

A Guide to Healthy Homes

for Leaders and Decisionmakers —

American Indian and Alaska Native Communities



- The Eight Principles of a Healthy Home
- Important Steps for Healthy Homes In Your Communities



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

April 2020



Helping American Indians and Alaska Natives Have Safe and Healthy Homes

Families spend 90% of their time indoors and 50% of their time in their homes. If the home has indoor air quality-related problems, such as mold, radon, dust or dander, children are more likely to suffer from allergies, asthma, or other serious health issues.

Content of this publication 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 housing professionals, family members, and medical and health workers. The OLHCHH website of https://www.hud.gov/program_offices/healthy_homes/Tribal_Healthy_Homes has two digital stories that relate directly to the health of Native Americans and their homes. The script and video images were provided for the most part, by the Fort Peck

Tribe in Montana. A tribal elder was invited to provide the narration. See Appendix for more information about the Tribal Healthy Homes Program, maintained by the Montana State University Extension 2009–2012.

Tribal officials, educators, and others are focused on the health, safety and well-being of their communities, in a way that looks forward to future generations. This Guide will help tribal leaders and decisionmakers gain a deeper understanding of potential hazards inside Native American homes.

Tribal leaders will need to collaborate with a range of stakeholders to implement and sustain healthy housing. The *Healthy Homes Program Guidance Manual*, developed by HUD/OLHCHH and partners, https://www.hud.gov/sites/documents/HHPGM_FINAL_CH1.PDF can also help tribal decisionmakers. It covers healthy homes rating systems, budget prioritizing, and staffing, as well as program implementation and sustainability. Despite tribes' early and long history of sustainable building practices,



modern tribal buildings often do not incorporate many green building practices. Utilizing green building codes can be an opportunity to revitalize sustainable cultural practices by integrating traditional knowledge and values into tribal building codes. By implementing green building practices, tribes can help maintain the natural resources that have historically sustained them. In the [Tribal Green Buildings Toolkit](#), the U.S. Environmental Protection Agency has tied in traditional housing to tribes' development of their own building codes.

The Appendix gives helpful examples of healthy homes implementation with tribes around the United States. This includes training, home assessments, and other technical assistance. Tribal leaders can foster cultural change within their organizations to help accomplish healthy housing.

Additionally, tribal leaders and decisionmakers can reach out to HUD's Office of Native American Programs (ONAP), which administers six programs specifically serving Native American (American Indian, Alaska Native, or Native Hawaiian) individuals and families, and federally recognized tribal governments. ONAP's helpful 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 www.hud.gov/codetalk

Some Benefits of a Healthy Home

- Children are safer and have less sickness and disease.
- Reduces burden of health disparities for Tribal citizens, families, and Tribal governments.
- Enhance community sustainability.
- Lower operating costs for major systems in homes.
- Minimize the need for long term repairs in homes.
- Improve disaster preparedness.



This Guide will help support the tribe's decision-making process affecting budgets, resource usage, achieving cost savings, and more. These key steps will help tribal leaders navigate the decisionmaking processes and trade-offs they face. Housing professionals view houses as systems, constructed along building science principles. There are many benefits from health and housing program collaboration among partners. One major benefit of healthy homes is the reduction of the burden of health disparities.

As part of an overall approach to implementing healthy homes, **five major steps (below)** are suggested to inform policy development and agendas around healthy housing. Regardless of whether the tribe has already adopted healthy homes practices, or is in the early stages of doing so, the Appendix and Resources at the end of this publication will help.

A healthy home environmental assessment, conducted by housing or health professionals along with household residents (clients), is a fundamental step toward establishing tribal healthy housing. The assessment, which includes a site visit/walk through, is covered in more detail in companion publications for housing professionals and community health workers, and in other references.

HUD/OLHCHH also has a publication called *Everyone Deserves a Safe and Healthy Home* that offers valuable supplemental information on the hazards covered here. It also highlights how a single unhealthy housing problem can lead to multiple health effects. <https://www.hud.gov/sites/documents/SAFEANDHEALTHYHOME.PDF>.

