

**Possible Performance Measures for HHSCC**  
**January 29, 2020**

<b>HHSCC enabling statute requires Council to develop suggested performance measures to track progress in:</b>	<b>Notes:</b>	<b>Proposed Performance Measures:</b>
(A) the reduction or elimination of barriers in creating service-enriched housing;	<ul style="list-style-type: none"> <li>• One-time review of Council and related activities</li> </ul>	<ul style="list-style-type: none"> <li>• HHSC:               <ul style="list-style-type: none"> <li>○ Intake and uniform assessment from Local Mental Health Authorities (LMHAs) – Residence Type</li> <li>○ Other data (e.g. Medicaid usage data) tied to individuals’ housing status</li> </ul> </li> <li>• Number of clients housed, dates housed, etc. by program:               <ul style="list-style-type: none"> <li>○ Section 811 PRA</li> <li>○ Mainstream Voucher Program</li> <li>○ Project Access</li> <li>○ Tenant-Based Rental Assistance</li> </ul> </li> <li>• Housing and Services Partnership Academies</li> <li>• Healthy Community Collaborative Learning Communities</li> <li>• Section 811 PRA:               <ul style="list-style-type: none"> <li>○ Trainings to property management teams</li> <li>○ Ongoing TA to referral agents</li> </ul> </li> </ul>
(B) increasing the coordination between state housing and health services agencies;	<ul style="list-style-type: none"> <li>• One-time review of Council and related activities</li> </ul>	<ul style="list-style-type: none"> <li>• Workgroup and coordinating council deliverables/work products</li> <li>• Staff attendance at housing and health services meetings</li> <li>• Number of clients housed, dates housed, etc. by program</li> </ul>
(C) increasing the number of state housing and health services staff who are cross-educated or who have expertise in both housing and health services programs;	<ul style="list-style-type: none"> <li>• Ongoing measures to quantify Council-related activities</li> </ul>	<ul style="list-style-type: none"> <li>• Workgroup and coordinating council deliverables/work products</li> <li>• Staff attendance at housing and health services meetings</li> <li>• Staff trained via Centralized Training Infrastructure (CTI) or other trainings</li> </ul>

<b>HHSCC enabling statute requires Council to develop suggested performance measures to track progress in:</b>	<b>Notes:</b>	<b>Proposed Performance Measures:</b>
(D) the provision of technical assistance to local communities by state housing and health services staff to increase the number of service-enriched housing projects.	<ul style="list-style-type: none"> <li>• Ongoing measures to quantify Council-related activities</li> </ul>	<ul style="list-style-type: none"> <li>• Housing and Services Partnership Academies</li> <li>• Healthy Community Collaborative Learning Communities</li> <li>• Section 811 PRA: <ul style="list-style-type: none"> <li>○ Trainings to property management teams</li> <li>○ Ongoing TA to referral agents</li> </ul> </li> <li>• Workgroup and coordinating council deliverables/work products</li> <li>• Staff attendance at housing and health services meetings</li> <li>• Staff trained via Centralized Training Infrastructure (CTI) or other trainings</li> </ul>

Next steps:

- Work with Performance Measures Advisory Committee to draft suggested measures and select data
- Timeline: Report of Findings due to Governor and LBB on August 1, 2020
  - Draft of suggested Performance Measures shared with Council April 2020
  - Draft Biennial Plan and Biennial Report (including suggested Performance Measures) voted on at July 2020 meeting

*Everyone Deserves a*

# **Safe and Healthy Home**



*Protect the health of children and families*



a consumer action guide

[www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes)



# Good health starts at your home.

## Why do we care?

Everyone deserves to live in a healthy home. A home can support the health of your family as much as a healthy lifestyle and diet. It's important for people of all ages to know how to make their home safe and healthy for their own health concerns. It is always worth taking the time to make the place you call home a healthier and safer place to live. Here are some simple steps to get you started!

## How can I have a Healthy Home?

- ✓ **Keep it DRY**  
*Damp homes provide an environment for dust mites, roaches, rodents and molds. All of these can cause or worsen asthma. In addition, moisture can damage the building materials in your home.*
- ✓ **Keep it CLEAN**  
*Clean homes reduce pest infestation and exposures to contaminants.*
- ✓ **Keep it WELL MAINTAINED**  
*Poorly maintained homes are at risk for moisture, pest problems, and injury hazards. Deteriorated lead-based paint is the primary cause of children being harmed by lead.*
- ✓ **Keep it WELL VENTILATED**  
*Having a good fresh air supply to your home is important to reduce exposure to indoor air pollutants and to increase respiratory health.*
- ✓ **Keep it TEMPERATURE CONTROLLED**  
*Homes that do not have balanced and consistent temperatures may place your family at increased risk from exposure to extreme cold, heat, or humidity.*
- ✓ **Keep it CONTAMINANT FREE**  
*Levels of contaminants such as lead, radon, carbon monoxide, asbestos, secondhand smoke, and other chemicals are often much higher indoors.*
- ✓ **Keep it PEST FREE**  
*Exposure to pests such as roaches and rodents can trigger an asthma attack.*
- ✓ **Keep it SAFE**  
*Injuries such as falls, burns, and poisonings occur most often in the home, especially with children and seniors.*

Learn as much as you can about home health and safety, and get your family involved.

