A Guide to Healthy Homes

for Housing Professionals –

American Indian and Alaska Native Communities



- Covers the health-related hazards that can impact residents
- The Eight Principles of a Healthy Home



www.hud.gov/healthyhomes



Introduction

"Many tribal communities have a traditional understanding of inter-dependent ties with the land, and it can be said that when the environment (dwelling) is "sick," the people may become sick.

It is important to be aware of certain concerns when communicating with residents on the operation and maintenance of their home. Good housekeeping practices can alleviate many of the conditions associated with an "unhealthy home."

> --- National Tribal Air Association, in Letter to HUD's Office of Lead Hazard Control and Healthy Homes

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

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United States Department of Agriculture National Institute of Food and Agriculture







Helping American Indians and Alaska Natives Have Safe and Healthy Homes

This guide offers many ways that housing directors, home inspectors, maintenance workers, and others can ensure families have a safer and healthier home. The publication covers moisture related problems such as mold, combustion issues creating carbon monoxide poisoning, drinking water impurities such as lead, toxins like household chemicals and solvents, radioactivity presence from radon, and other difficulties that can degrade the residents' health and/or can degrade the dwelling itself.

It is important that housing professionals have a knowledge base to safeguard those especially susceptible to contaminants leading to later health problems especially developing children!



This guide's content was developed by the U.S. Department of Housing and Urban Development's Office of Lead Hazard Control and Healthy Homes (HUD/OLHCHH), in collaboration with the U.S. Department of Agriculture's National Institute of Food and Agriculture (USDA/NIFA); the U.S. Environmental Protection Agency (EPA); and the U.S. Department of Health and Human Services (HHS), including the Indian Health Service (IHS). Housing offices are sometimes small, with staff wearing many hats. To help, three other companion publications were developed for tribal leaders, family members, and medical and health workers. Please visit <u>www.hud.gov/healthyhomes</u>.

Housing professionals can reach out to HUD's Office of Native American Programs. ONAP administers six programs specifically targeted to Native American, Alaska Native, or Native Hawaiian individuals and families, and federally recognized tribal governments. A newsletter contains Federal News, Trainings, Funding Announcements for Tribes/Tribal Entities, a very extensive listing of resources, as well as federal partners, and Tribal News. The ONAP website is <u>www.hud.gov/codetalk</u>.

Who should use this guide?

- Tribal Environmental Professionals/Planners
- Architects and Builders
- ➤ Tribal Air Quality Staff
- Trainers
- Energy Efficiency & Weatherization Professionals
- Property Owners
- ► Home Inspectors
- General Contractors and Remodelers
- Housing Directors and Managers
- Building Maintenance Supervisors/Workers
- Housing Developers and Consultants
- ► Field Supervisors

Housing professionals can also learn from other companion publications for tribal leaders, family members, and medical and health workers. Please visit <u>www.hud.gov/healthyhomes</u>. These publications were developed for tribal leaders of American Indian and Alaska Native communities, and community health workers also serving Native Americans. There is an extensive resource section in all four publications.

A key reference is the <u>Healthy Homes Program Guidance Manual</u>, developed by HUD/OLHCHH and our partners. It is a "one-stop shopping" resource for building local programs. Although the manual takes a broad approach, housing professionals will find coverage of healthy homes rating systems, case studies, and other sections of substantial assistance.

What is a Healthy Home?

A healthy home is one that is maintained to avoid injuries and illnesses to occupants. Common indoor health concerns are lead hazard control, air quality, mold and moisture, pest management, and injury prevention. *The Eight Principles of a Healthy Home*, below, explain more about these and other hazards, and actions needed for prevention. Reduction of negative health impacts from improper ventilation and poor indoor air quality are especially serious concerns in many households. More information, including technical materials and scientific research, is available on <u>HUD's Healthy Homes website</u>.

Tribal traditions and cultures are diverse and unique. Indoor and outdoor health-related housing hazards can also vary significantly by region, due to differences in climate, weather events, sizes and types of homes, building materials, home construction techniques, and other factors. Housing professionals must also account for local issues, such as water quality and allergens. Finally, some hazards, such as outside wells and soil in yards and around foundations, are outside the home but can impact occupants' health greatly.

Historically, homes in Native American communities were more than physical shelter. The building materials, ground footprint and shapes vary drastically from the longhouses and wattle/daub in the Northeast, sod/log houses and Igloos in the Arctic, cliff dwellings and Hogans in Southwestern lands, plank houses in the Pacific Northwest and the Tipi of the Great Plains and Rockies regions. Climate, the surrounding animals, and nearby plants dictated the dwelling style and to what extent the people felt they were a part of the landscape.

The bond to the home and land was present with those in tipis covered by buffalo skins, building/blessing wood houses and those subsisting in rock formations. Thus, houses built in one region of tribes would have been impractical and uncomfortable physically (as well as in folkways) to inhabit in other regions.

Over time, there has been a significance to homes that goes beyond building materials science, mechanical diagnostics and engineering practicality. It is important to be aware of this when educating the residents on the operation and maintenance of their dwelling. There is a clear link "But going back to the traditional understanding of dependent ties with the land, it can be said that when the environment (dwelling) is 'sick', the people may be sick."



between housing and our personal health. Going back to the traditional understanding of dependent ties with the land, it can be said that when the indoor environment (dwelling) is sick, the residents may be sick.

Getting Started

Housing professionals have extremely busy jobs. Your staff, community, leadership, and residents look to you to address a myriad of housing issues. You have responsibilities for staffing, budgeting, and managing your housing programs. It may feel like there is not enough time in the day to address all that needs to be done.

So why add another task to your already busy agenda? Implementing a Healthy Homes initiative for your residents has multiple benefits to you and your residents:

A safe and healthy home results in:

- Healthy families
- A reduction of illnesses, such as asthma and allergies that can result from indoor air pollutants/pests.
- Fewer calls from tenants to address mold or major home repairs.

A practical approach to ensuring healthy homes for families is to begin with an overall home assessment (see Environmental History below) related to the family's vulnerabilities. The assessment is a very important first step to prevent diseases and injuries that result from housing related hazards.

The home assessment and intervention process begins the first time a housing professional talks with a resident (client). Referrals are made, or people call directly because of a perceived health concern. An example of a home assessment can be found at this website: <u>https://anthc.org/wp-content/</u> <u>uploads/2018/04/ANTHC-Healthy-Homes-Checklist.pdf</u>

Part of this conversation is to educate tribal residents about the *Eight Principles of a Healthy Home.* These fundamental concepts will help keep occupants focused on their dwellings so that there is less need for immediate maintenance.

The Eight Principles of a Healthy Home - The Cornerstone

HUD's Office of Lead Hazard Control and Healthy Homes defines <u>Eight Principles of a Healthy Home</u>. Briefly, they are:

Keep it dry:

Prevent water from entering the home through leaks in roofing systems, prevent rainwater from entering the home due to poor drainage,

and check interior plumbing for any leaking.

Keep it clean:

Control the source of dust and contaminants, creating smooth and cleanable surfaces, reducing clutter, and using effective wetcleaning methods.



