

# Summary of National Green Building Programs

## Enterprise Community Partners Green Communities Criteria

Green Communities is a major initiative led by Enterprise Community Partners (Enterprise). Established in September 2004, it is a five-year, \$555 million commitment to create more than 8,500 homes that deliver significant health, economic, and environmental benefits for low-income families and communities. The program establishes green building criteria and provides funding to assist developers in planning and construction. As of January 2008, Enterprise has invested over \$570 million in over 250 developments that will result in more than 11,000 homes that meet the Green Communities Criteria.



Projects developed under the criteria must satisfy all 40 mandatory elements and gain additional points (35 points for new construction or 30 for rehabilitation projects) from optional criteria. The criteria allow flexibility if a particular hardship is demonstrated and an alternative is proposed that meets the intent and accomplishes the same outcome as the criteria. Building projects that

conform to the criteria are eligible for grants, loans, and tax credit equity as incentives. This is currently the only national green building program that requires a minimum number of new homes or apartments to be dedicated to lower-income residents.

The criteria are divided into the following categories:

- Integrated Design Process
- Site, Location, and Neighborhood Fabric
- Site Improvements
- Water Conservation
- Energy Efficiency
- Materials Beneficial to the Environment
- Healthy Living Environment
- Operations and Maintenance

Optional criteria are available in Location and Neighborhood Fabric, Site Improvements, Energy Efficiency, Materials Beneficial to the Environment, and Healthy Living Environment. A review panel evaluates each project for grant approval. As part of the grant requirement, the grantee's architect and construction manager must self-certify compliance with the program criteria.

**Mandatory Criteria:** Yes, comprehensive

**Third Party Certification:** No

**Building Performance Testing:** Optional

**Units Certified/Completed as of June 30, 2008:** 11,970

[www.greencommunitiesonline.org](http://www.greencommunitiesonline.org)

## US Green Building Council's Leadership in Energy and Environmental Design for Homes (LEED for Homes)

The U.S. Green Building Council (USGBC) administers the Leadership in Energy and Environmental Design (LEED) program. LEED for Homes is a voluntary initiative designed to actively promote the transformation of the mainstream home building industry toward more sustainable practices. The long-term goal is to recognize and reward the top 25% of new homes, in terms of environmental stewardship. LEED for Homes applies to market rate and affordable homes, as well single family and multifamily homes.

The program has completed its pilot phase and began its full program in 2008. The program includes mandatory and optional green construction practices in the following categories, for a total of 136 available points:

- Awareness and Education
- Location and Linkages
- Energy and Atmosphere
- Sustainable Sites
- Water Efficiency
- Indoor Environmental Quality
- Materials and Resources
- Innovation and Design Processes



Builders receive credits for achieving criterion in each of the eight criteria categories. LEED for Homes has several performance tiers termed Certified (45-59 points), Silver (60-74 points), Gold (75-89 points), and Platinum (90-136 points). The award level point thresholds are adjusted based on home size. A third-party Provider is responsible for determining the LEED for Homes score and the rating.

The costs of participation in the LEED for Homes Program are established by local or regional Providers plus a registration and certification fee to USGBC based on the number of homes or square footage of multifamily buildings ([www.usgbc.org/DisplayPage.aspx?CMSPageID=147](http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147)). The Provider is responsible for the third-party inspection and performance testing services. These verification and rating services generally require approximately 2 to 3 days per home. The costs vary depending on the size and location of the homes, and the number of green measures to be inspected and tested.

**Mandatory Criteria:** Yes, moderate

**Third-Party Certification:** Yes

**Building Performance Testing:** Yes

## ICC-700-2008 National Green Building Standard

The National Association of Home Builders (NAHB), the International Code Council (ICC) and the NAHB Research Center initiated a process in 2007 for the development of a national standard for green home building construction practices beyond current rating systems, following the consensus process of the American National Standards Institute (ANSI). The standard, entitled the “ICC-700 National Green Building Standard (NGBS)” is a voluntary green home building standard that can be adopted by local green home building programs as a conformance guide for single-family, multi-family, remodeling, and site development projects.



The NGBS builds upon the NAHB Model Green Home Building Guidelines developed by the NAHB Research Center in 2004 (see NCHH’s 2006 Comparison of Green Building Guidelines for an analysis of the NAHB Model Green Home Building Guidelines). ANSI approved NGBS in January 2009.

The NGBS includes a minimum number of mandatory construction practices and a mandatory minimum point score based on construction practice options under each principle. There are no maximum limits. For single-family homes, for example, projects reach a threshold by reaching specific point scores: 222 points for Bronze, 406 for Silver, 558 for Gold, and 697 for Emerald. In the indoor environmental quality category, the minimum score is 36 for Bronze, 65 for Silver, 100 for Gold, and 140 for Emerald.

**Mandatory Criteria:** Yes, limited (mandatory minimum points)

**Third-Party Certification:** Yes

**Units Certified:** NA

## U.S. Environmental Protection Agency Energy Star with Indoor Air Package Pilot Specifications

The U.S. Environmental Protection Agency (EPA) developed the ENERGY STAR with Indoor Air Package (IAP) Pilot Specifications to recognize homes equipped with a comprehensive set of indoor air quality measures. IAP is targeted to production builders, which according to EPA are the most rapidly growing sector of the home building industry and are highly influential in home building trends. Homes that comply with these specifications can use “Indoor Air Package” as a complementary label to ENERGY STAR for homes. As a prerequisite for this label, a home must first be ENERGY STAR qualified. ENERGY STAR is a performance-based program, which requires qualified homes to be at least 15 % more energy efficient than homes built to the 2004 International Residential Code (IRC), and include additional energy-saving features that typically make them 20–30% more efficient than standard homes. IAP requires a suite of additional prescriptive measures, including:



- Moisture Control
- Radon Control
- Pest Control
- HVAC Systems
- Combustion Safety
- Building Materials
- Home Commissioning

Like Energy Star, IAP requires third-party verification through the Home Energy Rating System (HERS).

**Mandatory Criteria:** Yes, comprehensive

**Third-Party Certification:** Yes

**Building Performance Testing:** Yes

**Units Certified:** Not Applicable (Pilot Program)

[www.energystar.gov/index.cfm?c=bldrs\\_lenders\\_raters.nh\\_iap](http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_iap)

# Method of Analysis

We compared the criteria of the four national programs to a detailed list of healthy homes measures that are aligned with NCHH's seven healthy homes principles. Those principles involve keeping homes:

- Dry
- Clean
- Ventilated
- Safe
- Contaminant-Free
- Pest-Free
- Maintained

These principles were developed by a broad-based expert workgroup of housing and health professionals as part of the federally funded National Healthy Homes Training Center and Network. The principles reflect the latest in scientific research and best practices related to reducing housing-related health hazards. For more information see [www.healthyhousing.org/training](http://www.healthyhousing.org/training).

Table 1 presents a detailed analysis comparing each program to the NCHH criteria. The left column presents NCHH's recommended criteria for achieving the aforementioned principles. We compared each program to these criteria and assigned a score based on the following scoring system:

Score	Green Program Description
3	Includes <b>mandatory</b> criterion equivalent to NCHH criterion
2	Includes <b>mandatory</b> criterion similar to NCHH criterion
1	Includes <b>optional</b> criterion that is similar to NCHH criterion
0	Does not include similar criterion

Table 2 provides summary grades for each program, both by each healthy homes principle and overall. We established a target score for each category by multiplying the number of criteria under each healthy homes principle by 2.5 (average 2 and 3 of the scores listed above). For example, if half of the criteria in a category scored a 3 (i.e., half criterion were mandatory and equivalent to the NCHH standard) and half scored a 2 (i.e., were mandatory and similar but not equivalent to the NCHH standard), then the program would achieve 100% of the target score. The score of 2.5 acknowledges that some differences in the language for a specific criterion are likely and acceptable.

The overall grade (A, B, C, D) for the program was calculated by totaling the scores for all the criteria across categories. This provides all criterion equal weight in arriving at a total grade.

## Grading Key

A+	>100% of target score, <i>all</i> NCHH criteria included
A	90-100% of target score.

<b>B</b>	80-89% of target score.
<b>C</b>	70-79% of target score.
<b>D</b>	<69% of target score.

This analysis did not assign a weighting factor to each individual criterion because there are generally insufficient scientific data to support such a judgment. The concept of healthy homes involves taking a holistic approach to the home environment by implementing packages of upgrades, which together can ensure the health, safety, and durability of a home. For this reason, the analysis does not credit programs for establishing a threshold number of points for optional items. By definition, this inclusion of optional items (even to achieve an overall point value) will entail trading off some indoor environmental quality item for another.



# Results

Tables 1 and 2 show the results of the analysis.

The Enterprise Community Partners Green Communities Program and the EPA Indoor Air Package Programs ranked the highest among the programs included in the analysis. This is largely due to the fact that they include many mandatory criteria for the indoor environment.

The LEED-H and ICC -700-2008 rating systems include a mixture of mandatory and optional criteria to achieve even the lowest LEED rating of “certifiable”. It is not possible to assess the mix of criteria that a builder will select to comply with the standard. NCHH conservatively rated optional criteria as a 1, thereby reducing the LEED-H score for all such criteria. The NGBS relies substantially on optional criteria with a minimal set of mandatory standards. As such the program received the lowest rating.