## Healthy Homes Basics App



- Download the app to learn more: <https://itunes.apple.com> or <https://play.google.com/store>
- Connect to resources you need
- Take quizzes to test your awareness
- Check each room in your house





## Lead

**Hazard** Lead poisoning is one of the biggest health risks for young children at home.

**Health Effects** Lead can permanently damage your nervous system, including your brain. It can cause permanent learning and behavior problems in children. It can also permanently affect your hearing.

**Source** Before 1978, lead was used in paint, water pipes, gasoline, pottery, consumer goods and objects. Lead is no longer used in house paint, but a lot of older homes still have lead paint and lead in water pipes, or in old materials that contain lead.

**When in doubt, check it out:** [www.hud.gov/lead](http://www.hud.gov/lead) and [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) or call (800) 424 - LEAD

- Test your drinking water, paint, and soil around your house (use a certified lead risk assessor)
  - Run water for 30 seconds to 2 minutes before drinking it, especially if you have not used your water for a few hours
  - Regularly clean the screen in your faucet (also known as an aerator)
- Have your children tested for lead
- If your home has lead paint, or your drinking water contains lead:
  - Have your children wash their hands and face often, especially before eating
  - Clean floors and surfaces with a wet mop and cloths
  - Do not remodel, renovate, or repair without learning about lead-safe practices
  - Keep children away from areas where there is flaking or chipped paint
  - If you use a vacuum, use one with a HEPA filter
  - Use cold water for cooking and install a water filter certified to remove lead
  - Remove shoes before entering your house



## Asthma and Allergies

**Hazard** Asthma is a lung disease. More than 7 million children in the United States have asthma. Another 40 to 50 million people have allergies. An allergy is an unusual reaction to something.

**Health Effects** Asthma makes it hard to breathe. If you have asthma, your chest often feels tight, your breathing sounds raspy, and you are wheezing and coughing. Allergies can make you have a runny nose, watery eyes and sneezing. Allergies can also affect your skin with a rash or itching.

**Source** There are many items in the home environment that can cause asthma attacks, and they are called "triggers." An example of a trigger is pollen from trees and flowers. Other triggers come from chemicals, dogs and cats, cockroaches, mice, mold, and cigarette smoke. Some of these triggers are very small - dust mites are tiny "bugs" that you can't see and they live everywhere - in carpets, bedding, furniture, and stuffed animals.

**When in doubt, check it out:** [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) and [www.epa.gov/asthma](http://www.epa.gov/asthma)

- Wash bedding in hot water and detergent every week
- Use the highest dryer heat the clothing care label recommends and make sure the clothing is dry
- Use a zippered mattress and pillow covers
- Use a good (MERV 8 or higher) filter for your furnace and replace it every three months
- Don't allow anyone to smoke inside your home or car
- HEPA Vacuum and dust your home with a damp, disposable cloth regularly
- Keep pets away from bedrooms and off of furniture
- Clean pet beds and litter boxes frequently
- Avoid air fresheners, incense, and candles
- Ask your doctor about a home assessment to find and control asthma triggers in your home
- Use a dehumidifier in damp or humid areas of your home



## Mold and Moisture

**Hazard** *Molds are part of nature, but inside your home mold growth should be avoided. Mold spreads in tiny spores and the spores are invisible to your eyes. The spores float through the indoor air of your home. Mold may begin growing indoors, and be seen when these mold spores land on surfaces that are wet or in rooms that are humid. Damp and humid areas of your home can also be a hazard, even without mold.*

**Health Effects** *Many people are allergic or sensitive to mold. If you have allergy problems or asthma at home, but not when you're away, you may have mold growing in your home. If you have mold in your home, you may have trouble breathing, or have wheezing, runny nose, headaches, itching, or*

*watery eyes. Damp or humid areas of your home can also cause these symptoms in people with asthma.*

**Source** *Mold is usually found in areas of high humidity (kitchen, bathroom) or moisture (roof and pipe leaks). Mold can grow on walls, clothes or appliances. It also grows in hidden places like behind walls, in attics, and under carpet. Mold can smell musty. A musty odor sometimes means mold is alive and growing.*

**When in doubt, check it out:** [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) and [www.epa.gov/mold](http://www.epa.gov/mold) and [www.cdc.gov/mold](http://www.cdc.gov/mold)

- Keep the humidity in your home less than 50 percent. Use a dehumidifier if your home is too humid*
- Install and use exhaust fans in bathrooms and kitchens*
- Clean up water and puddles from leaking pipes, ceilings or walls, and fix leaks right away*
- Make sure your dryer vents to the outside*
- Keep gutters and downspouts free of leaves and clogs*
- If you have mold that you can see:*
  - Identify the water source or leak and fix the problem first*
  - Throw away any cardboard, carpeting, insulation, foam padding, or fabrics if they have been wet for more than 2 or 3 days or if they have mold*
  - Remove small areas of mold using the steps listed at [www.epa.gov/mold](http://www.epa.gov/mold) or [www.cdc.gov/mold](http://www.cdc.gov/mold), otherwise consult a professional*



## Radon

**Hazard** *Radon comes from the natural radioactive breakdown of uranium and other radioactive elements in soil, rock, and water and can get into the air you breathe. Radon is estimated to cause thousands of deaths each year.*