Keep it safe:

Store poisons out of the reach of children and properly label. Secure loose rugs and keep children's play areas free from hard or sharp



surfaces. Install smoke and carbon monoxide detectors and keep fire extinguishers on hand.



Keep it well ventilated:

Ventilate bathrooms and kitchens and use wholehouse ventilation for supplying fresh air to reduce the concentration of contaminants in the home.



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Keep it pest-free:

All pests look for food, water, and shelter. Seal cracks and openings throughout the home; store food in pest-resistant containers. If needed, use sticky-traps and baits



in closed containers, along with least-toxic pesticides such as boric acid powder.

Keep it contaminant-free:

Reduce lead-related hazards in pre-1978 homes by fixing deteriorated paint and keeping floors and window areas clean



using a wet-cleaning approach. Test the home for radon, a naturally occurring dangerous gas that enters homes through soil, crawlspaces, and foundation cracks. Install a radon removal system if levels above the EPA action level are detected.



Keep it well maintained:

Inspect, clean, and repair the home routinely. Take care of minor repairs and problems before they become large repairs and problems.





Keep it thermally controlled:

Houses that do not maintain adequate temperatures may place the safety of residents at increased risk from exposure to extreme cold or heat.



In a nutshell, a healthy home assessment starts with taking an Environmental History with the residents which educates on these Principles. In this process, housing and other professionals systematically gather some basic but vital information about the client's home and behavior. There are common reported health concerns related to homes. Some symptoms may only be evident when the client is at home. Or, the client wakes up feeling bad, but is better after leaving the home.

Reported health concerns are often of two types:

Acute Symptoms:

Dry or burning mucous membranes in the nose, eyes, and throat; sneezing; stuffy or runny nose; fatigue or lethargy; headache; dizziness; nausea; irritability.

Chronic Symptoms

Allergies, asthma, neurological symptoms, lethargy, infections, cancer.

To learn if the occupants' health concerns could be related to housing, conducting an Environmental History is invaluable. The goal is to better understand more about client activities and site concerns:



- The clients' physical surroundings
- The type, age, and condition of the home they live in. This includes:
 - > The heating/cooling systems
 - > Where the client spends time
 - The client's routine activities for example, hobbies, chemicals used in and around the home, and occupation
 - > Potential hazards, identity risks, and/or exposure times

Take an Environmental History as Part of the Home Assessment Process

The environmental history will help to determine if a home assessment is appropriate, necessary, or whether there are alternatives. An environmental history documents home hazards and their effect on occupant health.

Other tools and techniques are available. Here is a simple and fast way to help your clients. *The Healthy Homes Do-It-Yourself Assessment Tool* walks users through each room and provides simple, low, and no-cost solutions to many common healthy housing problems. <u>https://healthyhomes.</u> <u>fcgov.com/</u>

Manufactured or Mobile Home Considerations

Manufactured/modular housing is common in many tribal communities. A portable or mobile home can be brought onto a family member's lot or in a trailer park. Mobile homes, tiny houses or campers in moderate climates may be long term dwellings for many Native Americans. Some healthy homes principles become particularly important for residents in these homes.



Challenges can arise in controlling how mobile homes are constructed. Ventilation and indoor air quality are some paramount considerations. Occupant education on operations and maintenance is crucial to the residents' well-being.

Once the home is delivered, it must be secured to the ground, and leveled on the foundation. This is recommended for a site of dry ground with proper gutters/drainage. If not level, or the ground is too moist, there could be stability troubles, as well as deterioration of the metal frame that is acting as the foundation.

Please keep in mind that the location will be important for shade from nearby vegetation, as insulation from cold and heat are not going to be plentiful in a pre-manufactured home. Also, clearance from trees or large bushes is important to not only avoid limbs possibly falling on the structure, but also to keep pests from having easy access.

Housing professionals should be aware that the operational costs of manufactured homes may be quite a bit more when compared to a traditional home. The U.S. Department of Energy did a study to determine the most cost– effective measures to assist with mobile homes in cold climates. DOE made five suggestions for your staff to retrofit the home after it is moved in place or even before:

- > Seal air leaks around any furnace ducts.
- Tune-up the furnace when first commissioning, and every year afterward.
- > Provide adequate ventilation.
- Add skirting around the trailer's bottom area. Most mobile homes also need a vapor barrier between the earth and trailer before skirting is assembled to keep moisture from the ground from rotting out home from underneath.
- Install interior film over the windows (or provide storm windows outside) during winter months.

Danger Spots Summary

Here are "top danger spots," often present or of major concern in many residences. More information about these and other individual hazards is found after the summary. Next, there are some suggested questions to ask of residents, or that they can ask themselves, about housekeeping habits, physical features of the home, and more.



Lead Poisoning:

Lead exposure can have a devastating effect on fetuses, newborns, toddlers, and young children below the ages of six and seven. Dust from lead paint is the biggest threat. It is critical for families to find out if their homes have lead in or around it. Lead piping and lead in pipe solder in a pre-1986 home can also greatly contribute to lead poisoning.

In line with the <u>CDC's recommendation</u>, HUD/OLHCHH recommends that children, especially children enrolled in Medicaid should be screened with a blood lead test at ages 12 months and 24 months old, or, if they have not previously been screened, within the 36 to 72 months old period. Of course, if a child has an elevated blood lead level, their healthcare provider will decide how much more frequently the child should be tested.



Volatile Organic Compounds (VOCs):

Many household products, such as paints, cleaners, and air fresheners release volatile organic compounds (VOCs) into the air. VOC levels can be ten to even 100 times higher indoors than outdoors. Residents exposed to VOCs may experience short-term health effects like headaches, nausea, or fatigue, or long-term health effects such as damage to liver, kidney, and central nervous system. For housing professionals and residents alike, more VOC information is at <u>www.epa.gov/indoor-air-quality-iaq/volatileorganic-compounds-impact-indoor-air-quality.</u>



Wood Smoke:

Smoke from wood burning contains a mixture of gases and particulate matter (PM) that can cause health problems, such as burning eyes, runny nose, and illnesses, such as bronchitis. The smoke contains several toxic air pollutants, including benzene, formaldehyde, acrolein and polycyclic aromatic hydrocarbons (PAHs).

www.hud.gov/healthyhomes

Wood smoke can affect everyone, but children, teenagers, older adults, people with lung disease (including asthma and COPD), and people with heart disease are the most vulnerable. Share this site with residents: www.

epa.gov/burnwise/wood-smoke-and-your-health.