A healthy home is one that is maintained to avoid injuries and illnesses to occupants. Common indoor health concerns are lead hazard control, radon, 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 Native American households.

Tribes have different traditions, cultures, and types of housing. Additionally, housing hazards can vary widely by region, due to differences in climate, land, weather events, sizes and types of homes, building materials, home construction techniques, and many other situational concerns. Local issues, such as water quality and allergens, can play roles in tribal decision-making. This diversity will impact the *Eight Principles* and remedial actions related to them. More information, including technical materials and scientific research results, is available at www.hud.gov/healthyhomes.



Examples of Native American Housing - New and Old

At tribal housing fairs, for example, maintenance crews often present on how to repair a hole in the wall, repair a leak, clear a clogged drain, or how to put out stove fires. This is an excellent opportunity to share healthy homes information with residents - how to spot pests and contamination, and tackle issues related to indoor air quality, ventilation, and mold.

We encourage families and stakeholders to follow these principles and practices. Tribal leaders can work closely with a range of housing professionals and partners to help Native American families embrace these healthy homes principles and practices.

Who can use this guide?

- Tribal Leaders
- Tribal Board and Council Members
- Heads of Tribal Housing, Environmental, and Health Planning Departments
- Directors of Tribal Housing Authorities
- Tribal Emergency Services Managers
- Tribal Consultants
- Tribal Educators
- Others whom may be designated by Tribal Leaders

Maintaining Air Quality in Homes Is Vital

Indoor Air Quality (IAQ), also called air pollution, is one of the most critical issues facing many tribes. Improving IAQ can result in significant health benefits to occupants, which can reduce medical costs and improve the quality of life.

Housing and health professionals serving Native American families are particularly concerned about:

- Volatile Organic Compounds
- Wood smoke
- Fireplace safety
- Infestation
- Thirdhand smoke
- Scented products
- Vacuuming

Problems such as a leaking sink or broken window seals can lead to damp environments that allow mold to flourish if left unattended. Therefore, regular home maintenance is important, as is educating tenants on the ***Eight Principles*** of a healthy home. Housing departments share responsibility for ensuring the home is well-maintained while the tenants who reside in the home have a responsibility for housekeeping and reporting issues of mold, leaks, pests, and other items that can lead to health problems.

Five Important Steps for A Healthy Home

Every community needs a champion to ensure that families have access to a safe and healthy home. So, what can be done to actively ensure that your residents have a safe and healthy home? As part of an overall strategic approach, here are five important steps that can help your communities and constituents. Priorities may be different for different tribes, but these actions collectively will help map out a long-term approach.



Smoke from cooking indoors on an open wood fire.

1 Step 1 Learn More about the Eight Principles of a Healthy Home

The Eight Principles of a Healthy Home

HUD's Office of Lead Hazard Control and Healthy Homes defines [Eight Principles of a Healthy Home](#).

1 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.



2 Keep it clean:

Control the source of dust and contaminants, by creating smooth and cleanable surfaces, reducing clutter, and using effective wet-cleaning methods.



3 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.



4 Keep it well ventilated:

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



5 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.



6 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.



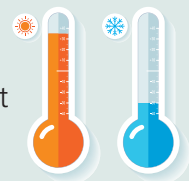
7 Keep it well maintained:

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



8 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.