**Health Effects** *When you breathe air containing radon, you can get lung cancer. The Surgeon General has warned that radon is the second leading cause of lung cancer in the United States. Smokers have a higher risk from the impacts of radon.*

**Source** *Radon typically moves up through the ground to the indoor air in your home through cracks and other holes in the foundation, basement, or crawl space. Your home traps radon inside, where it can build up. Testing is the only*

*way to know if you and your family are at risk from radon. Some areas of the country have higher levels of radon than others.*

**When in doubt, check it out:** [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) and [www.epa.gov/radon](http://www.epa.gov/radon) or call (800) SOS-RADON

- Have your home tested for radon*
- If your home tests high for radon (a reading of 4 or higher), consult with a licensed radon professional or state radon office to learn about options for making your home safer*



## Household Chemicals

**Hazard** A hazardous household chemical is a product you use around the house that can be harmful or poisonous if not used properly. Accidents can happen if products are misused, stored or disposed in the wrong way.

**Health Effects** Some hazardous products burn you or poison you through your skin if you touch them. Other products poison you when you breathe them. You might feel sick to your stomach, dizzy, or your eyes might water, sting or hurt. Common reactions are also headaches or a stuffy nose.

**Source** Examples of hazardous household chemicals include cleaning supplies, pesticides, fertilizers, polishes, glues, batteries, paint, mercury thermometers, oil, and gasoline.

**When in doubt, check it out:** [www.householdproducts.nlm.nih.gov/](http://www.householdproducts.nlm.nih.gov/) and [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes)

- Use safer (non-toxic) cleaning products
- Always keep household chemicals in their original containers and stored out of reach of children
- Follow the instructions on the label including wearing proper clothing and protection such as eye goggles and gloves
- Do not mix bleach and ammonia products
- Do not eat, drink, or smoke when using household chemicals
- Dispose of household chemicals safely by taking them to a hazardous waste collection site
- Do not mix chemicals or products unless the label says it is safe



## Pests

**Hazard** Pests are unwanted living things in or around your home and include bugs or rodents that get inside. Pests may also include bed bugs which are tiny insects that feed on the blood of humans and animals.

**Health Effects** Inside your home, mice, rats and cockroaches may trigger asthma attacks. Insects and rodents can also get into your food. Mice and rats can chew on electrical wires and cause fires. Bites of rat, fleas, ticks and certain spiders can make your family ill. Some pests and bugs spread diseases.

**Source** Pests travel into your home from outdoors or other places and they are looking for places with food, water and shelter. Pests often enter your home through gaps or openings in walls, doors or windows, but can also be carried inside by pets.

**When in doubt, check it out:** [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) and [www.epa.gov/safepestcontrol](http://www.epa.gov/safepestcontrol)

- Store food (including pet food) in tightly sealed containers
- Clean up after cooking and eating
- Seal up cracks around exterior doors, window, pipes, and other holes to the outside
- Do not let trash and clutter collect inside. Keep trash cans covered with lids
- Avoid the use of bug bombs - use closed baits, traps, or gels instead
- If you do use pesticides, read and follow the label carefully
- Fix water leaks and spills as soon as possible
- Install animal-proof screens in vents in attics and crawl spaces
- Clean up your yard. Keep mulch, garden debris, and litter away from the foundation of your home



## Carbon Monoxide

**Hazard** Carbon monoxide (CO) is a dangerous gas and it is not safe to breathe. You can't see, taste, or smell it. You should always have a CO alarm in your home.

**Health Effects** If you are exposed to CO, you might get headaches, upset stomach, vomiting, dizziness, weakness, or confusion. Severe cases can cause brain damage, blindness, deafness, heart problems, or death. Exposure to CO can be a major threat to you and your family's health.

**Source** Fuel burning appliances and automobiles are the main source of carbon monoxide in your home. They use natural gas, gasoline, kerosene, coal, propane, oil, or wood. CO can be produced if fuel burning appliances aren't vented to the outside or are not working correctly.

**When in doubt, check it out:** [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) and [www.cdc.gov/co/](http://www.cdc.gov/co/)

- Have a professional check your furnace, water heater, gas appliances, flues, chimneys and fireplaces each year for carbon monoxide leaks
- Install a carbon monoxide alarm on each floor near bedrooms and check the batteries twice a year!
- Always have the garage door open when a car is running inside
- Do not use your oven or stove to heat your house
- Never use grills, generators, engines, lawnmowers, or other yard equipment indoors
- Avoid the use of portable heaters that burn fuel
- If you have to use a portable heater that burns fuel, always have it vented to the outside
- If your carbon monoxide detector goes off, leave your home immediately and call the fire department!



## Home Safety

**Hazard** Your chances of getting hurt at home are much higher than at work or school. Very young children and older adults are the most likely to get hurt. Home safety includes reducing the opportunity for falls, poisonings, burns, and other injuries in your home.

**Health Effects** Young children can get into everyday things that can poison them and get into places in your home that can injure them. Older adults are more likely to be victims of falls, and the resulting injuries can affect their ability to lead an active and independent life. Fire and burns are a danger to all family members.

**Source** The leading causes of death and injury in homes are from falls, poisoning, fires or burns, blocked airway (choking), drowning, and weapons.