The LEED-H and ICC -700-2008 rating systems include a mixture of mandatory and optional criteria to achieve even the lowest LEED rating of “certifiable”. It is not possible to assess the mix of criteria that a builder will select to comply with the standard. NCHH conservatively rated optional criteria as a 1, thereby reducing the LEED-H score for all such criteria. The NGBS relies substantially on optional criteria with a minimal set of mandatory standards. As such the program received the lowest rating.

One reviewer suggested that optional criteria receive greater credit because the flexibility in scoring enables greater program participation. The reviewer also noted that several of the optional healthy homes criteria are pursued by the majority of program participants. The reviewer suggested multiplying the percentage of projects that incorporate the optional measure by the score a measure would have received if it were mandatory as an alternative scoring system. For example, if “landscaping away from a building” would receive a score of 3 as a mandatory element, it would receive a 2.7 if 90% of the program participants selected it as an optional criterion. Although such a nuanced system may reflect a more precise view of the actual compliance with a program’s criteria in a prior year, because programs cannot predict the optional criteria that future projects will select, NCHH felt that these programs could not be scored as highly as those based on mandatory criteria. In addition, NCHH believes that the healthy homes criteria are practical and cost-effective (e.g. avoiding installing carpets in wet areas) and so it is sensible to include them as prerequisites.

Across all the green programs, there is substantial variation in their performance under the *Dry* and *Contaminant-Free* categories with scores ranging from A to D. Energy Star IAP and Green Communities received an A under the Dry category (ENERGY STAR IAP, Green Communities, and LEED-H) because they require extensive moisture control practices. The LEED-H program addresses several aspects of moisture control through its Durability Plan requirement. One concern is that it is not possible to assess whether the plan will always include the most important moisture control elements. Nonetheless, because the durability plans are mandatory and will be evaluated as part of program participation, NCHH rated LEED-H’s Dry criteria as similar to the NCHH specific requirements.

Ensuring structures are properly ventilated is particularly important because of the green building mandate to improve energy efficiency by tightening the building envelope. Energy upgrades can benefit occupant health by increasing comfort and reducing unplanned airflows which can result in moisture problems. Mechanical ventilation helps ensure contaminants and humidity are exhausted to the outside and that the home receives clean, fresh air. NCHH has identified the American Society of Heating, Refrigerating, and Air-Conditioning

Engineers standard 62.2 (ASHRAE 62.2, 2007) as the industry standard for ventilation for buildings of four stories or less, which should be included in all green and healthy programs. All the programs, except NGBS specifically reference ASHRAE 62.2 as the ventilation performance standard.

The evaluation indicates greater consistency across green programs for the *Pest-Free* and *Maintained* categories. All of the programs included criteria to minimize pest infestations following the least toxic methods and to educate homeowners about proper maintenance of their green homes. In contrast, all of the programs included in the analysis overlooked safety (e.g., preventing trips/falls and poisonings), even though the home is the predominant source of unintentional injuries for children in the United States. In addition, the programs missed opportunities to incorporate building finishes that are easy to keep clean (e.g. smooth, cleanable flooring), which help owners reduce allergens and contaminants that may accumulate in a home.

Finally, in this analysis we examined the extent to which the programs incorporate third-party verification. All of the programs, except Enterprise Green Communities, require third-party verification. However, Green Communities does require its participants to certify compliance with the program criteria. It also conducts inspections and performance testing of a sampling of units.



	<b>Enterprise Community Partners Green Communities</b>	<b>ENERGY STAR Indoor Air Package</b>	<b>USGBC LEED Homes</b>	<b>ICC-700 National Green Building Standard</b>
<b>SAFE (5 Criteria – 12.5 points)</b>				
Hot Water Temperature <120 F	0	0	0	0
Locked Medicine Storage Cabinets	0	0	0	0
Shower Grab Bars	0	0	0	0
Smoke Detectors	2	2	2	2
Carbon Monoxide Alarms	3	3	3	1
<b>TOTAL</b>	<b>5 (40%)</b>	<b>5 (40%)</b>	<b>5 (40%)</b>	<b>3 (24%)</b>
<b>CONTAMINANT-FREE (7 Criteria – 17.5 points)</b>				
Low VOC Products	3	0	1	1
Urea Formaldehyde Free Composite Wood Products or Sealed	3	3	1	1
Low VOC Carpet	3	3	1	1
Garage Isolation	3	3	1	2
Smooth Cleanable Low VOC Floors	1	1	1	1
Combustion Venting	2	3	3	1
Radon Test and Mitigation System	3	2	2	2
Smoke-free Policy – optional	0	3	0	1
Use Lead Safe Work Practices - optional applicable only to rehabilitation	3	na	na	3
<b>TOTAL *does not include optional scores</b>	<b>18 (103%)</b>	<b>17 (97%)</b>	<b>10 (57%)</b>	<b>9 (51%)</b>
<b>PEST-FREE (1 Criterion – 2.5 points)</b>				
Rodent Proof Materials	3	3	2	1
<b>TOTAL</b>	<b>3 (120%)</b>	<b>3 (120%)</b>	<b>2 (80%)</b>	<b>1 (40%)</b>
<b>MAINTAINED (2 Criteria – 5 points)</b>				
User's Manual for Health Features	3	3	3	3
Homeowner's Manual for Equipment and Certification	3	2	3	2
<b>TOTAL</b>	<b>6 (120%)</b>	<b>5 (100%)</b>	<b>6 (120%)</b>	<b>5 (100%)</b>
<b>THIRD-PARTY VERIFICATION (1 Criterion - 2.5 points)</b>				
On-Site Inspection	2	3	3	3
<b>TOTAL</b>	<b>2 (80%)</b>	<b>3 (120%)</b>	<b>3 (120%)</b>	<b>2 (120%)</b>

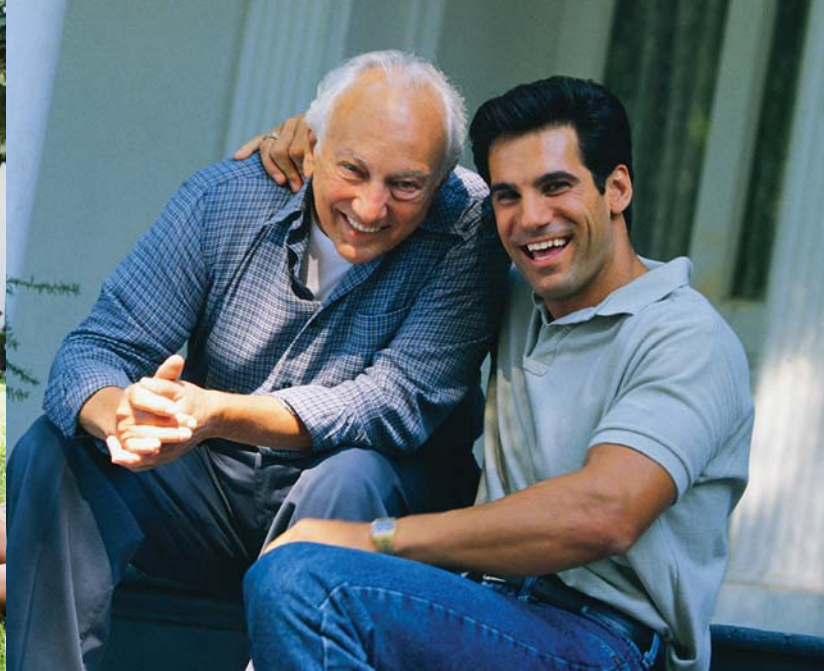
**Table 2: National Green Program Health Grades**

Health Principles	Enterprise Community Partners Green Communities	EPA Indoor Air Package	USGBC LEED For Homes	ICC-700 National Green Building Standard
DRY	A	A	B	C
CLEAN	D	D	D	D
VENTILATED	A	A+	A	C
SAFE	D	D	D	D
CONTAMINANT-FREE	A	A	D	D
PEST-FREE	A+	A+	B	D
MAINTAINED	A+	A	A+	A
VERIFIED/CERTIFIED	B	A+	A+	A+
OVERALL GRADE *	B	B	C	D

\* Based on total score across all criteria in comparison to 85 target score

**Grading Key**

<b>A+</b>	>100%, <i>all</i> NCHH criteria included
<b>A</b>	90-100% of target score.
<b>B</b>	80-89% of target score.
<b>C</b>	70-79% of target score.
<b>D</b>	<70% of target score.



U.S. Department of Health and Human Services  
U.S. Department of Housing and Urban Development

# Healthy Housing Inspection Manual



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# Preface

THE **HEALTHY HOUSING INSPECTION MANUAL** completes the foundation of the Centers for Disease Control and Prevention’s (CDC’s) Healthy Homes Initiative. The manual reflects the ongoing commitment of both CDC and the U.S. Department of Housing and Urban Development (HUD) to work together to provide local jurisdictions with tools to address housing-related health hazards. Development of this manual was supported by the HUD and CDC Healthy Homes Initiatives.

The agencies’ initiatives related to healthy homes were created to develop a holistic approach to healthy housing based on the following broad objectives:

- Broaden the scope of single-issue public health and safety programs—such as childhood lead poisoning prevention, residential asthma intervention, injury prevention—to adopt a holistic approach addressing multiple housing deficiencies that affect health and safety.
- Build competency among environmental public health practitioners, public health nurses, housing specialists, housing owners, housing managers, and others who work in the community so they can incorporate healthy housing activities into their professional activities.
- Develop national healthy homes capacity through crossdisciplinary grants, contracts, and other activities at the federal, state, tribal, and community levels that research and demonstrate low-cost, effective home hazard assessment and intervention methods.
- Develop effective education and outreach materials, with a particular focus on high-risk populations, to increase public awareness of residential hazards and highlight effective actions households can take to reduce the risk for illness and injury.

