.gov/pubmed/15626562>.

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### The Cost Burden of Unhealthy Housing

Researchers estimate that the health effects of poor housing conditions could cost billions of dollars annually in healthcare for asthma, lead-based paint poisoning and injury, as well as lost productivity in the labor force.<sup>10</sup> The Lead Hazard Reduction and Healthy Homes programs are investments that pay off. Research has proven time and again that providing safe, decent and sanitary homes for the most at-risk American families more than pays for itself in lower health care costs and increased productivity.

- A 2011 study of the total annual costs of pediatric disease in American children estimated that the total cost of lead poisoning in 2008 was \$5.9 million in medical care costs and \$50.9 billion in lost economic productivity.<sup>11</sup>
- In addition to the physical toll an at-risk home can have on its inhabitants (e.g., unnecessary emergency room visits annually due to housing-related injuries and illness), some research suggests that the cumulative financial burden of unhealthy homes for the nation is considerable. For example, one study estimates the total (direct and indirect) cost for unintentional injuries in the home at over \$200 billion annually, with \$90 billion of that due to falls alone.<sup>12</sup> Researchers found that nearly 30 percent of residential injuries among children in a randomized controlled trial could have been prevented by interventions.<sup>13</sup> If the same proportion of preventable injuries were found for adults, the annual cost of preventable injuries in the home would be about \$60 billion.
- One study finds that the costs for asthma due to one root cause in the home – dampness and mold – could be \$3.5 billion annually.<sup>14</sup> Other modifiable childhood asthma risk factors within the home (e.g., pet dander, cockroach allergen, use of stove or oven for home heating) were estimated to cost nearly \$1 billion.<sup>15</sup>

The high health-related costs of unsafe housing are matched by significant and enduring social costs. Researchers have found a clear relationship between elevated blood lead among children and their cognitive and behavioral impairment. “Even low levels of exposure appear to lower children’s IQ, which increases the need for enrollment in special education services, reduces the likelihood

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<sup>10</sup> Landrigan PJ, Schechter CB, Lipton JM, Fahs MC, Schwartz J. Environmental pollutants and disease in American children: estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities. *Environmental Health Perspectives*. 2002 Jul;110(7):721-8.

<http://www.ncbi.nlm.nih.gov/pubmed/12117650>.

<sup>11</sup> Trasande L, Lui Y. 2011. Reducing The Staggering Costs of Environmental Disease in Children, Estimated at \$76.6 Billion In 2008. *Health Affairs*. 30 (5):863-870.

<sup>12</sup> Zaloshnja E, Miller TR, Lawrence BA, Romano E. 2005. The costs of unintentional home injuries. *American Journal of Preventive Medicine*. 28(1):88-94.

<http://www.ncbi.nlm.nih.gov/pubmed/15626562>.

<sup>13</sup> Phelan KJ, Khoury J, Xu Y, Liddy S, Hornung R, Lanphear BP. A randomized controlled trial of home injury hazard reduction: the HOME injury study. *Archives of Pediatric and Adolescent Medicine*. 2011 Apr;165(4):339-45. <http://www.ncbi.nlm.nih.gov/pubmed/21464382>.

<sup>14</sup> Mudarri D, Fisk WJ. 2007. Public health and economic impact of dampness and mold. *Indoor Air*. 17(3):226-35.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0668.2007.00474.x/full>.

<sup>15</sup> Lanphear BP, Aligne CA, Auinger P, Weitzman M, Byrd RS. Residential exposures associated with asthma in US children. *Pediatrics*. 2001 Mar;107(3):505-11.

<http://www.ncbi.nlm.nih.gov/pubmed/11230590>.

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of high school and college graduation, lowers lifetime earnings (both through educational and IQ pathways), and greatly increases their propensity to engage in violent criminal activity."<sup>16</sup>

The work of the grantees funded through HUD's Lead Hazard Reduction program has led to real results. The prevalence of elevated blood lead levels in children under age 6 that are at least 10 micrograms per deciliter ( $\geq 10$  mg/dl) decreased from 8.6 percent in 1988-1991 to 0.75 percent in 2003-2010, a 91 percent decline, according to the on-going National Health and Nutrition Examination Survey (NHANES) conducted by the CDC.<sup>17</sup> HUD's lead hazard control grants have contributed to this decline in the more than 180,000 housing units treated under the program.

### Costs and Benefits

The programs run by the HUD's Office of Lead Hazard Control and Healthy Homes offer high returns on investment. Study after study has proven that small investments ensuring that children grow up in healthy, lead-free homes provide a lifetime of benefits for both that child and society as a whole.