**When in doubt, check it out:** [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) and [www.cdc.gov/homeandrecreationalafety/](http://www.cdc.gov/homeandrecreationalafety/)

- Store all medicines, cleaning supplies, matches, firearms, and poisons in locked cabinets and away from children
- Keep the Poison Control Hotline (800) 222-1222 near phones and on mobile phones
- Keep floors clear of electrical cords and clutter
- Install smoke detectors on each floor and near all bedrooms
- Set your hot water heater to 120 degrees or less
- Use non-slip mats around showers and bathtubs
- Fix loose stairs and handrails
- Use cordless blinds or tie cords out of reach of children
- Talk to children about staying away from hot stoves and ovens
- Secure furniture such as bookcases and entertainment centers to walls to prevent tipping injuries
- Keep a flashlight near your bed for when the power goes out





## Asbestos

**Hazard** Asbestos fibers are dangerous if they get into the air and you breathe them in. The fibers get into the air when materials containing asbestos are damaged or disturbed.

**Health Effects** Asbestos can cause serious long term health problems including lung disease and cancer. Smokers have a higher risk from asbestos exposure. Other health hazards may include mesothelioma and asbestosis. These health hazards can take many years to develop.

**Source** Asbestos was commonly used in homes in the past to insulate pipes and attics. Asbestos was also used for roofing, siding, floor tiles, fireproofing, and spray-on textures for walls and ceilings.

**When in doubt, check it out:** [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) and [www.epa.gov/asbestos](http://www.epa.gov/asbestos)

- If your home was built before 1978 and you are planning on renovating or remodeling your home, consult with a licensed asbestos removal professional or state health office to learn about testing your home
- If your home has asbestos materials, do not remove or damage the materials. Consult with a licensed asbestos removal professional or state health office to learn about your options for reducing your exposure
- In areas with damaged asbestos, keep activities to a minimum and keep children out of those areas.



## Home Temperature Control

**Hazard** A healthy home has comfortable temperature and humidity levels. Older homes were constructed with materials and methods that are not very energy-efficient and can let heat escape in the winter and cool air escape in the summer.

**Health Effects** Homes that do not have comfortable temperatures may place your family at increased risk from exposure to extreme cold and heat. High temperature and humidity in a home can make asthma, mold, and other indoor pollution worse, as well as general discomfort for your family. Cold or hot conditions in the home can be especially dangerous for seniors and people with chronic illnesses. Homes that are not energy-efficient will make monthly

utility bills (gas, electric, propane) higher.

**Source** Homes with temperature and humidity control problems are often drafty, have no or little insulation in walls and attics, and have heating or cooling systems that need repair or maintenance.

**When in doubt, check it out:** [www.energy.gov/energysaver](http://www.energy.gov/energysaver) and [www.energystar.gov](http://www.energystar.gov)

- Have the heating and air conditioning systems serviced yearly by a qualified professional
- Clean or change the air filters when they are dirty (usually every 3 months). Homes with pets or smokers should change their filters more often
- Consider having a home energy audit from your utility company or a local housing agency
- Find temporary shelter for elderly or ill family members, neighbors, or friends during extended periods of hot or cold indoor temperatures, if they are living in homes without good heating or cooling

# Indoor Air Quality in Your Home

*It is not always easy to tell if your home has good indoor air quality. There can be particles or gas (called contaminants) in the air that make the air bad for your health. Family members can be sensitive to one or many contaminants in the air.*



*The air inside your home can actually be worse for your family's health than the air outdoors. The amount of contaminants trapped in the air circulating inside your home could make some people feel sick. Most people spend more than half of their lives inside their homes. That's why indoor air quality is so important. You might notice bad smells or see smoke, but there are other dangers like carbon monoxide and radon that you can't see or smell in the air that are also dangerous for your family to be breathing in. People with heart or lung disease such as asthma may be more sensitive to these contaminants.*

## Ready, Set, GO!

- Download the [Healthy Home Basics App](#) from the Google Play or iTunes store
- Complete the [Room by Room Checklist](#) below to address hazards in your home today!
- Find your local health department to seek services for your family's health or inquire about environmental testing in your home and community.  
Visit <http://www.naccho.org/resources/lhd-directory>
- Find out if there is a Lead Based Paint Hazard Control Program near you or find a licensed lead based paint professional to assess or complete lead based paint work on your home if it was built before 1978.  
Visit <https://cfpub.epa.gov/flpp/pub/index.cfm?do=main.firmSearch>
- Contact the National Lead Information Center (NLIC) to talk to professionals about available materials and common questions: (800) 424 – LEAD and [www.epa.gov/lead](http://www.epa.gov/lead)
- Visit these websites to find more information about health and housing and how it impacts your family:

U.S. Department of Housing and Urban Development [www.hud.gov](http://www.hud.gov)

Office of Lead Hazard Control and Healthy Homes [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes)

U.S. Department of Agriculture, National Institute of Food and Agriculture [www.nifa.usda.gov](http://www.nifa.usda.gov)

Cooperative Extension Service for your state land grant university:

[www.nifa.usda.gov/extension](http://www.nifa.usda.gov/extension) or [www.eXtension.org](http://www.eXtension.org) or your telephone book

U.S. Environmental Protection Agency [www.epa.gov](http://www.epa.gov)