*The Healthy Housing Inspection Manual* is a model reference tool that local jurisdictions or others may use as is or modify based on local needs. Use of the manual is expected to improve the effectiveness and efficiency of the public health, housing management, and workforces that identify, prevent, and control health problems associated with housing. The manual does not introduce any inspection requirements, nor does it modify any existing inspection requirements for housing agencies, residents, HUD, or CDC. The manual is not a substitute for the Federal Housing Administration (FHA) Minimum Property Standards. Finally, the manual does not propose to establish any regulatory authority for HUD or CDC with regard to residential inspection requirements.

*The Healthy Housing Inspection Manual* takes environmental health professionals and housing managers, specialists, and inspectors through the elements of a holistic home inspection. It is also a useful reference tool for nurses, outreach workers, and others who are interested in preventing illness and injury due to residential health and safety hazards.

*The Healthy Housing Inspection Manual* addresses the broad range of housing deficiencies and hazards that can affect residents' health and safety. The purpose of the manual is to

- improve communication and collaboration among public health professionals, housing professionals, property owners and property managers,
- increase the understanding of the relations among exposure to hazardous agents, conditions in the home, and adverse health outcomes, and
- improve the ability of programs to address an array of housing deficiencies in an efficient, effective, and timely manner.

HUD and CDC have also jointly developed and funded other important activities related to healthy homes, including

- a healthy housing curriculum that addresses the training needs of environmental public health practitioners, public health nurses, housing specialists, and others interested in building local capacity to address housing-related health hazards (Healthy Homes Training Center and Network, <http://www.healthyhomestraining.org>).

- the *Healthy Housing Reference Manual*, which gives public health and housing professionals the tools necessary to ensure that housing stock is safe, decent, and healthy for our citizens, particularly children and the elderly, who are often most vulnerable and spend more time in the home (<http://www.cdc.gov/nceh/publications/books/housing/housing.htm>).

## **FORMAT OF THIS MANUAL**

HUD and CDC recommend that section 1, the Healthy Housing Model Resident Questionnaire (a voluntary health assessment), be completed first. The questionnaire should be used to collect information that cannot be determined visually. Information from the questionnaire can provide important clues that point to housing deficiencies.

**SECTION 2**, the Visual Assessment Data Collection Form, should be used to collect information that can be determined without asking questions of a resident. This form includes detailed assessment of exterior housing, kitchen, bathroom, and living area, as well as a general building information.

This manual also contains three supporting appendices:

- a data dictionary that defines housing deficiencies listed in the Visual Assessment Data Collection Form;
- a cross-reference to code provisions in the 2003 International Property Maintenance Code (2003 IPMC); and
- additional resources (links to environmental sampling methods and to more information about substances or issues related to healthy housing).

# Visual Survey Report

Resident: \_\_\_\_\_

Alternate Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Unit # \_\_\_\_\_ Unique ID \_\_\_\_\_

Resident Phone: \_\_\_\_\_

<b>Visual Conducted by:</b>
_____
<b>Date:</b>
_____

Make a checkmark (✓) if the problem appears in the room or area. For deteriorated paint and water damage, indicate the extent of the problem (see instructions) Use the extra rows to identify any other hazards you notice. Put an asterisk (\*) above any room(s) where a child sleeps or plays. Circle (○) where you photograph a problem.

## ROOM OR AREA

PROBLEM	Exterior	Porch	Entryway	Living Room	Dining Room	Kitchen	Bedroom 1	Bedroom 2	Bedroom 3	Bathroom 1	Bathroom 2	Basement		
Deteriorated paint	Walls													
	Windows, door, or trim													
	Paint chips on floor													
Soil with no grass or mulch		[Hatched Area]												
Cockroaches														
Rodents														
Holes in wall														
Mold/Mildew	Obvious source of moisture													
	No obvious source of moisture													
Water Damage: walls wet/newly stained														
Strong musty smell														
Natural gas/sewer gas smell														
Unvented gas oven/dryer/heater														
Worn-out carpeting	[Hatched Area]													
Other:														
Other:														
Other:														
Other:														
Other:														

If renting, received lead hazard disclosure information from landlord?	Yes	No
Follow-up visit scheduled for: Date _____ Time: _____		

# Visual Survey Instructions

## I. Talk with the resident before you begin:

- Explain that you will draw floor and site plans, take notes, take photographs, collect samples, and possibly leave roach traps, a carbon monoxide alarm, or radon detectors for more than one day.
- Explain what kinds of samples you plan to take after you finish the visual survey.
- If a tenant, ask whether the resident received lead hazard disclosure information from the landlord and note the response in the space provided at the bottom of the **Visual Survey Report**.

## 2. Survey the exterior and grounds and draw the Site Plan:

*The Site Plan is a sketch of the area around the home where you will not any problems you identify and where you collect soil samples. See CEHRC's website for the Site Plan form and an example.*

- Walk around outside the building to look at the overall layout of the property.
- On the **Site Plan**, draw the outline of the building and where it sits on the property.
- Label important features on the **Site Plan**:
  - The location of the street and other landmarks
  - Play areas
  - Trash areas (dumpster, trash collection area)
  - Outdoor parking areas
  - Garages or other buildings



### 3. Note hazards on Site Plan and Visual Survey Report:

- Note the following hazards, **(1)** on the Site Plan, AND **(2)** by making a check mark next to the name of the problem in the “exterior” column on the **Visual Survey Report**:

- **Bare soil (no grass, mulch, or wood shavings) in the yard around the home or in a common outdoor area:** in play areas (in sand boxes, under swing sets, in areas where kids play), along the “dripline” within three feet of the building, and in other areas of the yard.

- **Deteriorated Paint (peeling, flaking, chipping, cracking):**

- Deteriorated in any way
- Paint coming loose from the surface or substrate (wood, plaster, metal, drywall)
- On the home, fences, etc.

- **Holes in the walls of the building.** Look for openings around windows and doors.

- Indicate the extent of the problem for **deteriorated paint and water damage** by noting on the following on the Visual Survey Report:

- N = None

- L = Low (less than 2ft<sup>2</sup>)

- M = Moderate (2 - 10ft<sup>2</sup>)

- H = High (10ft<sup>2</sup> or more)

- E = Extreme (structural damage caused by this problem)

- Note the following hazards on the **Visual Survey Report** only:

- **Rodents or evidence:** Note if you see, or the resident reports seeing, rats or mice, or very small pellets that may be rodent droppings.



- **Other physical conditions that seem hazardous,** such as standing water, woodpiles near exterior walls, accumulated trash, obvious water damage or wood rot, and damaged gutters, downspouts and other

building components.

## 4. Draw one Floor Plan for each floor of the home:

*The Floor Plan shows the layout of the rooms (as seen from above). The Floor Plan makes it easy for you to note where you identify problems. You will also use the Floor Plan to show where you collect samples, leave testing materials for collection, and take photographs.*

*The Floor Plan does not have to be drawn using exact measurements. It should show the general relationships between rooms in the home and exterior walls. See CEHRC's website for the Floor Plan for and an example.*

- Walk through the home to get a good understanding of the overall layout of the rooms.
- Draw the overall outline of the entire home.
- If the home has more than one floor, note which floor each **Floor Plan** represents before you draw it. If the home has two floors, one copy of the floor plan will be marked "**1 of 2**" and the other will be "**2 of 2**". If you draw a plan for an unoccupied basement, mark it "**0**".
- Draw the walls between rooms, then the doors and windows:
  - a. Draw a rectangle for each door: 
  - b. Draw a circle through the line of the wall for each window. 
  - c. Mark the walls of closets to help you keep the walls in perspective and avoid confusion about the doors.
- Label each room using the same names and abbreviations as listed on the **Visual Survey Report**
- Draw an asterisk (\*) in rooms where children sleep or play.
- Be sure to note entryway of the home.

## 5. Perform the Visual Survey: note hazards on both the Floor Plan and Visual Survey Report

- Fill in the top of the **Visual Survey Report** and cross out columns for rooms that are not present. Add names or areas if necessary. If you

do not have enough columns, use a second copy of the report and write “1 of 2” on the first sheet and “2 of 2” on the second.

- Draw a star/asterisk (\*) next to the names of rooms where children sleep or play.
- In each room, look for the problems listed below. For each, (1) note the location of each problem on the floor plan using the abbreviation from the key below, AND (2) make a check mark () next to the name of the problem in the column for that room on the **Visual Survey Report**.

**a. Deteriorated paint (peeling, flaking, chipping, cracking paint):**

- Deteriorated in any way
- Paint coming loose from the painted surface (wood, plaster, metal, drywall)
- Teeth marks on the painted surface.

**b. Cockroaches or their remains:** Note the location if you see any cockroaches, their shells or debris, or if the resident reports seeing them.

**c. Holes in walls between the inside and outside of the building and between rooms.** Look for openings around windows and exterior doors.

**d. Unvented gas oven, clothes dryer, or heater:** An appliance that burns natural gas, kerosene, wood, or other fuel is “unvented” if it does not have a pipe or ductwork that sends the exhaust outside.