- Studies suggest that each dollar invested in interventions similar to those funded by HUD for:
  - Controlling lead paint hazards results in a return of \$17–\$221;<sup>18</sup>
  - Reducing household allergens, which contribute to or trigger asthma and allergies, results in a return of \$5.30-\$16.50;<sup>19</sup> and
  - Installing battery-operated smoke alarms results in a return of \$18.<sup>20</sup>
- Based on estimates of health benefits, as also noted above, the value of lead hazard control programs similar to those operated by HUD is conservatively estimated at \$30.6 billion based on the cost/benefit ratio of at least 17:1.<sup>21</sup>

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<sup>16</sup> Gould E. Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control. *Environmental Health Perspectives*. 2009 Jul; 117(7): 1162–1167. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2717145/>

<sup>17</sup> [www.cdc.gov/nchs/nhanes.htm](http://www.cdc.gov/nchs/nhanes.htm); [www.cdc.gov/mmwr/preview/mmwrhtml/00048339.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/00048339.htm); [www.cdc.gov/mmwr/preview/mmwrhtml/mm6213a3.htm?s\\_cid=mm6213a3\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6213a3.htm?s_cid=mm6213a3_e).

<sup>18</sup> Gould E., Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control. *Environmental Health Perspectives*. 117(7):1162-7. <http://ehp.niehs.nih.gov/0800408/>

<sup>19</sup> Nurmagametov TA et al., 2011. Economic Value of Home-Based, Multi-Trigger, Multicomponent Interventions with an Environmental Focus for Reducing Asthma Morbidity: A Community Guide Systematic Review. *American Journal of Preventive Medicine*. 41(2S1):S33–S47. [www.ajpmonline.org/article/S0749-3797\(11\)00314-X/fulltext](http://www.ajpmonline.org/article/S0749-3797(11)00314-X/fulltext). (Also available at [www.thecommunityguide.org/asthma/supportingmaterials/Asthma%20Econ.pdf](http://www.thecommunityguide.org/asthma/supportingmaterials/Asthma%20Econ.pdf).)

<sup>20</sup> Children's Safety Network/Pacific Institute for Research and Evaluation. Injury Prevention: What Works? A Summary of Cost-Outcome Analysis for Injury Prevention Programs (2012 Update). [www.childrendefsafetynetwork.org/sites/childrendefsafetynetwork.org/files/InjuryPreventionWhatWorks2012.pdf](http://www.childrendefsafetynetwork.org/sites/childrendefsafetynetwork.org/files/InjuryPreventionWhatWorks2012.pdf)

<sup>21</sup> Gould E., Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control. *Environmental Health Perspectives*. 117(7):1162-7. <http://ehp.niehs.nih.gov/0800408/>.

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- A study of the costs of childhood asthma from man-made environmental sources, both indoors and outdoors, as estimated at \$7 billion in direct and indirect costs in 2008.<sup>22</sup> Outdoor sources are important to consider in the healthy homes context; poorly maintained and inadequately sealed homes will permit higher infiltration rates of outdoor air into the home. Exposure to dampness and mold in homes alone is projected by some researchers to contribute to approximately 21 percent of current asthma cases in the United States, at an annual cost of \$3.5 billion.<sup>23</sup> Another study suggests that for every \$1 spent on asthma reduction there is a \$5.30-\$16.50 return on investment.<sup>24</sup>
- Minor to moderate remediation of housing hazards attributed to asthma, such as reducing interior moisture and improving indoor air quality, results in a substantial return for money invested. Following the guidelines in the National Asthma Education Prevention Program's (NAEPP) Expert Panel Report 3 (EPR3) concerning the need for environmental control measures for asthma, the Connecticut Department of Public Health conducted a study to explore the cost-effectiveness of housing interventions directed at mitigating conditions that exacerbated asthma. Net savings at 6 months' follow-up were estimated at \$267 per participant due to decreases in unscheduled acute care visits for adults and children.<sup>25</sup>
- Working smoke alarms cut the risk of dying in a home fire in half.<sup>26</sup> Our grant programs have identified and addressed fire hazards in 1,524 units over the past 3 years.
- Approximately 21,000 radon-related lung cancer deaths annually are attributed to exposure to radon gas in the home, resulting in over \$2 billion per year.<sup>27</sup> Our grant program has tested for the presence of radon in 2,627 units over the past 3 years. Of these units tested, grantees found and remediated radon hazards in 181 units.

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<sup>22</sup> Trasande L, Lui Y. 2011. Reducing the Staggering Costs of Environmental Disease in Children, Estimated at \$76.6 Billion In 2008. *Health Affairs*. 30 (5):863-870. <http://content.healthaffairs.org/content/30/5/863.full>

<sup>23</sup> Mudarri D, Fisk WJ. 2007. Public health and economic impact of dampness and mold. *Indoor Air*. 17(3):226-35.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0668.2007.00474.x/full>.