U.S. Centers for Disease Control and Prevention (800) CDC - INFO / (800) 232 - 4636 [www.cdc.gov](http://www.cdc.gov)

U.S. Consumer Product Safety Commission (800) 638 - 2772 [www.cpsc.gov](http://www.cpsc.gov)

National Healthy Homes Partnership [www.healthyhomespartnership.net](http://www.healthyhomespartnership.net)

National Center for Healthy Housing [www.nchh.org](http://www.nchh.org)

Children's Environmental Health Network [www.cehn.org](http://www.cehn.org)

National Safety Council [www.nsc.org](http://www.nsc.org)

Pediatric Environmental Health Specialty Units [www.aoec.org/pehsu.htm](http://www.aoec.org/pehsu.htm)

American Lung Association (800) LUNGUSA [www.lung.org](http://www.lung.org)

Household Products Database [www.householdproducts.nlm.nih.gov](http://www.householdproducts.nlm.nih.gov)

National Pesticide Information Center (800) 858 - 7378 [www.npic.orst.edu](http://www.npic.orst.edu)

National SAFE KIDS Campaign (202) 662 - 0600 [www.safekids.org](http://www.safekids.org)

National Safety Council (800) 621 - 7615 [www.nsc.org](http://www.nsc.org)

# Room by Room Checklist for a Healthy Home

*Take the first step! This checklist is a great way to start learning more about the conditions in your home that could be impacting your health and safety. You don't have to be an expert or a professional to complete this list. For more information on this material and recommended actions please visit:*

*[www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) or download the Healthy Homes Basics App to have a resource at your fingertips whenever you are ready.*

## 1. Living, Dining, and Family Rooms

- If your home was built before 1978, check painted doors, windows, trim, and walls for lead
- Vacuum carpets regularly to reduce asthma triggers
- Move blind cords out of reach of children to prevent strangulation
- Check lighting and extension cords for fraying or bare wires
- Avoid having lighting and extension cords in floor pathways
- Purchase children's toys that do not have small parts for choking and do not contain lead
- Secure heavy items (televisions, bookcases) to walls to prevent tip overs

## 2. Kitchen

- If your home was built before 1978, check painted doors, windows, trim, and walls for lead
- Use a range hood exhausted to the outside (or open window) to ventilate while cooking
- Clean up liquids and foods right after spills
- Keep matches, glassware, knives, and cleaning supplies out of reach of children
- Avoid leaving food and water out overnight
- Mop floors weekly
- Place Poison Control Hotline number **(800) 222 – 1222** on the refrigerator and in every room
- Do not allow children to be in kitchen unsupervised when the range or oven is on

## 3. Bedroom(s)

- If your home was built before 1978, check painted doors, windows, trim, and walls for lead
- Move blind cords out of reach to prevent strangulation
- Make sure room has a working smoke detector
- Make sure the hall outside of bedrooms has a working carbon monoxide detector
- Use mattress and pillow covers, and vacuum carpets regularly to reduce asthma triggers

## 4. Entry

- Use floor mats by entry doors to reduce bringing in lead dust and other toxins into the home
- Remove shoes at entry if lead is present in the soil or paint
- Repair or install weather seals around the perimeter of doors

## 5. Bathrooms

- If your home was built before 1978, check painted doors, windows, trim, and walls for lead
- Use an exhaust fan to ventilate after shower or bath use
- Use slip resistant mats in showers and tubs
- Clean up water from floors right after spills
- Keep medicines and cleaning supplies locked away and out of reach of children
- If an older adult or someone with mobility or balance concerns is present in the home, install grab bars at toilets, showers, and tubs

## 6. Laundry

- Vent clothes dryer to the outside (through roof or wall, not into the attic)
- Keep laundry soaps and detergents out of reach of children
- Wash sheets and blankets weekly to reduce asthma triggers
- Regularly remove lint from dryer screen

## 7. Attic

- Clean up clutter to prevent rodents and insects from finding places to nest
- Check exposed attic insulation for asbestos and consult with an asbestos professional for removal
- Make sure eave and roof vents are not blocked with insulation

## 8. Basement (or Crawlpace)

- If your home was built before 1978, check painted doors, windows, trim, and walls for lead
- Check if the pipe that connects your home to the water main (the service line) is made from lead
- Seal holes in walls and around windows and doors to keep rodents and pests out of living spaces
- Clean up clutter to prevent rodents and insects from finding places to nest
- Test the home for radon. If test shows radon above EPA recommended levels, seal slab and foundation wall cracks, and if the problem persists, consider installing a radon mitigation system
- Keep pesticides and cleaning supplies locked away and out of reach of children
- Seal all cracks in slabs and foundation walls for moisture, radon, and pest protection

## 9. Garage

- Never run lawnmowers, cars, or combustion equipment inside the garage with garage door closed
- Keep gasoline, pesticides, and cleaning supplies out of reach of children.
- Clean up oil, gasoline, and other spills immediately
- If a floor drain is present, make sure it drains to well beyond the outside of the home