**e. Mold or fungus or similar stains on the wall, on the carpet, under sinks, outside of showers, or around windows.** On the Visual Survey Report, check “obvious source of moisture” if the mold is near a source such as a dripping drain or moisture around a window. If there is no obvious moisture source for the mold, check the other box.

- Indicate the extent of the problem for **deteriorated paint and water damage** by noting on the following on the Visual Survey Report:

- N = None
- L = Low (less than 2ft<sup>2</sup>)
- M = Moderate (2 - 10ft<sup>2</sup>)
- H = High (10ft<sup>2</sup> or more)
- E = Extreme (structural damage caused by this problem)

- On the **Visual Survey Report** only, note the following potential problems:
  - a. Walls appear wet or newly stained, or the plaster or drywall is bulging.**
  - b. Rodents or evidence:** Note if you see, or the resident reports seeing, rats or mice, or very small pellets that may be rodent droppings.
  - c. Strong musty smell like mold or fungus.**
  - d. Natural gas or sewer gas smell.** If you think you smell natural gas, advise the resident to call the gas company immediately.
  - e. Old or worn-out carpeting if in poor condition or extremely dirty.**
  - f. Other:** write in additional physical conditions that seem problematic (such as other odors, water leaks, etc.)

## 6. Double-check the Visual Survey Report, Floor Plan, and Site Plan:

- The resident's name, address, and unit number, and your name should be filled in.
- Make sure the names of the rooms on the **Floor Plan(s)** match those on the **Visual Survey Report**.

## 7. Determine further testing needs and locations:

*Plan to take samples if you have identified any of the following:*

- Deteriorated paint (lead)
- Bare soil (lead)
- Water damage (lead, mold and moisture)
- Unvented appliances (carbon monoxide)
- Cockroaches or evidence

## 8. Provide follow-up instructions, schedule the next visit, and thank the resident:

- Explain approximately when and how the **Summary Results Report** will be presented.

*Schedule a time when someone will be home if you need to return to collect tests for carbon monoxide, cockroaches or radon, and note this on the Visual Survey Report.*





# Pediatric Environmental Home Assessment

## HOME VISIT EXERCISE ANSWER SHEET

### RESIDENT REPORTED INFORMATION

**Bolded** responses indicate areas of greater concern.

#### General Housing Characteristics

<b>Type of ownership</b>	<input type="checkbox"/> Own house	<input type="checkbox"/> Market rate rental hsg.	<input type="checkbox"/> Subsidized rental hsg.	<input type="checkbox"/> Shelter	
<b>Age of home</b>	<input type="checkbox"/> <b>Pre-1950</b>	<input type="checkbox"/> <b>1950 -1978</b>	<input type="checkbox"/> Post-1978	<input type="checkbox"/> <b>Don't know</b>	
<b>Structural foundation</b>	<input type="checkbox"/> Basement	<input type="checkbox"/> Slab on grade	<input type="checkbox"/> Crawlspace	<input type="checkbox"/> Don't know	
<b>Floors lived in</b> (check all that apply)	<input type="checkbox"/> Basement	<input type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup> or higher	
<b>Heating</b>	<b>Fuel used</b>	<input type="checkbox"/> Natural gas / LPG	<input type="checkbox"/> Oil	<input type="checkbox"/> Electric	<input type="checkbox"/> Wood
	<b>Sources in home</b>	<input type="checkbox"/> Radiators	<input type="checkbox"/> Forced hot air vents	<input type="checkbox"/> Space heater or oven	<input type="checkbox"/> <b>Other:</b> _____
	<b>Filters changed</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Don't know</b>	<input type="checkbox"/> No filter
	<b>Control</b>	<input type="checkbox"/> Easy to control heat	<input type="checkbox"/> Hard to control heat		
<b>Cooling</b>	<input type="checkbox"/> Windows	<input type="checkbox"/> Central/window AC	<input type="checkbox"/> Fans	<input type="checkbox"/> None	
<b>Ventilation</b> (check all that apply)	<input type="checkbox"/> Opens windows	<input type="checkbox"/> Kitchen & bathroom fans	<input type="checkbox"/> Central ventilation		

**NOTES:**

#### Indoor Pollutants

<b>Mold and moisture</b>	<input type="checkbox"/> Uses dehumidifier <input type="checkbox"/> No damage	<input type="checkbox"/> <b>Uses vaporizer or humidifier</b>	<input type="checkbox"/> <b>Musty odor evident</b>	<input type="checkbox"/> <b>Visible water / mold damage</b>	
<b>Pet</b>	<b>Presence</b>	<input type="checkbox"/> No pets	<input type="checkbox"/> <b>Cat #</b> _____	<input type="checkbox"/> <b>Dog #</b> _____	<input type="checkbox"/> <b>Other:</b> _____
	<b>Management</b>	<input type="checkbox"/> Kept strictly outdoors	<input type="checkbox"/> Not allowed in patient's bedroom	<input type="checkbox"/> <b>Full access in home</b>	<input type="checkbox"/> Sleeping location: _____
<b>Pests</b>	<b>Cockroaches</b>	<input type="checkbox"/> None	<input type="checkbox"/> <b>Family reports</b>	<input type="checkbox"/> <b>Evidence seen</b>	Present in <input type="checkbox"/> kitchen <input type="checkbox"/> bedroom <input type="checkbox"/> other
	<b>Mice</b>	<input type="checkbox"/> None	<input type="checkbox"/> <b>Family reports</b>	<input type="checkbox"/> <b>Evidence seen</b>	Present in <input type="checkbox"/> kitchen <input type="checkbox"/> bedroom <input type="checkbox"/> other
	<b>Rats</b>	<input type="checkbox"/> None	<input type="checkbox"/> <b>Family reports</b>	<input type="checkbox"/> <b>Evidence seen</b>	Present in <input type="checkbox"/> kitchen <input type="checkbox"/> bedroom <input type="checkbox"/> other
	<b>Bedbugs</b>	<input type="checkbox"/> None	<input type="checkbox"/> <b>Family reports</b>	<input type="checkbox"/> <b>Evidence seen</b>	Present in <input type="checkbox"/> bedroom <input type="checkbox"/> other
<b>Lead paint hazards</b>	<input type="checkbox"/> Tested and passed	<input type="checkbox"/> Tested, failed, and mitigated	<input type="checkbox"/> <b>Not tested/Don't know</b>	<input type="checkbox"/> <b>Loose, peeling, or chipping, paint</b>	
<b>Asbestos</b>	<input type="checkbox"/> Tested – None present	<input type="checkbox"/> Tested, failed, and mitigated	<input type="checkbox"/> <b>Not tested/Don't know</b>	<input type="checkbox"/> <b>Damaged material</b>	
<b>Radon</b>	<input type="checkbox"/> Tested and passed	<input type="checkbox"/> Tested, failed, and mitigated	<input type="checkbox"/> <b>Not tested/Don't know</b>	<input type="checkbox"/> <b>Failed test but not mitigated</b>	
<b>Health and Safety Alarms</b>	<input type="checkbox"/> Smoke alarm working and well placed	<input type="checkbox"/> CO alarm working and one on each floor	<input type="checkbox"/> <b>CO alarm does not log peak level</b>	<input type="checkbox"/> <b>No smoke alarm</b> <input type="checkbox"/> <b>No CO alarm</b>	
<b>Tobacco smoke exposure</b>	<input type="checkbox"/> No smoking allowed	<input type="checkbox"/> Smoking only allowed outdoors	<input type="checkbox"/> <b>Smoking allowed indoors</b> <input type="checkbox"/> bedroom <input type="checkbox"/> playroom	<input type="checkbox"/> <b>Total # smokers in household:</b> _____ <input type="checkbox"/> <b>Mother smokes</b>	
<b>Other irritants</b>	<input type="checkbox"/> None	<input type="checkbox"/> <b>Air fresheners</b>	<input type="checkbox"/> <b>Potpourri, incense, candles</b>	<input type="checkbox"/> <b>Other strong odors:</b> _____	
<b>Type of cleaning</b>	<input type="checkbox"/> Standard Vacuum (non HEPA)	<input type="checkbox"/> HEPA vacuum	<input type="checkbox"/> Damp mop and damp dusting	<input type="checkbox"/> <b>Sweep or dry mop</b>	
<b>Cleaning products used</b>	<input type="checkbox"/> Labeled non-toxic	<input type="checkbox"/> <b>Bleach</b>	<input type="checkbox"/> <b>Ammonia</b>	<input type="checkbox"/> <b>Other:</b> _____	