2 Step 2: Apply the *Eight Principles of a Healthy Home* to Your Housing Program

- **Especially Important - develop a process for providing a home assessment and provide training for your staff.**
- Ensure that all maintenance and admissions and occupancy staff are trained on the *Eight Principles of a Healthy Home*.
- Develop long-term strategies for mold/lead remediation. The effects of mold can produce allergies. The majority of residents are not born with an allergy or sensitivity to mold but develop these responses after chronic exposure to mold. This is particularly pervasive in tribal communities where mold is present. Mold contamination is often present for years before it is treated.
- During move-ins, show the tenant how to operate the thermostat and other appliances; review the lease with them and remind them of their maintenance responsibilities both inside and outside the unit; review the *Eight Principles of a Healthy Home* while doing the move-in walk through.
- Provide regular preventative maintenance inspections to check plumbing fixtures/roofing and inspect for condensation, dampness, mold, termites or vermin.
- Ensure that there are smoke alarms and carbon monoxide detectors in all units. Replace removable batteries annually (some units have sealed long-term batteries).
- Ensure that bathrooms and kitchens are well ventilated, with exhaust fans connected (ducted) to the outside.
- Host a Housing Fair and provide green cleaning kits for participants; host a mini session on the *Eight Principles of a Healthy Home*.
- Create a newsletter for tenants that highlights how to report maintenance issues and/or suggestions for addressing indoor air quality and other healthy homes related topics; pick a home of the month and reward them with green cleaning items.



The majority of residents are not born with an allergy or sensitivity to mold but develop these responses after chronic exposure to mold.



Show tenants how to operate the thermostat and other appliances.



Ensure that there are smoke alarms and carbon monoxide detectors in all units/replace batteries annually.

3 Step 3: Develop and Convene Cross Sector Partnerships

There are many benefits from health and housing program collaboration. A health and housing collaboration promotes long

term success; builds long term community relationships; empowers families; and produces concrete and measurable positive change. Consider creating a work group or task force to identify the issues/concerns around healthy homes.

- Look for and/or explore programs in your community or broader area. These could include community development organizations, neighborhood improvement organizations, home weatherization programs, and HUD grants.
- Invite health providers, youth agencies, school teachers, and housing maintenance staff to a meeting to learn more about the relationship between healthy homes and health outcomes.
- Review the health data statistics and identify locations of home hazards (for example, where asthma and lung related issues are taking place).
- Work with health care workers to develop a referral process for a home assessment. This work group could evolve to a permanent body, or just be temporary.

4 Step 4: Develop New Policies and Processes that can be Implemented or Enforced to Ensure the Safety and Well-being of your Tenants (Community Members)

This step is a follow-up to the prior steps.

- Develop/enforce a maintenance policy that clearly identifies the work order process, inspections, tenant maintenance responsibilities, and standard charge costs.
- Develop a “no smoking” policy. Not only does it protect children and the household residents from second hand smoke, it also keeps the home safe by reducing fire issues and cuts down on maintenance costs. Promote smoking cessation programs by working with health agencies.

Tobacco smoke, whether used for ceremonies or leisure can cause severe problems for those who already have breathing problems. It is estimated that 25% of people killed in smoking-related fires

are not the actual smokers, but are the children of the smokers, neighbors or friends.

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. All tobacco products such as cigarettes, e-cigarettes, hookah, and even smokeless tobacco can contribute to this harmful residue.

Besides household residents, smoke-free housing benefits landlords and managers as well. It reduces fires caused by smoking. In 2007, over 140,000 fires were started by cigarettes, cigars and pipes in the United States, causing \$530 million in property damage, according to the National Fire Protection Association.

Smoke-free housing also saves on property maintenance costs from cleaning and painting stained walls and ceilings and repairing burn marks left by smoking. Less damage means less expense to get a unit ready for a new resident. It is completely legal to go smoke-free, and not all smoke-free policies have to look alike. For more information see https://www.hud.gov/program_offices/healthy_homes/smokefree.

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

5 Step 5: Develop Additional Partnerships with Federal/State/Local Resource Providers

This step refines and/or expands the prior actions.

- Continue to seek additional resources and maintain partnerships.
- Evaluate results.
- Continue to educate for solutions.



Special Concern: Educating Tribal Families on Substance Abuse

Although not strictly a housing maintenance problem, substance abuse in Native American communities can include addiction to alcohol, methamphetamine (meth) and opioids.

Many occupants are unaware of the severe and potentially sustained impact /damage that meth has on the safety, security, and health of the residents; nor on the viability of the home. Smoking meth in a home can infiltrate the HVAC system, walls, carpets, and furniture. It is costly to remediate. Young children are particularly vulnerable when they crawl around the home. Meth labs create significant environmental and safety hazards. Homebuyers are often worried about buying a meth-contaminated house.