## 10. Outside

- If your home was built before 1978, check painted doors, windows, trim, and walls for lead
- If painted walls, doors, windows, or trim contain lead, keep children away from peeling or damaged paint and prevent children from playing around the ground next to the walls
- Remove leaves and debris from gutters regularly and extend downspouts to drain away from the house
- Replace missing or broken shingles or flashings
- Clean window wells of trash and debris
- Install and maintain fences completely around pools with openings less than 1/4 inch
- If your home was built before 1978, check hardboard siding for asbestos
- Make sure private wells are sealed and capped.
- Consider testing your well for pesticides, organic chemicals, and heavy metals before you use it for the first time.
- Test private water supplies annually for nitrate and coliform bacteria to detect contaminations problems early
- Do not leave open garbage containers near the home
- Repair broken glass in windows and doors.
- Seal holes in walls and around windows and doors to keep rodents and pests out of living spaces

## 11. General

- If your home was built before 1978, use lead-safe work practices for all renovation and repairs and test children in the home for lead exposure
- Check piping connecting your home to the water main and the piping in your home for lead (lead pipes are dull and can be scratched easily with a penny). Lead pipes are more likely to be found in homes built before 1986
- No smoking inside the home, especially with children in the same home
- Have a professional maintain yearly all gas appliances and check for carbon monoxide leaks and proper venting
- Do not use candles or incense in the home when adult supervision is not present
- Secure balcony and stair railings, and install no-slip nosings
- Replace burned-out bulbs in lights over stairs and landings
- Run a dehumidifier if indoor humidity is above 50 percent or you see condensation on windows
- Make sure all gas burning appliances, furnaces, heaters, and fireplaces ventilate to the outside
- Replace the furnace filter with a MERV 8 or better every three months
- If mold is visible in any room, refer to mold removal guidelines from the EPA, CDC, or HUD
- Install child-proof locks on cabinets and child-proof covers on electrical outlets
- Keep water temperature at less than 120 degrees
- Keep firearms in locked safes
- Use pest management recommendations or safer alternative products before applying pesticides
- Keep all cleaning products in original containers and do not mix two products together

# Room by Room Checklist for a Heathy Home

To help you connect the room, steps, and hazards please look for the following icons:



Lead



Pests



Indoor Air Quality



Carbon Monoxide



Asthma and Allergies



Home Safety



Radon



Household Chemicals



Mold and Moisture



Home Temperature Control

**2. and 6.**



**7.**



**5.**



**3.**



**4.**



**1.**



**8.**



**9., 10., and 11.**



# Good health starts at your home

For more information on how you can have a Healthy Home, go to [www.hud.gov/healthyhomes](http://www.hud.gov/healthyhomes) or the Healthy Homes Partnership website at [www.healthyhomespartnership.net](http://www.healthyhomespartnership.net) and visit us on Facebook, Twitter, Pinterest, and YouTube.



United States Department of Agriculture  
National Institute of Food and Agriculture



Funding for this guide is provided through an interagency agreement between the U.S. Department of Agriculture – National Institute of Food and Agriculture (NIFA) and the U.S. Department of Housing and Urban Development – Office of Lead Hazard Control and Healthy Homes (OLHCHH). Project Coordination provided by Dr. Gina Peek, Oklahoma State University and Michael Goldschmidt, University of Missouri and National Director – Healthy Homes Partnership. Additional content provided by Dr. Laura Booth, Auburn University. Cover design provided by Jeanne Bintzer, University of Missouri. August 23, 2016

## OLHCHH PROGRAM UPDATE

---

Office of Lead Hazard Control and Healthy Homes  
*U.S. Department of Housing and Urban Development*



1

2

### What our Work Does



- Fixes unhealthy and unsafe housing stock
- Preserves affordable housing
- Creates healthier communities and families
- Fixes problems UP STREAM- move from patient to prevention

2

Strategic Framework	What is Unhealthy Housing?	What is the Extent of the Problem?	Why Does Our Work Matter?	What Does OLHCHH Do Now?	What More Can We Do?
---------------------	----------------------------	------------------------------------	---------------------------	--------------------------	----------------------

## Focusing on Housing and Health...why Does this Work Matter?

- It helps children and other vulnerable populations reach their full potential by:
  - Preventing injuries and diseases;
  - Lowering healthcare costs;
  - Increasing school and work performance;
  - Decreasing the number of school and work days missed due to injuries and diseases.
- It frees up family expenses that would have been spent on healthcare for other critical needs, such as rent or nutritious food.
- It saves money and lives.
  - Studies have shown that lead and healthy homes interventions are *effective* and are more *cost-effective* than conventional maintenance.

(See Maqbook et al., 2015; Gould, 2009)

3

3

Strategic Framework	What is Unhealthy Housing?	What is the Extent of the Problem?	Why Does Our Work Matter?	What Does OLHCHH Do Now?	What More Can We Do?
---------------------	----------------------------	------------------------------------	---------------------------	--------------------------	----------------------

## Return on Healthy Home Investments

Inputs	Return on Investment (ROI)	Outcomes
<p>For every \$1 spent on <b>asthma reduction</b> programs<sup>1</sup></p>	<p>...there is a return of between \$5.30 and \$14.00.</p>	<ul style="list-style-type: none"> <li>• Reduced healthcare costs</li> <li>• Increased school attendance</li> <li>• Increased employment attendance</li> <li>• Increased income due to attendance</li> <li>• Fewer deaths</li> </ul>
<p>For every \$1 spent on <b>lead hazard control</b> programs<sup>2</sup></p>	<p>...there is a return of between \$17 and \$221.</p>	
<p>For every \$1 spent on <b>radon mitigation</b> programs<sup>3</sup></p>	<p>...there is a return of \$4.95.</p>	