Fire Safety:

A properly installed and maintained smoke alarm is one of the best and cheapest ways to be alerted to a fire, or incomplete burning in a fireplace or combustion appliance (such as a gas stove or water heater). It is also important to burn wood safely. If residents can afford one, a combination smoke, fire, and carbon monoxide detector is preferred. A unit should be installed in every room that has a fireplace or other combustion source, and outside of bedrooms. Residents can learn about safe wood burning practices at <u>https://www.epa.gov/burnwise/learn-you-burn-wood-whatyou-can-do</u>

Smoke:

Smoke from tobacco products can create residue that sticks on surfaces; this residue is commonly being referred to as thirdhand smoke. Thirdhand smoke can be hard to remove because it can withstand vacuuming and wiping. It can irritate the airways of people with allergies or asthma and may be associated with long-term health problems such as cancer. More information is available at https://www.healthychildren. org/English/health-issues/conditions/tobacco/Pages/How-Parents-Can-Prevent-Exposure-Thirdhand-Smoke.aspx

Sources of Often Overlooked Health Problems in Homes

- > Lead: Was the home built before 1986? 1978? 1950?
- > Radon: Was the home ever tested for radon?
- > Carbon Monoxide: Do residents have a carbon monoxide detector?

Sources of Often Ignored Health Problems

- **Environmental Tobacco Smoke:** Does anyone in the family smoke? Do they want help quitting?
- > Consumer Chemicals: What cleaning chemicals are being used? Where are they stored?

for Housing Professionals

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Protecting Against Lead Exposure

Housing professionals must be aware that for those homes built before 1978, the paint may have lead in it, which is very dangerous for young children. Flaking paint with lead can be picked off by children and ingested. However, sanding to remove it can also create a dust that, if left and not cleaned up, can cause lead to be absorbed through breathing.



Lead exposure can cause serious learning and behavior problems. It may also damage hearing and the nervous system, including the brain. Many older homes have lead-based paint or pipes that were made from lead (or solder for joints that had lead in it if plumbing was installed or the base-coat of paint was applied before the 1970's).

Housing professionals will want to ask questions of the residents about improvements they have made. Check tribal housing records and requisition orders if they are still available for original materials.

Checklist: Things to ask current residents if they have any layer of paint applied before the 1970's, are:

- > Are there any cracking, chipping or flaking paint areas?
- Are there any places on the window or door jams where paint is being rubbed down to the wood?
- If paint on the outside of the house was ever scraped off, do you know if the soil along the foundation was covered by plastic or drop cloths?
- > Have the water pipes been tested for lead?

Help residents by suggesting they keep down the lead dust when housekeeping, by wiping window sills and hard floors with soapy water and paper towels rather than using a vacuum. Create barriers to keep kids from chewing on window sills. And if residents ever repaint, suggest that they never dry-scrape areas or use a torch to heat up the paint. In fact, encourage residents to not remove lead paint on their own. It should be done by trained and certified workers.

If you locate lead pipes or lead solder joints that cannot be replaced, suggest that hot water never be used for drinking and cooking. And when it has been a couple of hours since using the cold water, let it run for a few minutes to clear any water from the pipes that has been sitting. Be sure to refer to the Office of Environmental Health to run tests for metals, nitrates, and coliform bacteria.



Additional help, for both the general-

public and professionals, is available by calling the National Lead Information Center. This toll-free telephone hotline is maintained by the US Environmental Protection Agency and HUD/OLHCHH, at 1-800-424-LEAD (5323). The phone number may also be reached by individuals who are deaf or hard of hearing, or who have speech disabilities, through the Telecommunications Relay Service at 711.

Improving Indoor Air Quality

Most people spend much of their time indoors. This means that Indoor Air Quality (IAQ) is one of the most critical issues facing many housing residents. Improving IAQ can result in significant health benefits to occupants, which can reduce medical costs and improve residents' quality of life.

Families can be exposed to air that, unnoticeably, is affected by mechanical operation, such as carbon monoxide from combustion of furnaces or boilers. Or family members may be breathing air that is radioactive from natural means such as radon. From a maintenance point of view, invisible, odorless, and tasteless health hazards must be detected by taking the extra time to bring testing equipment into the home, take samples and then decide whether the contamination level is high enough to have you, your crew, (or the homeowner) intervene and make timely adjustments.



Depending on the levels detected, as a housing professional, you may be able to advise the resident to simply tune their furnace or change how they ventilate the home. Or, you may need to share with the homeowner or your crew how to fix or replace a flue pipe.

At some point, a housing professional's job may include having to make recommendations or referrals to outside vendors coming in and replacing furnaces or putting in chimney flues and vents below the basement floor through to the top of the roof for radon gas evacuation. Without your help in discerning the quantity of these pollutants, residents may never know they are living with carbon monoxide's blood poisoning or radon's radioactive cancerous effects.

Checklist: Some basic questions you may ask residents concerning carbon monoxide are:





- Do some of the burners on the kitchen stove burn yellow or orange?
- Does smoke from the fireplace sometimes come back into the room?
- Are the vent pipes on the furnace, boiler, and water heater rusty or falling apart?
- Is there a gas water heater that does not have a vent?
- Is there rust, soot, or dirt on the furnace, boiler, or water heater?

Carbon monoxide (CO) alarms or detectors will go a long way to help protect families from sickness or death. If a family can afford one, a combination smoke detector and carbon monoxide detector is preferred. A detector should be installed in every room that has a fireplace or other combustion source, and outside of bedrooms. Detectors should be tested every six months, and after six years replaced. An effective alarm will make a loud noise when CO levels become too high or smoke is detected, and should have a battery backup (even if it is hardwired into a dedicated circuit on the breaker box). A CO monitor will show a reading of the actual parts per million concentration of carbon monoxide at any time. Be sure to suggest and/or supply models of alarms, detectors or monitors that have been approved by a respected laboratory, at the very least by the Underwriters Laboratory (UL). Carbon monoxide is lighter than air, so placement of the detector is important in the installation or use of a detector. The detector should be placed near or on the ceiling, if possible. Also, attached garages MUST have the entry door to the home



interior closed and door seals working properly to keep exhaust gases from entering

Overall, a housing specialist can learn a lot about hazards or potential hazards, just by asking a few simple questions of residents (below). The Room by Room checklist in this booklet can be used by professionals and residents alike.

Another option is the online Healthy Homes Do-It-Yourself Assessment (DIY) Tool at <u>https://healthyhomes.fcgov.com</u>. The DIY tool is patterned after the Healthy Homes in-home assessment and focuses on the "Eight Principles of a Healthy Home." This tool was created to help meet the health needs of the community and optimize staff time, by the City of Fort Collins, CO. The DIY tool allows for greater access to pivotal information related to enhancing the indoor air quality of homes, and helps the program scale up to potentially unlimited usage.

Interactive and customizable, the tool walks people through each area of their home, asking specific questions as it relates to indoor air quality problems, such as ventilation, mold, chemical contaminants, cleanliness, pests, home maintenance and safety.

Within each question, there is a picture of the problem, a description of the cause of the problem, the related health implications, and recommendations on how to resolve any issues. Based on the answers provided, the user is given an indoor air quality score and a complete, prioritized list of recommendations that are categorized by 'Act Now,' 'Act Soon,' and 'Be Aware.' The tool is user-friendly and is designed to work for all homes. Here's a helpful checklist of questions you may have them answer when first arriving or making contact. This is integral to the home assessment process.