In addition to providing resources to the addict, family members need resources as well. Family members are the change agents, and if you help them, lives can be saved. Meth testing kits, from local health departments, are increasingly available to home buyers, renters, and many others. Some resources are: the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration (SAMHSA) National Helpline, 1-800-662-HELP (4357). Also, see these Voluntary Guidelines for Methamphetamine Laboratory Cleanup at https://www.epa.gov/sites/production/files/documents/meth_lab_guidelines.pdf and <https://www.drugabuse.gov/patients-families>.

Manufactured Homes in Tribal Communities

Tribal leaders may have community residents who do not have the ability to own their own land due to tribal lot shares, extended family ownership or sheer cost. Manufactured housing, modular housing, and mobile homes are common in many tribal communities. A portable home can be brought onto a family member's lot or to a trailer park. Some healthy homes issues are of concern in these types of structures.

Challenges can arise in controlling how these homes are constructed. Ventilation and indoor air quality are some paramount considerations.

Occupant education on operations and maintenance of these homes

may be even more crucial to well-being. Tribal leaders will most likely interact with specialized housing professionals, who are responsible for on-site inspection of arriving mobile homes.

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

Although tribal leaders may rely on trained specialists, it may help to list things that these professionals will be looking at. The U.S. Department of Energy studied the most cost-effective measures to assist with mobile homes in cold climates, and five items were suggested:

- Seal air leaks around any furnace ducts.
- Tune-up the furnace when first commissioning, and every year afterward. Add skirting around the trailer's bottom area.
- Install 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.
- Locate the home so that it gets shade from nearby trees, 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.



The Importance of Green Building to Tribes

Native Americans are the first green architects and builders of the Americas. Traditional Native American building designs and practices are sustainable. Native American designs are often based on cultural

Potential benefits of implementing green building codes 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.

values informed by many things including an intimate knowledge of place, its climate and resources and technology.

Traditionally, tribes built structures from local resources and without written codes. These structures were safe, healthy and energy and water efficient. When properly developed and implemented, green building reinforces tribal culture and sovereignty; enhances the health and safety of community members as well as environmental sustainability. These codes can also promote affordability.

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* at this link (<https://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. For tribal leaders, a community visioning session helps to lay out who should be involved in the planning process. For example, what traditional tribal governance practices might be incorporated into the code structure?

The Toolkit comprehensively covers the organizational process of green building codes, respectful of tribes' unique sovereignties and traditions. The core is an assessment tool to guide adaptation or creation of codes. A highly valuable and practical component are the more than 25 different case studies of green building on reservations of varying sizes, land differences, number of dwellings, budgets, and much more.



When A Natural Disaster Occurs

A home damaged by natural disasters, such as floods, fires, or earthquakes is likely to pose serious health risks. This typically includes mold, sickness due to polluted water, and many other unsafe conditions. Damaged homes are dangerous. Improper restoration methods can worsen, or even cause, some hazards.

HUD's *Rebuild Healthy Homes Guide to Post-Disaster Restoration for a Safe and Healthy Home* covers restoration "A-Z" in plain language. Anyone doing rebuilding after winter storms, hurricanes, earthquakes, hail, droughts, and mudslides, should consult this reference. Clean up must be done according to the techniques described. This publication can be downloaded at https://www.hud.gov/sites/documents/REBUILD_HEALTHY_HOME.PDF

Summary

This booklet has offered ways that tribal leaders and decisionmakers can improve the lives and well being of their residents. Tribal leaders have an opportunity to help bridge some of the gaps in understanding healthy homes concepts and practices. The resources section has more detailed information on all topics covered.

In summary, here is a path to healthy homes communities. For a much more comprehensive overview, please read the *Healthy Homes Program Guidance Manual* publication at https://www.hud.gov/sites/documents/HHPGM_FINAL_CH1.PDF.