<sup>24</sup> Nurmagambetov TA, Barnett SBL, Jacob V, Chattopadhyay SK, et al. 2011. Economic Value of Home-Based, Multi-Trigger, Multicomponent Interventions with an Environmental Focus for Reducing Asthma Morbidity. *American Journal of Preventive Medicine*. 41(2S1):S33-S47. [www.ajpmonline.org/article/S0749-3797%2811%2900320-5/ppt](http://www.ajpmonline.org/article/S0749-3797%2811%2900320-5/ppt).

<sup>25</sup> Nguyen KH, Boulay E, Peng J. 2010. Quality-of-Life and Cost-Benefit Analysis of a Home Environmental Assessment Program in Connecticut. *Journal of Asthma*. [http://www.ct.gov/dph/lib/dph/hems/asthma/pdf/kims\\_final\\_published\\_airs\\_in\\_ct.pdf](http://www.ct.gov/dph/lib/dph/hems/asthma/pdf/kims_final_published_airs_in_ct.pdf).

<sup>26</sup> Ahrens M. Smoke Alarms in US Home Fires. 2015. <http://www.nfpa.org/research/reports-and-statistics/fire-safety-equipment/smoke-alarms-in-us-home-fires>.

<sup>27</sup> U.S. Environmental Protection Agency (EPA). 2003. EPA Assessment of Risks from Radon in Homes. <http://www.epa.gov/sites/production/files/2015-05/documents/402-r-03-003.pdf>; U.S. Environmental Protection Agency (EPA). 2013. Radon. [www.epa.gov/radiation/radionuclides/radon.html](http://www.epa.gov/radiation/radionuclides/radon.html); Oster, Colditz, & Kelley. 1984. National Cancer Institute statistics of 14,400 annual radon lung cancer deaths.

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### HUD Initiatives

HUD, through its Lead Hazard Control and Healthy Homes programs, continues to be a national leader in the effort to ensure that all children in America live in healthy and lead safe houses. HUD's goal, in conjunction with other federal, State, and local programs, is to eliminate lead poisoning in children nationwide as a major public health problem. It is working towards that goal in several different ways. Low-income residential units made lead-safe and healthy by HUD's grant programs are supplemented by units remediated by its regulatory enforcement actions, through our innovative public-private partnerships that promote cross-discipline housing and health interventions, and through collaborative efforts with other federal agencies.

HUD and its grantees are working on several initiatives to make its programs more effective.

- The OLHCHH plays an integral leadership role in updating and implementing the new Federal Lead Strategy to eliminate lead poisoning. HUD joins the Department of Health and Human Services and the Environmental Protection Agency along with several other federal partners to assess the progress of the 2000 Federal Lead Strategy and build an updated plan to identify and eliminate lead hazards and further protect children from being exposed.
- As part of implementing the federal Hurricane Sandy Rebuilding Strategy, the OLHCHH convened and chaired the interagency Indoor Environmental Pollutants Working Group, which created resources for the public, workers, and employers on reducing, cleaning up or remediating asbestos, lead, mold, and radon after disasters.<sup>28</sup> In addition to these resources, OLHCHH created a mobile application that helps homeowners and tenants learn about how to make homes safe and healthy after disasters.
- The OLHCHH is playing a leadership role in implementing the Coordinated Federal Action Plan to Reduce Asthma Disparities,<sup>29</sup> with a focus now on instituting and promoting policies and practices for housing interventions to control asthma triggers in both federally assisted and non-assisted low-income housing.
- The OLHCHH organized and managed the development of the overall federal healthy homes strategic plan, Advancing Healthy Housing – A Strategy for Action.<sup>30</sup> The Strategy for Action presents a vision for addressing the nation's health and economic burdens caused by preventable hazards associated with the home, and outlines the pathway for federal agencies to take coordinated preemptive actions that will help reduce the number of American homes with health and safety hazards. The Strategy was developed by the federal Healthy Homes Work Group, chaired by HUD, and the Work Group is monitoring its implementation.

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<sup>28</sup> [portal.hud.gov/hudportal/documents/huddoc?id=HSRebuildingStrategy.pdf](http://portal.hud.gov/hudportal/documents/huddoc?id=HSRebuildingStrategy.pdf).

<sup>29</sup> [www.epa.gov/childrenstaskforce/federal\\_asthma\\_disparities\\_action\\_plan.pdf](http://www.epa.gov/childrenstaskforce/federal_asthma_disparities_action_plan.pdf).