- > Do some areas in the home smell damp or musty?
- > Have residents seen cockroaches in their home?
- > Do residents know how to safely use their fuel-burning appliances?
- > Do residents allow cigarette smoking in the home?
- > Do residents have furry pets in their home?
- Do residents read the label on household products and follow the directions for using them safely?
- Do residents open windows or turn on fans when doing hobbies or projects that make dust or odors?
- Do they choose furniture, carpet, and building products that are made with non-toxic chemicals and materials?
- Does the household seem stuffy or stale? Can you smell cooking odors the next day?
- > Do bathroom and kitchen have exhaust fans? When are they used?
- Is there a humidifier that is operating correctly?
- > Is there a drip pan under the refrigerator and hot water heater drain?

Overcoming the Potential Serious Health Impacts of Mold

Another significant issue for which housing professionals may likely be called to check out is mold, which grows in wet or damp places. Though mold is almost everywhere, it will not be healthy to live in a home where mold is growing. Many people can have allergic reactions to it.

Encourage residents to try to keep their homes and everything in it dry (less than 50% humidity). Mold, which often smells musty, needs moisture to grow. Some types of mold are toxic and encountering large amounts of mold may cause health problems.

From a maintenance perspective, though the resident may want you to test and then identify types of mold from a sample in their home, (www.epa.gov/mold/mold-testing-or-sampling) the EPA emphasizes that, in most cases, if visible mold growth is present, sampling is unnecessary.

Your concern should be to:

- 1. Limit the conditions that allow it to grow.
- 2. Kill what is there.
- 3. Fix plumbing leaks and other water problems as soon as possible. Dry all items completely.
- 4. Scrub mold off hard surfaces with detergent and water, and dry completely.
- 5. Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they become moldy. Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove completely.

You will want to find the source(s) of moisture allowing the mold to grow, whether it is leaky faucets, misdirected gutters and drains, a pipe that has a bad solder joint, vapor from inside the house, or other sources.

Fixing the leak is crucial, as reoccurring moisture will not only degrade the wood and drywall, but also continue to support mold growth. Mold can be cleaned using a dilute bleach solution or a mild detergent solution. If you use bleach, the U.S. Centers for Disease Control and Prevention recommends a solution of no more than 1 cup of common laundry bleach to 1 gallon of water. Staining left behind is inevitable and will not worsen the condition of the residence if the cleaning solution is well removed, and drywall/wood dried as well.

It is important to remember that the health effects of mold can be allergies and other sensitivities. However, most residents are not born with an allergy or sensitivity to mold but develop these responses after chronic exposure. Sensitization is common in the mold-impacted housing units, as the mold contamination is often present for years before it is treated.

Checklist: When inspecting a home for potential mold, look in the areas below:

- > In bathrooms, especially around the shower or tub, and on the walls, ceiling, or floor.
- ▶ In wet or damp basements and crawl spaces.
- > Around leaky bathroom and kitchen sinks.
- > In attics under leaking roofs.
- > On wet clothes that are not dried quickly.
- > On windows and walls where condensation collects.
- ► In closets.
- Under wallpaper or carpet.
- ► In air conditioners.



Dealing with Tobacco Smoke and Other Potential Hazards

Tobacco smoke, whether used for ceremonies or leisure, can cause severe problems for everyone, but especially those who already have breathing problems. Even for people who have had no prior lung problems, tobacco smoke is the leading cause of lung cancer (with radon gas being second). Most importantly, it can trigger asthma attacks. It is unsafe for children to be around people who smoke cigarettes or any kind of tobacco inside homes and vehicles. Second-hand smoke can also raise children's risk of ear infections and breathing problems.

Although people's smoking habits are not directly a housing issue, one suggestion is to advise residents not to smoke inside. Suggest that they build a sheltered all-season smoking area outside the home. This will keep the tars and pollutants of the smoke from clinging to the inside walls and residing in the carpeting.

Housing professionals should educate residents that vapors created in the home can be held in floor coverings, furniture and some even absorbed into the drywall. This is especially dangerous in homes where meth has been cooked and has let off vapors that get absorbed by the building materials. Cleaning meth impacted homes is very expensive and often leads to complex rehabilitation or demolition of the unit.

Another counsel you can give residents on building materials is that any time new carpet, vinyl floor covering, or furniture is about to be installed, they should unroll the new carpet outside. Place the new furniture without the packaging outside (if not raining or snowing) for a couple of days before bringing it into the home, due to chemicals that will off-gas. Be sure to thoroughly shake out items where snakes or pests could be hiding.

The housing professional's work may also involve helping residents who already have a pre-existing condition, like asthma (a lung disease). Though you cannot do anything about the disease itself, your expertise can help to limit the irritants in the home (which jumpstart the symptoms of the disease). A good example of asthma control in homes can be found at: <u>www.maine.gov/dhhs/mecdc/public-health-systems/</u> <u>tribal/documents/2011-fall-intertribal-health-newsletter.pdf</u>

Unfortunately, even beloved family pets cause problems for some residents, as they can make asthma and allergies act up, especially if kept



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in sleeping areas.

Remind residents that sanding, painting, or using solvent chemicals (like varnish or paint strippers), may result in dust or harmful volatile organic compounds that can trigger lung symptoms.

Consider counseling residents to make sure their gas appliances and fireplace, furnace, or wood-burning stoves have yearly checkups to keep down soot (and protect from the dangers of carbon monoxide). Encourage residents to check the filter in their furnace and air conditioner about 4 times a year, more often if residents have pets. Suggest buying filters that cost a little more than the most economical ones. And, encourage residents to check out HEPA filter systems, as these filters will clean air more efficiently.

The Tribal Healthy Homes Network recently published a **Renter's Healthy Home calendar** that includes checklists and reminders for keeping their home safe and healthy. A copy can be found here: <u>http://</u> <u>thhnw.org/</u>



Protecting Against Chemical and Pesticides Hazards

Assessing, and then securing the home from pests coming in is one key way to reduce the hazard. For example, cockroach and dust mite droppings can cause asthma attacks. And while residents or housing professionals might immediately think of applying pesticides to help kill these pests, the chemicals themselves can be dangerous to inhale, especially for children. The chemicals may get on them as they navigate floors where the overspray falls. Suggest ways to adapt or fortify the structure to keep pests out or advise the residents on various traps and how and where to set them.

Bleach, rat poison, mothballs, charcoal lighter fluid, oven cleaner, batteries, mercury thermometers, gas, oil, wood polish, toilet and drain cleaners, shoe polish, and bug spray can all be helpful to homeowners. Some may help to keep the home and yard safe from harmful pests where only one sting may kill due to severe allergic reactions. Yet these chemicals and pesticides can also be toxins or dangerous when stored in the home especially if children have access to them. **Household products like these are very dangerous for children!**









Though safe to use when applied by the directions, residents can run into trouble by using too much of a product or by mixing two products together. Tools known to be safe for use in place of chemicals are plungers to unclog sinks, baking soda for scrubbing or vinegar for cutting grease. Housing professionals should have safe disposal phone numbers and websites handy; residents will likely ask for them. Check with your tribal or local health department to see if there is a collection point for chemicals and pharmaceutical drugs, so that residents don't end up pouring them down the toilet or sink drain for disposal. Mixing chemicals and substances can cause major problems.