1. Nurmagambetov et al., 2011  
 2. Gould, 2009  
 3. Healthy Housing Solutions, 2014

4

4



5


## Historic Funding Available

- \$139M - Lead Hazard Control (broad)**
- \$95M - Lead Hazard Control (highest need)**
  - \*(\$64M – Focus on 7 communities)
- \$45M - Healthy Homes Initiative**
- 7 (Tribal Asthma) / (Healthy Homes Demo for Disasters)**

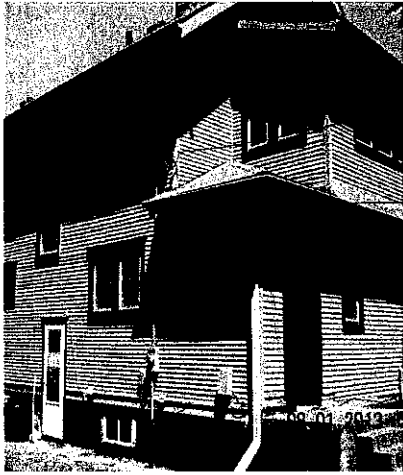
5

Strategic Framework	What is Unhealthy Housing?	What is the Extent of the Problem?	Why Does Our Work Matter?	What Does OLHC/HH Do Now?	What More Can We Do?
---------------------	----------------------------	------------------------------------	---------------------------	---------------------------	----------------------

## Lead Based Paint Hazard Control: Before and After



03.2



6

6



Strategic Framework	What is Unhealthy Housing?	What is the Extent of the Problem?	Why Does Our Work Matter?	What Does OLHCHH Do Now?	What More Can We Do?
---------------------	----------------------------	------------------------------------	---------------------------	--------------------------	----------------------

## Technical Studies Grants: Some Key Results

**Asthma:** U. of Cincinnati researchers found that mold exposure at 1 yr. of age was associated with the development of asthma by age 6.

**Falls prevention:** Washington U. researchers showed that select low-cost home interventions reduced falls among high-risk, low-income seniors

**Green construction:** Harvard U. investigators reported lower levels of IAQ contaminants and reduced "sick building syndrome" among residents in units that had undergone green rehab.

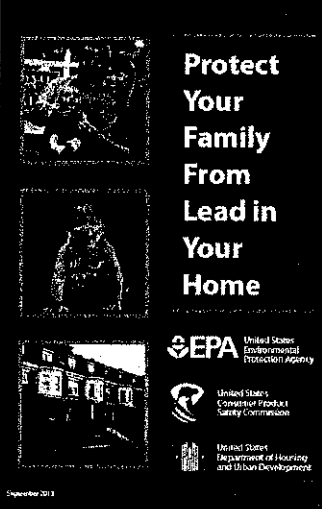



7

7

Strategic Framework	What is Unhealthy Housing?	What is the Extent of the Problem?	Why Does Our Work Matter?	What Does OLHCHH Do Now?	What More Can We Do?
---------------------	----------------------------	------------------------------------	---------------------------	--------------------------	----------------------

## Lead Regulatory Enforcement



- Enforces the **Lead Disclosure Rule** re sale or lease of pre-1978 housing
- Works with HUD program offices on **Lead Safe Housing Rule** compliance in pre-1978 HUD-assisted housing
- In 2017, enhanced preventive response in cases of children under age 6 with elevated blood lead levels in HUD-assisted housing
- OLHCHH's enforcement efforts have resulted in:
  - Over **188,000** made lead-safe
  - Almost **\$1.5 million** in penalties
  - In at least **20** states since **1999**

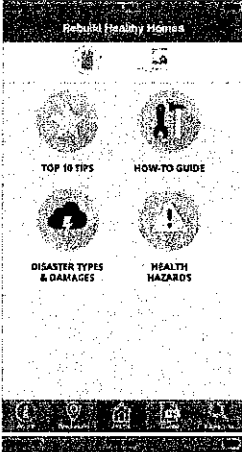
8

8

Strategic Framework	What is Unhealthy Housing?	What is the Extent of the Problem?	Why Does Our Work Matter?	What Does OLHCHH Do Now?	What More Can We Do?
---------------------	----------------------------	------------------------------------	---------------------------	--------------------------	----------------------

## Outreach

- **Disaster Recovery**
  - OLHCHH works with FEMA, EPA, HHS, OSHA, other offices within HUD, and nonfederal partners to integrate healthy homes principles into disaster recovery materials. OLHCHH's disaster recovery materials are at [www.hud.gov/program\\_offices/healthy\\_homes/disasterrecovery](http://www.hud.gov/program_offices/healthy_homes/disasterrecovery)
- **Rebuild Healthy Homes App**
  - OLHCHH's application Rebuild Healthy Homes is a how-to guide on safely re-entering your home after a disaster. It is available in iTunes and Google Play.