<sup>30</sup> [portal.hud.gov/hudportal/HUD?src=/program\\_offices/healthy\\_homes/advhh](http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/advhh).

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- The OLHCHH is currently working on a pilot that would harmonize the income eligibility criteria for its Lead Hazard Control grant programs with income eligibility criteria of other federal programs. Families that meet OLHCHH's income eligibility criteria may already participate in a number of other federal programs, such as DOE's Weatherization Assistance Program, the Supplemental Nutrition Assistance Program, Medicaid, or HUD's Housing Choice Voucher program. The purpose of the pilot is to increase the efficiency and effectiveness of OLHCHH's Lead Hazard Control grants' recruitment process by reducing duplication of income eligibility determinations for families that have already been deemed eligible for another federal program. The pilot would provide an opportunity to evaluate how standardized income eligibility requirements across federal programs decreases delays in enrolling eligible families into the various programs and see how best to set up this program to prevent improper payments.
- The Department is constantly working to enhance the way that it controls lead and deals with household hazards. Through collaborating with HUD Public and Indian Housing's Real Estate Assessment Center (REAC), we are working to standardize HUD's health and safety inspection protocols. REAC is undertaking a demonstration of a Uniform Physical Condition Standard for the Voucher Program inspection protocol that, if successful, could be used for a broad range of HUD's housing assistance programs. Upon validation of the protocol, likely within the next 4 – 6 years, our goal is to introduce new and enhanced methods based on an analysis of the grantees' data and outputs to control lead-based paint hazard and mitigate additional household hazards. Also, through the OLHCHH's new grants management software, the Office is gaining a better understanding of the hazards that grantees are identifying and the interventions that they are using.

Lead Hazard Reduction

**LEAD HAZARD CONTROL AND HEALTHY HOMES  
LEAD HAZARD REDUCTION  
Summary of Resources by Program  
(Dollars in Thousands)**

<u>Budget Activity</u>	<u>2016 Budget Authority</u>	<u>2015 Carryover Into 2016</u>	<u>2016 Total Resources</u>	<u>2016 Obligations</u>	<u>2017 Annualized CR</u>	<u>2016 Carryover Into 2017</u>	<u>2017 Total Resources</u>	<u>2018 Request</u>
Lead Hazard Control								
Grants .....	\$41,983	\$176	\$42,159	\$41,983	\$42,918	\$176	\$43,094	\$55,000
Technical Studies .....	2,000	1,163	3,163	1,284	1,996	1,879	3,875	5,000
Healthy Homes .....	20,000	1,800	21,800	19,593	19,963	2,207	22,170	25,000
Lead Hazard Reduction								
Demonstration .....	46,017	...	46,017	46,018	44,914	...	44,914	45,000
Research and Technology (transfer) .....	...	...	...	...	...	...	...	...
Total .....	110,000	3,139	113,139	108,878	109,791	4,262	114,053	130,000

**LEAD HAZARD CONTROL AND HEALTHY HOMES  
LEAD HAZARD REDUCTION  
Appropriations Language**

The fiscal year 2018 President's Budget includes proposed changes in the appropriation language listed below.

*For the Lead Hazard Reduction Program, as authorized by section 1011 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, \$130,000,000, to remain available until September 30, 2019, of which up to \$25,000,000 shall be for the Healthy Homes Initiative, pursuant to sections 501 and 502 of the Housing and Urban Development Act of 1970 that shall include research, studies, testing, and demonstration efforts, including education and outreach concerning lead-based paint poisoning and other housing-related diseases and hazards: Provided, That for purposes of environmental review, pursuant to the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and other provisions of the law that further the purposes of such Act, a grant under the Healthy Homes Initiative, or the Lead Technical Studies program under this heading or under prior appropriations Acts for such purposes under this heading, shall be considered to be funds for a special project for purposes of section 305(c) of the Multifamily Housing Property Disposition Reform Act of 1994: Provided further, That of the total amount made available under this heading, an amount to be determined by the Secretary shall be made available on a competitive basis for areas with the highest lead paint abatement needs: Provided further, That each recipient of funds provided under the previous proviso shall contribute an amount not less than 25 percent of the total: Provided further, That each applicant shall certify adequate capacity that is acceptable to the Secretary to carry out the proposed use of funds pursuant to a notice of funding availability: Provided further, That amounts made available under this heading in this or prior appropriations Acts, and that still remain available, may be used for any purpose under this heading notwithstanding the purpose for which such amounts were appropriated if a program competition is undersubscribed and there are other program competitions under this heading that are oversubscribed.*

*Note.—A full-year 2017 Annualized CR for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Further Continuing Appropriations Act, 2017 (P.L. 114–254). The amounts included for 2017 reflect the annualized level provided by the continuing resolution.*