Pesticides like bug spray, pet flea collars, rat poison, and garden weed killer can prevent and kill pests. Yet, pesticides can pose a real danger to people and pets if not used in the right way. Some may cause poisoning, birth defects, nerve damage, and even cancer. They can make allergies or asthma worse. Breathing fumes or dust from pesticide powders and sprays can be harmful. The biggest danger is poisoning. Thus, if while you are working in a home with residents and see pesticides being accessible, make similar suggestions as you would with other household cleaning chemicals for storage to keep them from children.

Tackling Other Home Safety Concerns

Though housing professionals are most likely concerned with the structure of the home, safety in the home, to an extent, is dependent on how the residents furnish the home and how they live in it. One safety practice you should encourage residents to enact is placing a smoke or combination smoke/carbon monoxide alarm on every floor and in every sleeping area. Keeping safety devices and safe storage places for matches, lighters, stoves, or heaters is a good reminder for residents. Have information for families to practice fire escape routes (especially with lights that turn on when the power goes out).



Problems with pests are largely contained not only by pesticides but also "housekeeping" practices. Fleas can be kept at bay by washing bedding often, shampooing pets, and vacuuming floors. Encouraging residents to cover their garbage cans tightly and to get rid of stacks of newspaper, papers, bags, and cardboard boxes helps to keep the residents' homes from becoming homes for pests.

When investigating a home, have staff keep an eye out for breaks in the building materials and fill any cracks and crevices where pests can get in. Bags and boxes should be checked for roaches before bringing them inside from a disconnected garage or shed.

Falls kill more people than any other type of accident beside car crashes, and most happen at home. Most people trip and fall at floor level, not going up or down stairs. Floors, especially hallways and stairs, should be free of things that might make people slip or trip and ought to have handrails on the walls when possible.

Throw rugs that are not tacked down are always a tripping hazard as are hallways and stairs without proper lighting. If there are rugs in the household, encourage the use of nonskid matted throw rugs. **Cords for window coverings can be very dangerous for children and pets, especially the very young**, due to the potential for strangulation. Encourage cordless windows coverings in homes with young children.

Special Concern – Helping Elders

A difference in design or remodeling that can especially help elders is to build stairs with twelve-inch runners, six-inch risers and no bullnose. Tighter muscles, and inflamed joints often cause a lack of flexibility, and make it more difficult for elders to lift their legs. In addition, providing stable grab bars attached directly to studs is very useful near the toilet and in the tub/shower. Outside, check for loose or broken handrails, stairs or decking. If renting, report any problems to property managers.

If they are living in homes without effective heating or cooling, consider finding temporary shelter for elderly or ill family members during extended periods of hot or cold indoor temperatures.

Lower thresholds in doorjambs and sweeps attached to the interior side of the exterior doors are easy to put in and help wheelchair occupants. Pocket doors are also helpful and increase mobility with those using walkers and/or wheel chairs. Inset lighting helps to reduce glare and direct light where needed which usually is at the entry way, over the kitchen sink and above the bathroom mirror.







Helping to Ensure Safe Drinking Water

The water in most U.S homes comes from a public water supply. Even public water can still become unhealthy if the home has lead or copper water pipes or faucets, or the pipe solder contains lead. Testing tap water annually for nitrates is important before giving it to babies and children. Every year, water companies are required to give their water test results to customers. Families and housing professionals can call the water company to ask what chemicals are in the water and also ask how they treat it to make it safe.

About a quarter of Americans have private water supplies mostly from wells on their property. Housing professionals should recommend that homeowners and residents have well water tested every year by a state certified laboratory. Families can go online or call a local or state health department or Cooperative Extension Service to find out what tests are needed.





Protecting Against Asbestos

A sbestos, like lead, was banned from being installed in homes and buildings in the 1970's but may be still present in older homes. It is especially crucial that asbestos not be inhaled or disturbed.

Asbestos can cause very serious long-term health problems such as lung disease and cancer. Common uses in the past were to insulate pipes and attics. It also could be used in or around floor tiles, sheet vinyl flooring, cement shingles or roofing, plaster and joint compounds, and gaskets. Since asbestos fibers are very light and easily carried through the air, they can be inhaled without a person realizing it. The asbestos remains in the lungs. Smokers have a higher risk from asbestos exposure. Removal should be done by a licensed professional. Asbestos-containing materials that are not damaged or disturbed are not likely to pose a health risk. Advise residents that, usually, the best thing is to leave it alone if it is in good condition, and to keep activities in any areas having damaged material that may contain asbestos to a minimum. For example, advise them not to saw, sand, scrape, dust, sweep, drill holes in, or vacuum debris from materials that may contain asbestos. Refer them to www.epa.gov/asbestos

When A Natural Disaster Occurs

A home damaged by natural disasters, such as floods, is likely to pose serious health risks. A common problem is mold. Polluted water and many other possible unsafe conditions will likely be present. Such damaged homes are dangerous. Improper restoration methods can worsen, or even cause, some hazards.

Wildfires can cause severe indoor air quality problems. A good example of health tips for dealing with wildfire smoke can be found at this website: www.cct-enr.com/smoke

HUD's Rebuild Healthy Homes Guide to Post-Disaster Restoration for a Safe and Healthy Home app covers restoration "A-Z" in plain language. Anyone doing rebuilding after winter storms, hurricanes, earthquakes, hail, droughts, even mudslides should consult this reference. Clean up must be done according to the techniques described in the smartphone app: https://apps.apple.com/us/app/rebuild-healthy-homes/id980660616?mt=8. The publication can be found at: https://www.hud.gov/sites/documents/ HH_REBUILD_2015_DR.PDF

Incorporating and Implementing Tribal Green Building Codes for Tribal Housing

Building codes can help prevent environmental health problems for all tribal residents, especially the most vulnerable members of the community: children, pregnant women, elders and those with pre-existing health conditions.

Tribes have shown strong interest in developing healthy, green affordable housing, and in many tribal communities, there is a great need for such housing. The U.S. Environmental Protection Agency has created the *Tribal Green Buildings Toolkit* www.epa.gov/green-building-tools-tribes/ tribal-green-building-toolkit to support a tribe's decision-making process in determining whether to adopt, adapt or develop green building codes. Housing professionals can become key members throughout the process in updating, adapting, or adopting green building codes. For example, housing professionals can help research what building codes, standards, or guidelines are being used by nearby tribes, local and state government, and registered architects and engineers.



Some potential benefits include:

- Reduction of asthma, cancer, and other illnesses.
- Prevention of radon in buildings: a cancer-causing, radioactive gas.
- Restriction of the use of toxic building materials.
- Prevention of mold that can lead to poor air quality and poor health.

This publication comprehensively covers the organizational process of green building codes, respectful of tribes' unique sovereignties and traditions. The core is an assessment tool to guide adoption, adaption or creation of codes. A highly valuable and practical component is the set of more than 25 different case studies of green building on reservations of varying sizes, land differences, number of dwellings, budgets, and much more. Strategies for establishing green standards for manufactured housing are suggested.