Path to a Healthy Home

1 Establish a knowledge base about Healthy Homes Principles and Practices

- An environmental history determines if residents' health concerns are linked with housing.
- Become familiar with Healthy Homes Principles and supporting resources.
- Consider the five steps suggested here as building blocks.
- Make residents aware of the *Healthy Homes Do-It-Yourself Assessment Tool (DIY) Fort Collins DIY Home Assessment* (see this weblink: <https://healthyhomes.fcgov.com/>). This was created to further 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.

2 Implement Steps

- Apply the *8 Principles of a Healthy Home* to your housing program.
- Use of the *Healthy Homes Assessment and Intervention Process* is key.
- Get staff trained on the *8 Principles* and organize outreach.
- Work with health care providers to develop a referral process for a home assessment.

3 Evaluate Results and Continue to Maintain Healthy Homes for Residents

- Monitor applications of healthy homes principles and practices.
- Encourage continuous outreach such as tenant newsletters.
- Develop new partnerships.
- Develop long term plans.



Room by Room Checklist for a Healthy Home

This is a checklist that all tribal residents can use. Tribal leaders and decisionmakers can help increase awareness and encourage use among their residents. For more information, residents can visit www.hud.gov/healthyhomes or download the Healthy Homes Basic App.

1. Living, Dining, and Family Rooms

- If the home was built before 1978, check painted doors, windows, trim, and walls for lead
- Vacuum carpets regularly to reduce asthma triggers
- 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
- 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 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
- 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
- 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
- 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 before entering the house to keep dirt containing lead and other toxins outside
- 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
- Move window blind cords out of reach of children to prevent strangulation
- 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 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, 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, even if the door is open
- 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
- Attached garages should have the entry door to the home interior closed and door seals working properly to keep exhaust gases from entering 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 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
- 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 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

11. General

- If the 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 the home to the water main and the piping in the home for lead. Since 1986 only “lead free” pipe, solder or flux can be legally used in the installation or repair of any plumbing in residential or non-residential facilities providing water for human consumption, which is connected to a Public Water System
- No smoking inside the home
- 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

Appendix

Tribes Taking Action-Tribal Healthy Homes Assessment Training and Technical Assistance Support Center, 2009-2012

In an effort to increase family and community wellness among American Indian and Alaska Native communities, the Montana State University Extension Housing and Environmental Health Program and the Native American Housing Technical Assistance Institute created the National Tribal Healthy Homes Assessment, Training and Technical Assistance Support Center, located in Bozeman, Montana, in 2009. Guided by a Tribal Healthy Homes Advisory Board, goals were to:

- Enable tribal workforces to assess homes
- Enhance partnerships to support local tribal healthy home programs
- Establish, strengthen and sustain local tribal healthy home education/outreach programs for occupants
- Support tribes in funding technical assistance to support healthy housing assessment

Some 15 regional trainings were conducted between 2010-2012, with individuals from 108 tribes or tribal organizations. Tribal participation was extensive, with a wide range of housing types covered, and resources produced. Although the funding period did not allow for long-term evaluation and follow-up of all participating Tribes, documentation (workplans and correspondence) revealed that the actions below were taking place:

1. Created tribal-wide healthy homes coalition. This integrated efforts of housing, Indian Health Service, police/fire, and USDA Extension (ie, action of many tribes).
2. Created healthy homes kids program.
3. Created healthy homes inspection program (action of many tribes).
4. Helped child protective staff include healthy homes assessment and information with home visits.
5. Created healthy homes education program with local Head Start officials.
6. Conducted healthy home workshop series with employees, powwows, at school and church events, on Facebook and websites (actions of many tribes).
7. Hosted EPA RRP training for regional tribes.
8. Created healthy homes outreach program for other tribes.
9. Conducted do-it-yourself preventative maintenance workshops for housing occupants.
10. Offered do-it-yourself home energy/weatherization workshops.
11. Developed tribal specific healthy homes publications (action of many tribes).
12. Created tenant healthy home pre-occupancy education program (action of many tribes).
13. Established a funding source for conducting healthy homes assessments.
14. Established healthy homes database for housing interventions.
15. Provided gift cards and door prizes to engage families with healthy homes education.