## NURSE OBSERVED INFORMATION

**Bolded** responses indicate areas of greater concern.

Home Environment					
Drinking Water Source		<input type="checkbox"/> Public water system	<input type="checkbox"/> <b>Household Well</b>		
Kitchen	Cleanliness	<input type="checkbox"/> No soiling	<input type="checkbox"/> Trash or garbage sealed	<input type="checkbox"/> <b>Trash or garbage not sealed</b>	<input type="checkbox"/> <b>Wall/ceiling/floor damage</b>
	Ventilation	<input type="checkbox"/> Functioning stove exhaust fan/vent	<input type="checkbox"/> <b>Mold growth present</b>	<input type="checkbox"/> <b>Broken stove exhaust fan/vent</b>	<input type="checkbox"/> <b>No stove exhaust fan/vent</b>
Bathroom		<input type="checkbox"/> Functioning exhaust fan/vent/window	<input type="checkbox"/> <b>Mold growth present</b>	<input type="checkbox"/> <b>Needs cleaning and maintenance</b>	<input type="checkbox"/> <b>Wall/ceiling/floor damage</b>
Basement		<input type="checkbox"/> None/No Access	<input type="checkbox"/> <b>Mold growth present</b>	<input type="checkbox"/> <b>Needs cleaning and maintenance</b>	<input type="checkbox"/> <b>Wall/ceiling/floor damage</b>
Living Room		<input type="checkbox"/> No soiling	<input type="checkbox"/> <b>Mold growth present</b>	<input type="checkbox"/> <b>Needs cleaning and maintenance</b>	<input type="checkbox"/> <b>Wall/ceiling/floor damage</b>
Laundry area		<input type="checkbox"/> None	<input type="checkbox"/> Well maintained	<input type="checkbox"/> <b>Dryer not vented</b>	<input type="checkbox"/> Hang clothes to dry
Sleep Environment					
Patient's sleep area	<input type="checkbox"/> Own room	<input type="checkbox"/> Shared # in room _____	<input type="checkbox"/> Other		
# Beds	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> More than 2	
Allergen impermeable encasings on beds	<input type="checkbox"/> On mattress and boxspring (zippered)	<input type="checkbox"/> On mattress only (zippered)	<input type="checkbox"/> On mattress (not zippered)	<input type="checkbox"/> <b>No mattress covers</b>	
Pillows	<input type="checkbox"/> Allergen-proof	<input type="checkbox"/> Washable	<input type="checkbox"/> Feather/ down		
Bedding	<input type="checkbox"/> Washable	<input type="checkbox"/> Wool/not washable	<input type="checkbox"/> Feather/ down		
Flooring	<input type="checkbox"/> Hardwood/Tile/Linoleum	<input type="checkbox"/> Small area rug	<input type="checkbox"/> Large area rug	<input type="checkbox"/> <b>Wall-to-wall carpet</b>	
Dust/mold catchers	<input type="checkbox"/> Stuffed animals/washable toys <input type="checkbox"/> No clutter	<input type="checkbox"/> <b>Non-washable toys</b>	<input type="checkbox"/> <b>Plants</b>	<input type="checkbox"/> <b>Other _____</b>	
Window	<input type="checkbox"/> Washable shades/curtains	<input type="checkbox"/> Washable blinds	<input type="checkbox"/> Curtains/ drapes	<input type="checkbox"/> <b>No window/ poor ventilation</b>	
Other irritants	<input type="checkbox"/> <b>Abundant cosmetics and fragrances</b>				

Home Safety <i>* can indicate housing code violations</i>					
<i>General</i>					
Active renovation or remodeling	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
*Stairs, protective walls, railings, porches	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
*Hallway lighting	<input type="checkbox"/> Adequate	<input type="checkbox"/> Inadequate			
Poison control number	<input type="checkbox"/> Posted by phone	<input type="checkbox"/> <b>Not posted by phone</b>			
**Family fire escape plan	<input type="checkbox"/> Developed and have copy available	<input type="checkbox"/> None			


Electrical appliances (radio, hair dryer, space heater)	<input type="checkbox"/> Not used near water	<input type="checkbox"/> Used near water <b>BATHROOM</b>		
Matches and lighters stored	<input type="checkbox"/> Out of child's reach	<input type="checkbox"/> Within child's reach		
Exterior environment	<input type="checkbox"/> Well maintained	<input type="checkbox"/> Abundant trash and debris	<input type="checkbox"/> Chipping, peeling paint	<input type="checkbox"/> Broken window(s)


### NURSE OBSERVED INFORMATION (continued)

Child Safety				
<b>Young Children Present</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
<b>Coffee, hot liquids, and foods</b>	<input type="checkbox"/> Out of child's reach	<input type="checkbox"/> Within child's reach		
<b>Cleaning supplies stored</b>	<input type="checkbox"/> Out of child's reach	<input type="checkbox"/> Within child's reach		
<b>Medicine and vitamins stored</b>	<input type="checkbox"/> Out of child's reach	<input type="checkbox"/> Within child's reach		
<b>Child (less than six years old) been tested for lead poisoning</b>	<input type="checkbox"/> Within past 6 months Result: _____	<input type="checkbox"/> Within past year or more. When? <1 year Result: <10	<input type="checkbox"/> No	
<b>Child watched by an adult while in the tub</b>	<input type="checkbox"/> Always	<input type="checkbox"/> Most of the time	<input type="checkbox"/> No	
<b>*Home's hot water temperature</b>	<input type="checkbox"/> <120 F	<input type="checkbox"/> >120 F	<input type="checkbox"/> Don't know	
<b>Non-accordion toddler gates used</b>	<input type="checkbox"/> At top of stairs	<input type="checkbox"/> At bottom of stairs	<input type="checkbox"/> No	
<b>Crib mattress</b>	<input type="checkbox"/> Fits well	<input type="checkbox"/> Loose	<input type="checkbox"/> NA	
<b>Window guards</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
<b>Window blind cords</b>	<input type="checkbox"/> Split cord	<input type="checkbox"/> Looped cord		

### NOTES:

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The National Environmental Education & Training Foundation

We credit its *Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers*  
and model Pediatric Environmental History Form

and



The Center for Healthy Homes and Neighborhoods at Boston University

We credit its model Pediatric Asthma-Allergy Home Assessment form



**Pediatric Environmental Home Assessment Form**

**NURSING PLAN OF ACTION**

*After completing the assessment, use this as a guide for patient education and recommending corrective action for potential residential hazards. This care plan does not address education related to medical management of asthma or other conditions.*

General Housing Characteristics		
CONCERN	NURSE TO DO	FAMILY TO DO
<b>Age of home</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If built before 1978, educate as follows:                             <ul style="list-style-type: none"> <li>○ Home is likely to have lead paint.</li> <li>○ Lead hazards can be harmful to young children’s health and development.</li> <li>○ If family has a child less than six years old then it is important to test for lead hazards.</li> <li>○ If deteriorated paint is observed, encourage family to place temporary barriers to prevent children’s contact with the paint.</li> </ul> </li> <li><input type="checkbox"/> Get more information about lead testing at <a href="http://www.epa.gov/lead/">www.epa.gov/lead/</a> and provide to family.</li> <li><input type="checkbox"/> Get more information on lead safe work practices from <a href="http://www.hud.gov/offices/lead/training/index.cfm">http://www.hud.gov/offices/lead/training/index.cfm</a> and provide to family.</li> <li><input type="checkbox"/> Have information on state and local CLPPP services and provide to family.</li> <li><input type="checkbox"/> Be prepared to demonstrate lead-safe cleaning techniques</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If your child is less than six years old, contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health.</li> <li><input type="checkbox"/> Consider getting a lead paint inspection or risk assessment to determine whether there are lead hazards in your home.</li> <li><input type="checkbox"/> If there are hazards, repair them based on state and local regulations and requirements. Consult with state CLPPP or Dept. of Environment for lists of trained contractors.</li> <li><input type="checkbox"/> If planning “do-it-yourself” repairs, take a Lead Safe Work practices course and follow the instructions in “Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work”, or other state and local guidance.</li> <li><input type="checkbox"/> Until potential paint hazards can be addressed, place temporary barriers to children’s contact with deteriorated paint and begin damp mopping and dusting windows, doors, trim, and floors as demonstrated.</li> </ul>
<b>Heating source - Other: Kerosene heaters, space heaters, fireplaces, wood stoves</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Counsel family about the dangers of such heating sources in terms of fire safety and indoor air quality.</li> <li><input type="checkbox"/> Get more information about indoor air quality and combustion sources in the home at <a href="http://www.epa.gov/iaq/combust.html">http://www.epa.gov/iaq/combust.html</a> and provide to family.</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Make sure kerosene heaters are vented to the outdoors or not used.</li> <li><input type="checkbox"/> Make sure space heaters are at least 3 feet from anything flammable.</li> <li><input type="checkbox"/> When necessary, use only 12 or 14 gauge extension cords (the lower the better).</li> <li><input type="checkbox"/> Ensure that there is a good seal on fireplace screen or woodstove doors.</li> <li><input type="checkbox"/> Do not use charcoal grills to heat or cook inside the home.</li> <li><input type="checkbox"/> Call utility company immediately if you smell natural gas. Open window and evacuate the home of people and pets.</li> </ul>
<b>Filters</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Counsel family to do proper filter maintenance.</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Change filters quarterly.</li> <li><input type="checkbox"/> Use filters which are rated MERV 10.</li> </ul>