Summary

Whether for babies and young children, teenagers, or for the elders who most often want to stay in their generational homes, housing and other professionals can improve the quality of life for all tribal residents. As a housing professional, you perform vital roles in providing, connecting with, and/or implementing healthy homes assessments, information, repairs and referrals for families.

As a housing professional, you can enhance residents' awareness of how the home environment can affect their health and guide them to make their homes healthier. Home assessments are a form of risk assessment. Work with residents to determine and establish the scope of the home assessment and include these steps. The following Path and Room by Room Checklist highlights the home assessment process.

Putting Tribal Members on the Path to a Healthy Home

Step 1 Hazard Identification

- > You make initial contact and gather information about your client's home and behaviors.
- > Learn about health/environmental history as appropriate.
- > Establish a clear purpose for the assessment.
- Alternatively, with the Fort Collins DIY Home Assessment (<u>https://healthyhomes.fcgov.com/</u>). tool, almost any resident can learn about common potential hazards and solutions.

Step 2 Exposure Assessment and Risk Criteria

- > You conduct the household site visit and walk through. This is the opportunity to discuss the purpose of the site visit and goals, with residents.
- > Develop qualitative and quantitative assessment is a basic, intermediate or advanced assessment needed?
- Risk criteria for assessing can be either health, environment based, or both.
- Encourage and facilitate a cleaning plan for families, based on an overall assessment related to their vulnerabilities.
- Look for and educate residents on keeping the home dry and well ventilated; which will involve counseling and referrals.
- Generate assessment report with actions needed.

Step 3 Other Potential Follow Ups

- Consider ways of including healthy homes practices and green building into tribal housing programs.
- > Conduct staff training from maintenance perspective. Continue to educate for solutions.
- Reach out to other professionals to integrate healthy home principles into housing.

Room by Room Checklist for a Healthy Home

This checklist is a great way to learn more about health related hazards in homes. For housing professionals, it can be used to establish a healthy homes assessment protocol with the families you serve. For more information on this material and recommended actions please visit <u>www.hud.gov/</u><u>healthyhomes</u> or download the Healthy Homes Basics App to have as a resource at your fingertips whenever you are ready.

1. Living, Dining, and Family Rooms

- If the home was built before 1978, check painted doors, windows, trim, and walls for lead (find a lead risk assessor through <u>www. epa.gov/lead</u>).
- Vacuum carpets regularly to reduce asthma triggers.
- Replace corded blinds with un-corded (pole) blinds, or move window 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.
- Discard children's toys that have small parts for choking or contain lead.
- Secure heavy items (televisions, bookcases) to walls to prevent tip overs.
- If the living room has a fireplace, make sure it has a working smoke-alarm - carbon monoxide detector.

2. Kitchen

- □ If the 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 at least weekly.
- Place Poison Control Hotline number (800)
 222–1222 on the refrigerator and in every room (TTY 711).
- Do not allow children to be in the kitchen unsupervised when the range or oven is on.

3. Bedroom(s)

- If the home was built before 1978, check painted doors, windows, trim, and walls for lead.
- Replace corded blinds with un-corded (pole) blinds, or move window blind cords out of reach of children to prevent strangulation.
- Make sure room has a working smoke detector.
- Make sure the hall outside of bedrooms has a working carbon monoxide detector.
- If a bedroom has a fireplace, make sure it has a working smoke-alarm - 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 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 the 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.
- Remove lint from dryer screen before each load.

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 Crawlspace)

- If the home was built before 1978, check painted doors, windows, trim, and walls for 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 action levels, implement a radon mitigation strategy.
- □ 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.
- Keep gasoline, pesticides, and cleaning supplies out of reach of children.
- Clean up oil, gasoline, and other spills immediately. Hardware stores sell products that can absorb the spill safely.
- □ If a floor drain is present, make sure it drains to well beyond the outside of the home.

10. Outside

If the home was built before 1978, check painted doors, windows, trim, and walls for lead.

- If painted walls, doors, windows, or trim may 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 the home was built before 1978, check hardboard siding for asbestos.
- □ Make sure private wells are sealed and capped.
- Consider testing well water 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.
- 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 the home was built before 1978, use leadsafe work practices for all renovation and repairs and test children in the home for lead exposure.
- Check piping connecting the home to the water main and the piping in the 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. If the

piping connecting the home to the water main is lead, replace it.

- □ No smoking inside the 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 there is 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 higher filter 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 childproof 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.
- Keep all hazardous products and chemicals in locked cabinets away from children.

Important Resources

This is a selection of a wide range of organizations, websites, and educational materials, that expand upon this publication. Housing professionals may want to visit OLHCHH's website at https://www.hud.gov/program_offices/healthy_homes/Tribal_Healthy_Homes to view some unique tribal healthy homes digital stories. These relate directly to the health of Native Americans. Each story describes the importance of traditional Native American housing.

Overview:

The Healthy Homes Program Guidance Manual (July 2012): This comprehensive manual (260 pages) was developed by HUD/ OLHCHH and many select partners and offers guidance and tools to help users establish or improve healthy homes/housing programs. It provides a broad range of practical information that will be of interest to organizations, programs, and individuals concerned about the need for healthy housing. The content takes into account that no "one size fits all" in designing healthy homes programs at the local level. <u>https://www.hud.gov/sites/documents/</u> HHPGM FINAL CH1.PDF.

Tribal Green Building Toolkit (2015)

This publication (160 pages) is designed to help tribal officials, planners, architects, builders, housing developers, community members, and others develop and/or adapt building codes to support green building concepts and practices. Tribes with and without building codes can utilize the toolkit. The toolkit was created by the U.S. Environmental Protection Agency, with extensive involvement and contributions of Native Americans. The implementation of "green building" offers a significant opportunity to revitalize sustainable cultural practices, by integrating with tribal traditions and values. Tribes can help maintain natural resources that historically sustained them, through these green building codes. This product can be downloaded at: <u>https://www.epa.gov/green-building-tools-tribes/tribal-green-building-toolkit</u>

HUD/OLHCHH Hazard-Specific Factsheets:

- Asbestos: <u>https://www.cancer.gov/about-</u> <u>cancer/causes-prevention/risk/substances/</u> <u>asbestos/asbestos-fact-sheet</u>
- Asthma: <u>https://www.hud.gov/program_offices/healthy_homes/healthyhomes/asthma</u>
- Allergy: <u>https://www.hud.gov/program_offices/healthy_homes/healthyhomes/allergies</u>
- Home Safety: <u>https://www.hud.gov/</u> program_offices/healthy_homes/ healthyhomes/homesafety
- Mold: <u>https://www.hud.gov/program_offices/</u> <u>healthy_homes/healthyhomes/mold</u>
- Lead: <u>https://www.hud.gov/program_offices/</u> <u>healthy_homes/healthyhomes/lead</u>