Important Resources

This is a selection of a wide range of organizations, websites, and educational materials that expand upon this publication. Tribal leaders and decisionmakers 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, traditionally means.

Overviews of Healthy Homes:

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. https://www.hud.gov/sites/documents/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 by 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: Tribal Green Buildings Toolkit <https://www.epa.gov/green-building-tools-tribes/tribal-green-building-toolkit>

HUD/OLHCHH Hazard-Specific Factsheets:

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

Interactive Healthy Homes Apps

- **Healthy Homes Basics App** - This HUD/USDA product is for the general public. It introduces users, in simple terms, to healthy homes concepts. Content also covers many ways to have a healthy home. Download the app at <https://apps.apple.com/us/app/healthy-homes-basics/id1092367352>.
- **Healthy Homes Youth App** - This HUD/USDA product is for middle schoolers and helps them learn about healthy homes. Available at <https://itunes.apple.com/us/app/healthy-homes-youth/id1434450117?mt=8>.
- **Healthy Homes Do-It-Yourself Assessment Tool** - The Healthy Homes Do-It-Yourself Assessment Tool walks users through each room and provides simple, low, and no-cost solution to many common healthy housing problems. <https://healthyhomes.fcgov.com/>.
- **Healthy Homes Partners App** - This HUD/USDA product is for stakeholders. It is non technical but goes beyond the above consumer version. <https://itunes.apple.com/us/app/healthy-homes-partners/id1244368357?mt=8>.

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)

- **Local or state health department**
- **U.S. Department of Housing and Urban Development**, www.hud.gov
 - **Office of Lead Hazard Control and Healthy Homes**, www.hud.gov/healthyhomes
 - **Office of Native American Programs**, www.hud.gov/codetalk
- **U.S. Department of Agriculture, National Institute of Food and Agriculture**, www.nifa.usda.gov
 - **Cooperative Extension Service for Healthy Homes Extension educators**, <https://nifa.usda.gov/extension> or www.extension.org
 - **National Healthy Homes Partnership**, <https://extensionhealthyhomes.org/>
- **U.S. Environmental Protection Agency**, www.epa.gov
- **U.S. Centers for Disease Control and Prevention**, www.cdc.gov, (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, www.nchh.org
- Tribal Healthy Homes Network, thhnw.org
- Institute for Tribal Environmental Professionals, www7.nau.edu/itep/main/Home/
- Children's Environmental Health Partnership, cehn.org
- National Safety Council, www.nsc.org
- Pediatric Environmental Health Specialty Units, <https://www.pehsu.net/>
- Tribal Epidemiology Centers <https://tribalepicenters.org/>

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*** booklet summarizes the Healthy Homes Principles and has a room-by-room checklist:

- ***Everyone Deserves a Safe and Healthy Home***, www.hud.gov/sites/documents/SAFEANDHEALTHYHOME.PDF.
 - For a quick but thorough overview of healthy homes, ***Everyone Deserves a Safe and Healthy Home: A Consumer Action Guide*** (weblink at <https://www.hud.gov/sites/documents/SAFEANDHEALTHYHOME.PDF>) 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 temperature control, and indoor air quality.

For each hazard, this publication provides critical action steps. It also includes a room-by-room checklist. For those who prefer an online resource, the ***Healthy Homes Basics App*** (weblink at <https://apps.apple.com/us/app/healthy-homes-basics/id1092367352>) which includes the same information as the guide and a room-by-room checklist 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.

Lead Poisoning

HUD and EPA National Lead Information Center 1-800-424-LEAD, (800) 424-5323 This is a toll-free information hotline and clearinghouse. Staff respond to questions from the general public and professionals on lead-based paint topics. Callers can receive publications at no cost.

The **Protect Yourself from Lead in Your Home pamphlet** (weblink at <https://www.epa.gov/lead/protect-your-family-lead-your-home>)

lead-your-home. 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 poisoning.