Indoor Pollutants		
CONCERN	NURSE TO DO	FAMILY TO DO
<b>Vaporizers/Humidifiers</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Counsel the family about the importance of proper vaporizer/humidifier maintenance and impact of mold growth on patient health.</li> <li><input type="checkbox"/> Get more information about humidifier maintenance at <a href="http://www.epa.gov/iaq/pubs/humidif.html">http://www.epa.gov/iaq/pubs/humidif.html</a> and provide to family.</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Change the water daily with clean cold water.</li> <li><input type="checkbox"/> Use distilled or demineralized water.</li> <li><input type="checkbox"/> Clean humidifier every 3 days. Follow manufacturer’s instructions.</li> <li><input type="checkbox"/> Change filter regularly. Follow manufacturer’s instructions. Change more often if dirty.</li> <li><input type="checkbox"/> Keep surrounding area dry.</li> <li><input type="checkbox"/> Drain and clean humidifier before storing.</li> <li><input type="checkbox"/> Only run humidifier a few hours a day to avoid mold growth.</li> </ul>
<b>Mold/Musty odor</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Educate family about the importance of keeping things dry and the impact of mold on family health.</li> <li><input type="checkbox"/> Get more information at <a href="http://www.epa.gov/mold/moldguide.html">http://www.epa.gov/mold/moldguide.html</a> and provide to family.</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Any mold or musty odor must be investigated for a source of water. Examine plumbing, roofing, or other possible leaks.</li> <li><input type="checkbox"/> If homeowner, make necessary repairs.</li> <li><input type="checkbox"/> If renter, talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.</li> <li><input type="checkbox"/> Run bathroom and kitchen fans for at least 30 minutes to remove moisture. Wipe shower walls after bathing.</li> <li><input type="checkbox"/> Wipe condensation from windows regularly.</li> <li><input type="checkbox"/> Do not hang clothes inside the house to dry.</li> <li><input type="checkbox"/> Contact local health department if you smell “rotten eggs” or sewer-type gas in the home.</li> </ul>

Indoor Pollutants (continued)		
CONCERN	NURSE TO DO	FAMILY TO DO
<b>Pets</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If patient is allergic to pets, educate as follows:               <ul style="list-style-type: none"> <li>○ Pets should not be allowed in bedrooms.</li> <li>○ If possible, pets should be given away.</li> <li>○ If pets cannot be given away, wash and groom pet to reduce allergens.</li> </ul> </li> <li><input type="checkbox"/> Identify low-cost sources/loaner programs for HEPA vacuums and provide information to family.</li> <li><input type="checkbox"/> Review items in "Family To Do" column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If symptomatic, get allergen testing to determine if you are allergic to pets.</li> <li><input type="checkbox"/> Frequently vacuum areas where pets spend time. Use a HEPA- vacuum if possible.</li> <li><input type="checkbox"/> Wash all bedding regularly in hot water.</li> <li><input type="checkbox"/> Groom pets outside.</li> </ul>
<b>Infestations (mice, rats, cockroaches)</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Educate family about pest management and behavior change.</li> <li><input type="checkbox"/> Identify resources in the local community for Integrated Pest Management services or equipment.</li> <li><input type="checkbox"/> Identify local health department numbers for rodent control and inspection and provide to family.</li> <li><input type="checkbox"/> Get more information and order print materials at <a href="http://www.epa.gov/pesticides/catalogue">www.epa.gov/pesticides/catalogue</a> and provide to family.</li> <li><input type="checkbox"/> Review items in "Family To Do" column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Eliminate water and food sources. Seal garbage and all foodstuffs. Look for water leaks.</li> <li><input type="checkbox"/> Call local board of health for inspection.</li> <li><input type="checkbox"/> AVOID "bombs" of pesticides. Use baits, gels and traps. Place these out of child's reach/</li> <li><input type="checkbox"/> Hire, or talk to your landlord about hiring, an exterminator for "Integrated Pest Management" which does NOT include spraying pesticides.</li> </ul>
<b>Lead paint hazards</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> See "Age of Home" above.</li> <li><input type="checkbox"/> Have information on state and local CLPPP services and provide to family.</li> <li><input type="checkbox"/> If family has a history with a history of elevated blood lead levels, verify that the family is receiving case management from the state or local CLPPP. Or make a referral to that program. Report observations and teaching provided at this visit to the CLPPP case manager</li> <li><input type="checkbox"/> Review items in "Family To Do" column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> See "Age of Home" above.</li> <li><input type="checkbox"/></li> </ul>
<b>Radon</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Be familiar with the areas of high radon in your community.</li> <li><input type="checkbox"/> Educate family about impact of radon on health.</li> <li><input type="checkbox"/> Get more information about radon and radon testing at <a href="http://www.epa.gov/radon/">www.epa.gov/radon/</a> and provide to family.</li> <li><input type="checkbox"/> Review items in "Family To Do" column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider purchasing a radon home test kit.</li> <li><input type="checkbox"/> Consult with your state and local departments of health about radon.</li> </ul>
<b>Asbestos</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Educate family about impact of asbestos on health.</li> <li><input type="checkbox"/> Get more information about asbestos testing at <a href="http://www.epa.gov/asbestos/">www.epa.gov/asbestos/</a> and provide to family.</li> <li><input type="checkbox"/> Review items in "Family To Do" column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Do not disturb any surfaces which might contain asbestos. Do not attempt to remove asbestos on your own.</li> <li><input type="checkbox"/> If cracked or crumbling asbestos insulation is visible, tack plastic to walls to encase the insulation until a trained contractor can address the problem.</li> <li><input type="checkbox"/> Consult with your state and local departments of health about asbestos.</li> </ul>

<p><b>Smoke alarm/CO alarm</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If no smoke alarms, educate about risks and local laws regarding the presence of smoke alarms.</li> <li><input type="checkbox"/> Counsel family to : <ul style="list-style-type: none"> <li>o Install smoke alarms in home on every level and in every sleeping area.</li> <li>o Test them once a month.</li> <li>o Replace the batteries at least twice a year.</li> <li>o Replace alarms every 10 years.</li> </ul> </li> <li><input type="checkbox"/> If combustion appliances but no CO alarms, educate about risks and local laws regarding the presence of CO alarms. Change batteries twice a year.</li> <li><input type="checkbox"/> Provide occupant with local CO alarm requirements.</li> <li><input type="checkbox"/> Review items in "Family To Do" column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If no smoke alarms, then: <ul style="list-style-type: none"> <li>o Purchase smoke alarms. Ensure that there is an operational smoke alarm on every floor of the home and in every sleeping area.</li> <li>o Test alarms monthly and change batteries twice a year.</li> <li>o Call local board of health for local smoke alarm requirements. Some states have laws regarding presence of smoke alarms.</li> </ul> </li> <li><input type="checkbox"/> If combustion appliances but no CO alarms, then: <ul style="list-style-type: none"> <li>o Make sure to purchase CO alarms which log peak levels.</li> <li>o Ensure that there is an operational CO alarm on every floor of the home and in every sleeping area.</li> <li>o Some states now have laws regarding presence of CO alarms.</li> </ul> </li> </ul> <p>If the power goes out, do not burn candles, use other heating sources unless there is a supply of fresh air in the room at all times.</p>
<p><b>Tobacco Smoke</b></p> <p><b>Exposure</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Educate about risks of environmental tobacco smoke (ETS) to children.</li> <li><input type="checkbox"/> Identify local smoking cessation programs and provide to families.</li> <li><input type="checkbox"/> Get more information about ETS at <a href="http://www.epa.gov/smokefree/index.html">http://www.epa.gov/smokefree/index.html</a> and provide to family.</li> <li><input type="checkbox"/> Review items in "Family To Do" column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Choose not to smoke in your home and car and do not allow family and visitors to do so. Infants and toddlers are especially vulnerable to the health risks from secondhand smoke.</li> <li><input type="checkbox"/> Do not allow childcare providers or others who work in your home to smoke.</li> <li><input type="checkbox"/> Until you can quit, choose to smoke outside. Moving to another room or opening a window is not enough to protect your children.</li> <li><input type="checkbox"/> Get help to stop smoking. Refer to EPA Smokefree Home pledge website <a href="http://www.epa.gov/smokefree">www.epa.gov/smokefree</a> and contact local smoking cessation services.</li> <li><input type="checkbox"/> Do not burn candles, incense, or other products in the home if children or adults with respiratory problems live there.</li> </ul>



Home Environment		
CONCERN	NURSE TO DO	FAMILY TO DO
<b>Other Irritants (scents, potpourri)</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If air fresheners present, educate as follows:               <ul style="list-style-type: none"> <li>o Many air fresheners have volatile organic compounds (VOC) which trigger asthma. Avoid these products whenever possible.</li> </ul> </li> <li><input type="checkbox"/> Get more information about VOCs at <a href="http://www.epa.gov/iaq/voc.html">http://www.epa.gov/iaq/voc.html</a> and provide to family.</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Remove air fresheners from home.</li> <li><input type="checkbox"/> Do not use products to “freshen” carpets.</li> <li><input type="checkbox"/> Use cleaners/detergents labelled “fragrance-free”.</li> </ul>
<b>Cleaning</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Educate about benefits of wet mopping.</li> <li><input type="checkbox"/> Identify low-cost sources/loaner programs for HEPA vacuums and provide information to family.</li> <li><input type="checkbox"/> Demonstrate the 3-bucket lead safe cleaning practices if deteriorated paint is observed.</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Avoid dry mopping or sweeping which makes dust airborne and may trigger an asthma exacerbation. Use wet mopping instead.</li> <li><input type="checkbox"/> Use a HEPA-vacuum when possible.</li> </ul>
<b>Drinking Water Source – Public water supply</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Know local resources for water testing and provide to family.</li> <li><input type="checkbox"/> Get more information about water testing at <a href="http://www.epa.gov/safewater/labs">www.epa.gov/safewater/labs</a></li> <li><input type="checkbox"/> Find out if the public water supplier has notified consumers of any violations of health-based standards in the last year. Provide this to family.</li> </ul> <p>Review items in “Family To Do” column with family</p> <ul style="list-style-type: none"> <li><input type="checkbox"/></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Test water for lead. Contact local or state department of health for water testing information.</li> <li><input type="checkbox"/> Run water each morning for at least 3 minutes to clear pipes.</li> <li><input type="checkbox"/> Use cold water to make formula.</li> </ul>