- Radon: <u>https://www.hud.gov/program</u> offices/healthy homes/healthyhomes/radon
- Carbon Monoxide: <u>https://www.hud.</u> <u>gov/program_offices/healthy_homes/</u> <u>healthyhomes/carbonmonoxide</u>

Interactive Healthy Homes Apps

- Healthy Homes Basics App: This HUD/ USDA product is for the general public. It introduces users, in clear terms, to healthy homes concepts. Content also covers many ways to have a healthy home. Download the app at <u>https://apps.apple.com/us/app/ healthy-homes-basics/id1092367352</u>.
- Healthy Homes Youth App: This HUD/USDA product is for middle schoolers and helps them learn about healthy homes. Available at <u>https://itunes.apple.com/us/app/healthyhomes-youth/id1434450117?mt=8</u>.
- Healthy Homes Do-It-Yourself Assessment Tool: The Healthy Homes Do-It-Yourself Assessment Tool walks users through each room and provides a simple, low, and nocost solution to many common healthy housing problems. <u>https://healthyhomes. fcgov.com/</u>.
- Healthy Homes Partners App: This HUD/ USDA product is for stakeholders. It is non technical but goes beyond the above consumer version. <u>https://itunes.apple.</u> <u>com/us/app/healthy-homes-partners/</u> <u>id1244368357?mt=8</u>.

Key Hotlines

All the phone numbers below may also be reached by people who are deaf or hard of hearing, or who have speech disabilities, by teletype at 711.

- > Poison Control Centers, (800) 222-1222
- HUD and EPA National Lead Information Center, 1-800-424-LEAD, (800) 424-5323
- EPA Safe Drinking Water Hotline, (800) 426-4791
- National Pesticide Information Center, (800) 858-7378
- FDA, Food Safety Information Service Hotline, (888) SAFE-FOOD, (888) 723-33663
- Centers for Disease Control and Prevention (cigarette smoking), 1-800-QUIT-NOW, or (800) 7848-669
- National Radon Information, (800) SOS-RADON, (800) 767-7236
- Window Covering Safety Council, (800) 506-4636

General Safe and Healthy Homes Information Sources (for both the public and professionals)

- Indian Health Service, <u>www.ihs.gov/</u>
- IHS' local Urban Indian Health Program, www.ihs.gov/urban/nationalprograms/
- Tribal Healthy Homes Network, <u>http://thhnw.org/</u>

- Institute for Tribal Environmental Professionals, www7.nau.edu/itep/main/Home/.
- Tribal Public and Environmental Health Think Tank, <u>https://www.apha.org/topics-and-issues/environmental-health/partners/think-tank</u>.
- Tribal Epidemiology Centers, <u>https://tribalepicenters.org/</u>.
- Indian Health Service, <u>https://www.ihs.gov/dehs/.</u>
- Local or state health department
- U.S. Department of Housing and Urban Development, <u>www.hud.gov</u>.
 - Office of Lead Hazard Control and Healthy Homes, <u>https://www.hud.gov/healthyhomes.</u>
 - Office of Native American Programs, <u>www.hud.gov/codetalk</u>.
- U.S. Department of Agriculture, National Institute of Food and Agriculture, <u>https://nifa.usda.gov/</u>.
 - Cooperative Extension Service for Healthy Homes Extension educators, <u>https://nifa.usda.gov/extension</u> or <u>https://impact.extension.org/</u>.
 - National Healthy Homes Partnership, <u>https://extensionhealthyhomes.org/</u>
- U.S. Environmental Protection Agency, <u>www.epa.gov</u>.
- U.S. Centers for Disease Control and Prevention, <u>www.cdc.gov</u>, (800) 232-4636

- U.S. Consumer Product Safety Commission, www.cpsc.gov, (800) 638-2772
- U.S. Department of Energy, www.energy.gov.
- National Center for Healthy Housing, <u>https://nchh.org/</u>
- Children's Environmental Health Partnership, <u>https://cehn.org/</u>.
- National Safety Council, <u>https://www.nsc.org/</u>.
- Pediatric Environmental Health Specialty Units, <u>https://www.pehsu.net/</u>.

National Tribal Air Association, https://www.ntaatribalair.org/indoor-airquality/

Lead

There is no safe level of lead in blood. Even low levels of lead can affect a child's IQ, ability to pay attention, and academic achievement. A blood lead level of 3.5 micrograms per deciliter or greater identifies a child who has been highly exposed to lead. Lead can be found in various places. The *Protect Your Family from Lead* (from HUD, EPA, and the CPSC) booklet has tips to help you protect your family from exposure to lead: https://www.epa.gov/lead/protect-yourfamily-lead-your-home.

The U.S. Food and Drug Administration (FDA) and Consumer Product Safety Commission (CPSC) issue recall alerts when unsafe levels of lead are detected in food items, children's toys, or other products. More information is available on the FDA recalls (<u>https://www.fda.gov/safety/recalls-</u> <u>market-withdrawals-safety-alerts</u>) and CPSC recalls (<u>https://www.cpsc.gov/recalls</u>) online. **Healthy Homes Principles:** The Healthy Homes Principles serve as a guide for addressing many of the topics discussed in this booklet. The *Everyone Deserves a Safe and Healthy Home* guides summarize the Healthy Homes Principles and have room-by-room checklists:

 For a quick but thorough overview of healthy homes, <u>Everyone</u> <u>Deserves a Safe and Healthy Home: A Consumer Action</u> <u>Guide</u> (weblink at <u>https://www.hud.gov/sites/documents/</u> <u>SAFEANDHEALTHYHOME.PDF</u>) is a 12-page booklet written for the general public. It outlines the eight principles of healthy housing and provides a useful overview of key healthy homes issues, including lead-based paint, asthma and allergies, mold and moisture, radon, household chemicals, pests, carbon monoxide, home safety, asbestos, home temperature control, and indoor air quality.

For each hazard, this publication provides critical action steps. It also includes a room-by-room checklist. Housing Professionals can use this guide to educate themselves and their clients. For those who prefer an online resource, the <u>Healthy Homes Basics App</u> (weblink at <u>https://apps.apple.com/us/app/healthy-homes-basics/id1092367352</u>) teaches the same information in an interactive format and provides quizzes to reinforce key messages.

- For a more in-depth view, *Everyone Deserves a Safe and Healthy Home: A Stakeholder Guide* (weblink at https://www.hud.gov/sites/ documents/STAKEHOLDER_EDSHH.PDF) is a 40-page guide that provides additional detail on each of the hazards described in the Consumer Action Guide. It is written for stakeholders, such as housing counseling agencies, that assist people in maintaining and improving their safety and health. This guide also has a companion app, the *Healthy Homes Partners app*, (weblink at https://apps.apple. com/us/app/healthy-homes-partners/id1244368357) which includes the same information as the guide and a room-by-room checklist.
- The *Protect Yourself from Lead in Your Home* (weblink at https:// www.epa.gov/lead/protect-your-family-lead-your-home) pamphlet was created specifically to educate homebuyers and renters about lead-based paint and the protections provided by federal law. It is available in several languages, and it walks through the key things a homebuyer or renter must know about lead-based paint, the rules that protect consumers from lead-based paint, and the measures people can take to protect themselves from lead exposure.