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 (www.fda.gov/Safety/Recalls) and CPSC recalls (www.cpsc.gov/recalls) online.

- **HUD and EPA National Lead Information Center**, 1-800-424-LEAD, (800) 424-5323
- **U.S. Environmental Protection Agency**, www.epa.gov/lead
- **U.S. Centers for Disease Control and Prevention**, www.cdc.gov/nceh/lead

Asthma and Allergies:

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

Indoor Air Quality

- **National Tribal Air Association**, <https://www.ntatribalair.org/indoor-air-quality/>

Volatile Organic Compounds (VOC):

- Learn how to reduce exposure to VOCs at www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality.

Wood Smoke:

- Learn more about the health effects of wood smoke at www.epa.gov/burnwise/wood-smoke-and-your-health.

- Learn how to protect your family at www.epa.gov/burnwise/burn-wise-what-you-can-do.

Fire Place Safety:

- Learn about safe wood-burning practices at www.epa.gov/burnwise/burn-wise-best-burn-practices#safe.

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**, www.cdph.ca.gov/Programs/CCDPPH/DCDIC/CTCB/CDPH%20Document%20Library/Community/EducationalMaterials/ThirdhandSmokeFactSheet.pdf
- **American Academy of Pediatrics**, www.healthychildren.org/English/health-issues/conditions/tobacco/Pages/How-Parents-Can-Prevent-Exposure-Thirdhand-Smoke.aspx

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.

Vacuuuming:

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**, www.epa.gov/mold

- **U.S. Centers for Disease Control and Prevention**, www.cdc.gov/mold

Carbon Monoxide:

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

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: <https://www.cpsc.gov/safety-education/safety-guides/carbon-monoxide/portable-generator-related-carbon-monoxide-deaths>.

Radon:

- **U.S. Environmental Protection Agency**, www.epa.gov/radon
- **State radon contacts**, www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information
- **National Radon Program Services (KSU)**, sosradon.org/, (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 www.epa.gov/ground-water-and-drinking-water. Information about protecting private drinking water wells is available at www.epa.gov/privatewells.

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

Household Chemicals:

- U.S. Environmental Protection Agency, www.epa.gov/pesticides and www.epa.gov/saferchoice
- Poison Control Centers, (800) 222-1222
- Household Products Database, <https://infocus.nlm.nih.gov/2015/11/04/toxnet-the-nlm-toxicology-databases/>

Pests:

- U.S. Environmental Protection Agency, www.epa.gov/bedbugs and www.epa.gov/pesticides

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 long-term, cost-effective and environmentally sensitive pest control. More information on IPM and safe pest control is available at 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 your exposure to pesticides. EPA's Citizen's Guide to Pest Control and Pesticide Safety is available at www.epa.gov/safepestcontrol/citizens-guide-pest-control-and-pesticide-safety.

Home Safety:

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

Temperature Control:

- U.S. Department of Energy, www.energy.gov/energysaver/energy-saver
- Energy Information Administration, www.eia.gov
- U.S. Environmental Protection Agency Indoor Air Plus, www.epa.gov/indoorairplus
- Mercury (from CFL bulbs) cleanup and disposal, www.epa.gov/cfl
- Energy Star, www.energystar.gov
- Residential Energy Services Network, www.resnet.us

Cigarette Smoking:

- Centers for Disease Control and Prevention smoking cessation, 1-800 QUIT-NOW
- American Lung Association, www.lung.org, (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, e-cigarettes.surgeongeneral.gov
 - Centers for Disease Control and Prevention (CDC), www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm
 - California Department of Public Health, www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CTCB/Pages/ToolKitsAndManuals.aspx

Acknowledgements

The U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes, thanks the following individuals for their many valued comments and information used in the preparation of this publication:

Project Director: Kitt Rodkey, MBA, HUD Office of Lead Hazard Control and Healthy Homes, Washington, DC

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U.S. Department of Housing and Urban Development

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 Michael Goldschmidt, University of Missouri and National Director – Healthy Homes Partnership