**Home Environment (continued)**

CONCERN	NURSE TO DO	FAMILY TO DO
<p><b>Drinking Water Source – Household well water</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ask these additional questions:               <ul style="list-style-type: none"> <li><input type="checkbox"/> Has the water been tested within the last year?</li> <li><input type="checkbox"/> If water has been identified as contaminated, does family use bottled water?</li> <li><input type="checkbox"/> Are infants, pregnant women in the household? If so, encourage testing for nitrates.</li> <li><input type="checkbox"/> Are there noticeable changes in water taste, odor, color or clarity? (In this case, especially if pregnant woman or infant is in the household, recommend testing more than once a year).</li> <li><input type="checkbox"/> Has there been a chemical or fuel spill leak near water supply? (If yes, recommend testing for chemical contaminants, such as volatile organic compounds).</li> </ul> </li> <li><input type="checkbox"/> Provide local health department contact information for water testing.</li> <li><input type="checkbox"/> Get more information about water testing at <a href="http://www.epa.gov/safewater/labs">www.epa.gov/safewater/labs</a></li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Test well water for lead, nitrates, and bacteria annually. Contact local or state department of health for water testing information.</li> <li><input type="checkbox"/> Family should never dump chemicals into the yard or septic system. This prevents well drinking water contamination.</li> <li><input type="checkbox"/> Avoid use of pesticides and fertilizers in the yard whenever possible. These can filter into water supplies.</li> <li><input type="checkbox"/> Run water each morning for at least 3 minutes to clear pipes.</li> <li><input type="checkbox"/> Use cold water to make formula.</li> </ul>
<p><b>Mold</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> See “Mold and Musty Odor” recommendations above. Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> See “Mold and Musty Odor” recommendations above.</li> <li><input type="checkbox"/> Make sure fans in bathroom and kitchen vent to the outside, not just in to walls. The goal is to take moisture out of home.</li> </ul>
<p><b>Damage</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Educate about mold risks as they relate to damage.</li> <li><input type="checkbox"/> If family owns home, then counsel to change behaviors.</li> <li><input type="checkbox"/> If family rents home, then counsel them to talk with their landlord.</li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If homeowner, then make necessary repairs.</li> <li><input type="checkbox"/> If renter, then talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.</li> </ul>

Sleeping Area		
CONCERN	NURSE TO DO	FAMILY TO DO
<b>Mattress covers</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If patient is allergic to dust mites, educate as follows:               <ul style="list-style-type: none"> <li><input type="checkbox"/> Use allergen impermeable mattress covers with zippers on beds and pillows.</li> </ul> </li> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If symptomatic, get allergen testing to determine if you are allergic to dust mites.</li> <li><input type="checkbox"/> Wash all bedding weekly in hot water. Including blankets, bed covers.</li> <li><input type="checkbox"/> Wet wipe or vacuum impermeable mattress covers weekly.</li> </ul>
<b>Carpet</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Clean wall to wall carpet with vacuum weekly.</li> <li><input type="checkbox"/> Shake area rugs outside weekly.</li> <li><input type="checkbox"/> If carpet is more than 8 years old, consider replacing it with smooth wipeable flooring to reduce dust exposure.</li> </ul>
<b>Dust catchers</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Reduce dust with less clutter.</li> <li><input type="checkbox"/> Seal clutter in bags or boxes.</li> <li><input type="checkbox"/> Use wire shelving so dust can settle to closet floors and be vacuumed up.</li> </ul>
<b>Windows</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If patient is allergic to dust mites, review items in “Family To Do” column with family.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If symptomatic, get allergen testing to determine if you are allergic to dust.</li> <li><input type="checkbox"/> Use window treatments that are wipeable.</li> <li><input type="checkbox"/> Avoid curtains and drapes to reduce excessive dust exposure.</li> <li><input type="checkbox"/> Use window guards or prevent windows from opening more than 4” if young children are in the room.</li> </ul>

Home Safety		
General Safety		
CONCERN	NURSE TO DO	FAMILY TO DO
<b>Renovation/remodeling</b>	<input type="checkbox"/> See "Age of Home" above. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> See "Age of Home" above. <input type="checkbox"/> If the home was built pre-1978 and there is a child less than six years old: <ul style="list-style-type: none"> <li>○ Get a lead paint inspection or risk assessment.</li> <li>○ Repair any lead hazards based on state and local regulations and requirements. Consult with state CLPPP.</li> </ul> <input type="checkbox"/> If the home was built pre-1978 and there is no child less than six years old: <ul style="list-style-type: none"> <li>○ Consult with the CLPPP at your state and local departments of health about lead-safe renovation.</li> <li>○ Change behaviors, such as modifying dust generating techniques and containing the work area.</li> <li>○ Hire contractors trained in Lead Safe Work Practice or get this training if you are doing the work yourself.</li> <li>○</li> </ul>
<b>Stairs, walls, railings, porches, lighting</b>	<input type="checkbox"/> If family owns home, then counsel to change behaviors, such as making minor repairs to fix loose railings. <input type="checkbox"/> If family rents home, then counsel them to talk with their landlord. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> If homeowner, make necessary repairs consistent with local building codes.. <input type="checkbox"/> If renter, talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations. <input type="checkbox"/> Spaces between railings should be no more than 4" to prevent accidental injury. <input type="checkbox"/> Compact fluorescent light bulbs can reduce energy costs. <input type="checkbox"/> Do not use throw rugs near stairs or in bathrooms. These can be trip and fall hazards.
<b>Poison control</b>	<input type="checkbox"/> Provide national poison control number 1-800-222-1222 to family. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Post the national poison control number 1-800-222-1222 near telephone. <input type="checkbox"/> Keep all medicines, vitamins, cleaners, pesticides, paints, solvents, and other chemicals out of sight and out of reach of children, in locked cabinets wherever possible.

<b>General Safety (continued)</b>		
<b>CONCERN</b>	<b>NURSE TO DO</b>	<b>FAMILY TO DO</b>
<b>Family fire escape plan</b>	<input type="checkbox"/> Counsel to change behaviors, such as develop a family safety plan. <input type="checkbox"/> Get more fire safety information at <a href="http://www.usa.safekids.org/sites/default/files/documents/fpw_checklist.pdf">http://www.usa.safekids.org/sites/default/files/documents/fpw_checklist.pdf</a> <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Develop a family safety plan. <input type="checkbox"/> Know two ways out of the house. <input type="checkbox"/> Have a place to meet after you are outside the house. <input type="checkbox"/> Teach children the family safety plan for escaping your home in a fire. <input type="checkbox"/> Practice plan at least twice a year.
<b>Electrical appliance</b>	<input type="checkbox"/> Counsel to change behavior. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Do not use electrical appliances near water.  <input type="checkbox"/> Have Ground Fault Circuit Interrupters installed on electrical outlets near water.  <input type="checkbox"/> Use outlet covers.  <input type="checkbox"/> Repair or throw away any appliance with frayed wiring.
<b>Matches and lighters</b>	<input type="checkbox"/> Counsel to change behavior. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Do not store matches and lighters where children can reach them.
<b>Exterior environment</b>	<input type="checkbox"/> If abundant trash and debris, counsel family about waste management. <input type="checkbox"/> If waste containment is the problem, counsel family to talk with landlord. <input type="checkbox"/> See "Infestations" above. <input type="checkbox"/> If the home was built pre-1978, contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health for information about chipping, peeling paint. See "Age of Home" above. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> See "Infestations" above. <input type="checkbox"/> See "Age of Home" above. <input type="checkbox"/> Inspect children's outdoor play equipment annually and repair as needed. <input type="checkbox"/> Make sure that there is no bare soil, peeling paint, animal feces in play areas. <input type="checkbox"/> Water sources (pools, ponds) should be fenced. Children should be supervised around water at all times.
<b>Young Children</b>		
<b>CONCERN</b>	<b>NURSE TO DO</b>	<b>FAMILY TO DO</b>

<b>Hot liquids/cleaning supplies/medicines</b>	<input type="checkbox"/> Counsel to change behaviors. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Do not have hot liquids, cleaning supplies, or medicines within a child's reach.  <input type="checkbox"/> Keep pot handles and stove knobs out of children's reach.
<b>Lead testing for children less than 6 years old</b>	<input type="checkbox"/> If the home was built pre-1978, counsel the family to have the child's blood tested for lead. <input type="checkbox"/> See "Age of Home" above. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health about lead testing resources. <input type="checkbox"/> See "Age of Home" above.
<b>Child watched by an adult while in tub</b>	<input type="checkbox"/> Counsel to change behavior. <input type="checkbox"/> Educate family about importance of not leaving children unattended in the tub. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Do not leave children unattended in the tub.  <input type="checkbox"/> Test water temperature with forearm before placing child in tub.
<b>Hot water temperature</b>	<input type="checkbox"/> Educate family about dangers of scalding. <input type="checkbox"/> Review items in "Family To Do" column with family.	<input type="checkbox"/> Set hot water temperature to <120 F