9

9

Strategic Framework	What is Unhealthy Housing?	What is the Extent of the Problem?	Why Does Our Work Matter?	What Does OLHCHH Do Now?	What More Can We Do?
---------------------	----------------------------	------------------------------------	---------------------------	--------------------------	----------------------

## Cross-Cutting Initiatives

- **Federal Lead Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts (Lead Action Plan)**
- **Smoke-free Public Housing**
- **Medicaid Reimbursements for Lead Poisoning Follow-Up and Home-Based Asthma Assessments**
- **Implementation of the Federal Radon Action Plan**
- **Participation on Federal and Interagency Workgroups**
- **CO Working Group**
- **REAC Inspections Improvement Working Group**

10

10

11

## Our Strategic Objectives

- Targeting lead hazard reduction to the highest risk homes and communities;
- Strengthening protections for children by implementing a faster response when a young child is exposed to lead-based paint hazards in their home, including lowering the Department's action threshold for lead in a child's blood; and
- Expanding research into improving the efficacy and cost effectiveness of lead-based paint hazard identification and control methods (and American Healthy Homes Survey II – Update of first survey to get nationally-representative estimates of LBP/LBP hazards, mold on interior surfaces).

11

12

## Our Strategic Objectives

- Work to increase the blood lead testing of Medicaid-enrolled 1 and 2-year old, and seek Medicaid reimbursement for state and local health departments to inspect older homes for lead-based paint;
- Building and expanding local workforce development for lead hazard control work;
- Holding assisted housing providers accountable for adhering to lead safety rules and enforce existing federal, state, and local laws and policies related to lead paint hazards;
- Establishing local partners with community organizations, local health agencies, faith-based organizations, and private philanthropy to raise awareness of the dangers of exposure to lead-based paint, including conducting local "Build a Lead Safe and Healthy Neighborhood" events around the country, and establishing public private partnerships (Lowe's, Home Depot, NLC)

12

## Lead poisoning and the fall of Rome

By **Lenny Bernstein**

Feb. 17, 2016 at 12:45 p.m. CST

How bad is lead for human health? The answer is not encouraging: The Centers for Disease Control and Prevention states flatly that no lead level is safe for children. As we've been reminded by the ongoing water crisis in Flint, Mich., lead can irreversibly harm brain development in children, causing learning disabilities, behavioral issues and other problems. At high levels, it can lead to kidney damage, seizures and even death.

But could lead poisoning bring down an entire empire? Some researchers have questioned whether it contributed to the fall of Rome.

Back in 1983, a Canadian research scientist, Jerome Nriagu, examined evidence of the diets of 30 Roman emperors and "usurpers" who reigned between 30 B.C. and 220 A.D. Nriagu concluded that 19 "had a predilection to the lead-tainted" food and wine popular then and probably suffered from lead poisoning, as well as a form of gout.

AD

We're not talking about small amounts of lead. To sweeten their wines and other foods, the Romans would boil down grapes into a variety of syrups, all of which had one thing in common, according to Nriagu's article in the *New England Journal of Medicine*: They were simmered slowly in lead pots or lead-lined copper kettles.

When the recipes were tested in modern days, they produced syrups with lead concentrations of 240 to 1000 milligrams per liter. "One teaspoon (5ml) of such syrup would have been more than enough to cause chronic lead poisoning," Nriagu wrote.

Given the gluttonous habits of Roman aristocrats, it would be no surprise if they showed the impact of lead in their diets, Nriagu believed. Here's how he described "the dull-witted and absent-minded Claudius," whom he considered most likely to have suffered lead poisoning: "He had disturbed speech, weak limbs, an ungainly gait, tremor, fits of excessive and inappropriate laughter and unseemly anger, and he often slobbered." However, the researcher admitted that the cause of these maladies was "a matter of longstanding debate."

AD

Indeed, his own lead-poisoning theory was quickly, even vehemently disputed. In 1984, for example, classicist John Scarborough authored "The Myth of Lead Poisoning Among the Romans: An Essay Review" and tore Nriagu's argument apart.

Scarborough wrote that Nriagu's basic premise couldn't be trusted because of sloppy work. He also concluded that the Romans were aware of the harm lead could cause, that lead poisoning wasn't endemic in their society and that Rome did not fall because of it.

In an interview Wednesday, Nriagu stood by his work. The professor emeritus of environmental health sciences at the University of Michigan said that "Scarborough knows nothing, absolutely nothing, about lead poisoning. Absolutely zero."

AD

Still others followed up on the question. Three decades after Nriagu's paper, a team of archaeologists and scientists examined how lead pipes contaminated ancient Roman "tap water." By measuring lead isotopes in the sediment of the Tiber River and Trajanic Harbor, they estimated that the piped water probably contained 100 times as much lead as local spring water.

Yet French researcher Hugo Delile and his team, reporting in the Proceedings of the National Academy of Sciences in 2014, concluded that such concentrations were "unlikely to have been truly harmful." The group also claimed that enough criticism of Nriagu's theory had been amassed over three decades to largely debunk it.

"Lead is no longer seen as the prime culprit of Rome's demise," Delile wrote.

### **Read more:**


[Flint water crisis victims face big obstacles in court](#)

[Hope -- and clean water -- remains elusive for the people of Flint](#)

[Flint water crisis reveals government failures at every level](#)

---

### **Lenny Bernstein**

Lenny Bernstein covers health and medicine. He started as an editor on The Washington Post's National desk in 2000 and has worked in Metro and Sports. Follow 

AD