- HUD and EPA National Lead Information Center, (800) 424-LEAD, (800) 424-5323
- U.S. Environmental Protection Agency, <u>https://www.epa.gov/lead</u>.
- U.S. Centers for Disease Control and Prevention, <u>https://www.cdc.gov/nceh/lead/</u>.

Asthma and Allergies:

- American Lung Association, <u>https://www.</u> <u>lung.org/</u> (800) LUNG-USA
- American Cleaning Institute, <u>https://www.</u> <u>cleaninginstitute.org/</u> (202) 347-2900
- Allergy and Asthma Network, <u>https://www.</u> <u>allergyasthmanetwork.org/</u> (800) 878-4403
- U.S. Environmental Protection Agency, <u>https://www.epa.gov/asthma</u>.

Indoor Air Quality

Volatile Organic Compounds (VOC):

Learn how to reduce exposure to VOCs at <u>https://www.epa.gov/indoor-air-quality-iaq/</u> <u>volatile-organic-compounds-impact-indoorair-quality.</u>

Wood Smoke:

- Learn more about the health effects of wood smoke at <u>https://www.epa.gov/burnwise/</u> wood-smoke-and-your-health.
- Learn how to protect your family at <u>https://www.epa.gov/burnwise/learn-you-burn-wood-what-you-can-do</u>.

Fire Place Safety:

Learn about safe wood-burning practices at <u>https://www.epa.gov/burnwise/best-wood-</u> <u>burning-practices#safe</u>.

Third hand Smoke:

The California Department of Public Health (CDPH) states that all tobacco products such as cigarettes, e-cigarettes, hookah, and even smokeless tobacco can contribute to this harmful residue. More information is available at

- California Department of Public Health, https://www.cdph.ca.gov/Programs/CCDPHP/ DCDIC/CTCB/CDPH%20Document%20 Library/Community/EducationalMaterials/ ThirdhandSmokeFactSheet.pdf.
- American Academy of Pediatrics, <u>https://www.healthychildren.org/English/health-issues/conditions/tobacco/Pages/How-Parents-Can-Prevent-Exposure-Thirdhand-Smoke.aspx.</u>

Scented Products:

Some people may feel discomfort around scented personal care products and household products with fragrance. Also, some of these products, such as air fresheners, may contain VOCs. Consider using unscented products when possible.

Vacuuming:

On carpets, using a vacuum cleaner that has a high-efficiency particulate air (HEPA) filter will help control the very fine dust and particles.

Mold and Moisture:

- U.S. Environmental Protection Agency, <u>https://www.epa.gov/mold</u>.
- U.S. Centers for Disease Control and Prevention, <u>https://www.cdc.gov/mold/</u>.

Carbon Monoxide:

Additional information is available online from the CDC (<u>https://www.cdc.gov/co/</u>) and EPA (<u>https://www.epa.gov/indoor-air-quality-iaq/</u> <u>carbon-monoxides-impact-indoor-air-quality</u>).

Another important tip is to never use a portable generator indoors; they should only be used outside. The **Consumer Product Safety Commission** has additional information on using portable generators at: <u>https://www.cpsc.</u> gov/safety-education/safety-guides/carbonmonoxide/portable-generator-related-carbonmonoxide-deaths.

Radon:

- U.S. Environmental Protection Agency, <u>https://www.epa.gov/radon</u>
- State radon contacts, <u>https://www.epa.gov/</u> radon/find-information-about-local-radonzones-and-state-contact-information
- National Radon Program Services (KSU), <u>https://sosradon.org/</u>, (800) 767-7236

Drinking Water:

If you have questions or concerns about your drinking water, call the EPA Safe Drinking Water Hotline at 1-800-426-4791 or visit <u>https://www.epa.gov/ground-water-and-drinking-water</u>.

Information about protecting private drinking water wells is available at <u>https://www.epa.gov/</u> <u>privatewells</u>.

- U.S. Environmental Protection Agency, <u>https://www.epa.gov/ground-water-and-</u> <u>drinking-water/basic-information-about-your-</u> <u>drinking-water</u> (800) 426-4791
- Centers for Disease Control and Prevention, https://www.cdc.gov/healthywater/drinking/

Household Chemicals:

- U.S. Environmental Protection Agency, <u>https://www.epa.gov/pesticides</u> and <u>https://www.epa.gov/saferchoice</u>
- > Poison Control Centers, (800) 222-1222
- Household Products Database, <u>https://hpd.</u> <u>nlm.nih.gov/</u>

Pests:

U.S. Environmental Protection Agency, <u>https://www.epa.gov/bedbugs</u> and <u>https://www.epa.gov/pesticides</u>

Integrated Pest Management (IPM):

Traditional pest control involves the routine application of pesticides. In contrast, IPM focuses on pest prevention and uses pesticides only as needed. This provides a long-term, cost-effective and environmentally sensitive pest control. More information on IPM and safe pest control is available at https://www.epa.gov/safepestcontrol/ do-you-really-need-use-pesticide. Stop Pests in Housing (www.StopPests.org) provides resources on ways to deal with pests that avoid or reduce exposure to pesticides. EPA's *Citizen's Guide to Pest Control and Pesticide Safety* is available at <u>https://</u> <u>www.epa.gov/safepestcontrol/citizens-guide-pest-</u> <u>control-and-pesticide-safety</u>.

Home Safety:

- > Poison Control Centers, (800) 222-1222
- National SAFE KIDS Campaign, <u>https://www.safekids.org/</u>, (202) 662-0600
- National Safety Council, <u>https://www.nsc.</u> org/, (800) 621-7615

Temperature Control:

- U.S. Department of Energy, <u>https://www.energy.gov/energysaver/energy-saver</u>
- Energy Information Administration, <u>https://www.eia.gov/</u>
- U.S. Environmental Protection Agency Indoor Air Plus, <u>https://www.epa.gov/</u> indoorairplus
- Mercury cleanup and disposal, <u>https://</u> www.epa.gov/cfl/cleaning-broken-cfl
- Energy Star, <u>https://www.energystar.gov/</u>

Residential Energy Services Network, <u>http://www.resnet.us/</u>

Cigarette Smoking:

- Centers for Disease Control and Prevention smoking cessation, 1-800 QUIT-NOW
- American Lung Association, <u>https://www.</u> <u>lung.org/</u>, (800) LUNGUSA

E-Cigarettes:

Using e-cigarettes can harm your health and can expose children and others to harmful secondhand and thirdhand smoke. More information about e-cigarettes is available at the links below.

- U.S. Surgeon General, <u>https://e-cigarettes.</u> <u>surgeongeneral.gov/</u>
- Centers for Disease Control and Prevention (CDC), <u>https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm</u>
- California Department of Public Health, <u>https://www.cdph.ca.gov/</u> <u>Programs/CCDPHP/DCDIC/CTCB/Pages/</u> <u>CaliforniaTobaccoControlBranch.aspx</u>

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