<b>Toddler gates</b>	<input type="checkbox"/> Counsel family to install non-accordion toddler gates at the top and bottom of stairways. <input type="checkbox"/> Review items in “Family To Do” column with family.	<input type="checkbox"/> Contact local injury prevention program to determine whether there are toddler gate resources available. <input type="checkbox"/> Install non-accordion toddler gates at the top and bottom of stairways.
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<b>Young Children</b>		
<b>CONCERN</b>	<b>NURSE TO DO</b>	<b>FAMILY TO DO</b>
<b>Crib mattress</b>	<input type="checkbox"/> Counsel family that crib mattress should fit snugly next to the crib so that there is no gap. <input type="checkbox"/> If two adult fingers can be placed between the mattress and the crib, then counsel the family to immediately replace the mattress. <input type="checkbox"/> Review items in “Family To Do” column with family.	<input type="checkbox"/> Put your baby to sleep in a crib with a firm, flat mattress and no soft bedding underneath. <input type="checkbox"/> Ensure that your crib mattress fits snugly next to the crib so that there is no gap. <input type="checkbox"/> Infants should always be put to bed on their backs, not face-down. <input type="checkbox"/> Do not hang toys across crib. <input type="checkbox"/> Bars on crib should be no more than 4” apart.
<b>Window guards</b>	<input type="checkbox"/> Counsel family about window safety. <input type="checkbox"/> Contact local injury prevention program to determine whether there are window guard resources available. <input type="checkbox"/> Review items in “Family To Do” column with family.	<input type="checkbox"/> Contact local injury prevention program to determine whether there are window guard resources available. <input type="checkbox"/> Install window guards.
<b>Window blind cords</b>	<input type="checkbox"/> Counsel family to keep window blind cords out of children’s reach and to purchase childproofing items for cord safety. <input type="checkbox"/> Review items in “Family To Do” column with family.	<input type="checkbox"/> Keep window blind cords out of children’s reach <input type="checkbox"/> Purchase childproofing items for cord safety.







## **Pediatric Environmental Home Assessment Scenario**

*The scenario is fictional. The photos are taken from a variety of homes to highlight key issues.*

For the sake of the exercise, take on the role of a public health nurse conducting a pediatric environmental home visit.

It is a warm summer day and you are going out on a home visit to see a family. The family has a six-year old child who has, and is being treated for, asthma. The mom has concerns about recent exacerbations in her child's asthma and the need for more frequent use of “rescue” inhalers.

You note that the family lives in a multi-family building in an urban neighborhood. The building appears to have been built in the late 1950s. That is consistent with other buildings in the neighborhood. Given its urban location, you know that the home is connected to a public water system.

As you go along, you make notes and check off any relevant information on the [PEHA Survey form](#). Let's get started!

### ***Welcome and Introductions***

- [View “Welcome and Introductions” video clip \(7.5 MB\).](#)
- [View photos of basement conditions.](#)
- [View photos of outside conditions.](#)

As you talk further, the mom reports that she is a Section 8 tenant. When she moved in, she says the landlord told her that the house was built in 1958 and that lead hazard control work was completed before she moved in 18 months ago. She could not remember getting any booklet or warnings about lead when she signed her lease.

You ask the mom about other general housing characteristics. She knows there is a basement but has not been in there. She says she has seen the oil truck connect up to the fittings on the side of the house. She shows you the unlocked door to the basement in the common area. You check out the basement.

The mom says that the oil heat can be hard to control in the winter. Some rooms are too hot and others are too cold. She sometimes has to open windows to make the rooms comfortable.

You observe, and the mom reports, that there are no pets in the home.

The mom is focused on the construction dust and mice. She says she has not seen any mold. You follow along on the [PEHA Survey Form](#) and ask about other pests. The mom reports no trouble with cockroaches, rats, or bedbugs.

You ask about asbestos and radon. The mom reports that she has no knowledge about whether the building has been tested or treated.

You do not observe any air fresheners or scented candles present, but you ask about their use. The mom confirms that she does not use those items because they aggravate her child's asthma.

Next you do a kitchen walkthrough with the mom.

### ***Kitchen***

- [View “Kitchen Walkthrough” video clip \(5.8 MB\).](#)
- [View photos of other kitchen conditions.](#)

You review the [PEHA Survey Form](#) and ask to move on to the bedroom and bathroom.

### ***Living Room Walkthrough and Neighborhood Review***

- [View “Living Room Walkthrough and Neighborhood Review” video clip \(3.2 MB\).](#)
- [View photos of living room conditions.](#)

You note the active construction outside and the dust that is accumulating in the window sill even though the window is closed. You also note that there are no window guards on the windows and that the blinds have looped cords.

You ask the mom when was the last time the young children were tested for lead. Mom notes that it was within the last year and the results were less than 10.

You sit down again with the mom to review home safety questions. You provide her with a poison control hotline sticker to place on the phone. You ask about fire safety issues. She notes that there is no smoking allowed in the house and matches are stored in a high, safety-locked cabinet. The family does not have a formal fire escape plan.

The mom reports that the hallway lighting is good. She has no safety concerns about lighting. In the kitchen you note the coffee maker and tea kettle. You ask about the child’s access to hot liquids. The mom notes that her son is older and is aware that he should not touch hot things. You ask the mom if she knows what the hot water temperature is set at. She does not know.

### ***Bedroom and Bathroom***

- [View “Bedroom and Bathroom Walkthrough” video clip \(6.6 MB\).](#)
- [View photos of bedroom conditions.](#)
- [View photos of bathroom conditions.](#)

You ask the mom about the use of humidifiers in the bedroom. She notes that she sometimes uses them in the winter because the air gets too dry from the hard to control heat.

As you talk further, the mom confirms that the bathroom fan does function although it is a bit noisy. You observe a hair dryer on the edge of the sink. You ask the mom about adult supervision when her child is bathing. She notes that she is right there most of the time but may sometimes leave the room to grab a towel or item of clothing for the child.

### ***Medication Review and Wrap-up***

- [View “Medication Review and Wrap-up” video clip \(7.0 MB\).](#)



# Fact Sheet



## Healthy Homes Maintenance Checklist

The following checklist was developed for the Healthy Homes Training Center and Network as a tool for healthy home maintenance. A healthy home is one that is constructed, maintained, and rehabilitated in a manner that is conducive to good occupant health.

To maintain a healthy home, occupants should keep it dry, clean, well-ventilated, free from contaminants, pest-free, safe and well-maintained. Good home maintenance can act to

reduce allergens, prevent illness, and reduce injury from accidents. This checklist provides basic guidelines; items may need to be checked more often depending on local conditions and manufacturer suggestions.

*Developed for the National Healthy Homes Training Center by Terry Brennan and Ellen Tohn, technical advisors to the National Center for Healthy Housing.*

Yard and Exterior	Spring	Fall	Annual	As Needed	Pro Needed?
Water drains away from house	●				
No trip, fall, choking, sharp edge hazards	●	●			
Fence around pool intact	●	●			
Check for signs of rodents, bats, roaches, termites	●	●			
Drain outdoor faucets and hoses		●			
Clean window wells and check drainage	●	●			
Clean gutters and downspouts	●	●			

Exterior Roof, Walls, Windows	Spring	Fall	Annual	As Needed	Pro Needed?
Shingles in good condition	●				
Check chimney, valley, plumbing vent, skylight flashing	●				
Make sure gutters discharge water away from building	●				
Check attic vents		●			
Check attic for signs of roof leaks	●				
Check for icicles and ice dams					
Look for peeling paint	●				
Look for signs of leaks where deck attaches to house	●				
Check below window & door that flashing intact	●				
Repair broken, cracked glass		●			
Look for signs of leaks at window and door sills	●				
Clean dryer vent	●	●			
Check exhaust ducts are clear	●	●			

Basement and Crawlspace	Spring	Fall	Annual	As Needed	Pro Needed?
No wet surfaces, puddles	●	●			
Sump pump and check valve working	●	●			
Floor drain working	●				
Vacuum basement surfaces	●				
Check for signs of rodents, bats, roaches, termites		●			

HVAC Equipment - Replace Filters					
	Spring	Fall	Annual	As Needed	Pro Needed?
Warm air furnace (merv 8)		●			
Air conditioner (central air merv 8)	●				
Dehumidifier	●				
Outdoor air to return to heat recovery ventilation		●			

Attic					
	Spring	Fall	Annual	As Needed	Pro Needed?
Check for signs of rodents, bats, roaches, termites		●			
Check for water damage		●			
Ensure insulation in place		●			
Check that fans still exhaust to outdoors (check ductwork connections)			●		

Plumbing, Fixtures, and Appliances					
	Spring	Fall	Annual	As Needed	Pro Needed?
Check washer hoses- connections			●		
Check dishwasher hoses for leaks			●		
Check toilet supply/shut-off valve			●		
Clean & check refrigerator drip pan-icemaker connections			●		
Check shower-tub surrounds for signs of damage			●		
Check traps and drains under sinks, tubs, showers for leaks			●		
Check hot water heater for leaks		●			
Check boiler for leaks		●			
Check water main/meter or well pump for leaks or sweating		●			
Clean septic tank					
Check drain and supply time for leaks	●	●			
Check bath and kitchen fans operation	●	●			

Interior Walls, Ceilings, Windows, Doors					
	Spring	Fall	Annual	As Needed	Pro Needed?
Check for signs of water damage			●		
Check operation of windows and doors	●				
Lubricate and repair windows and doors				●	

Appliances					
	Spring	Fall	Annual	As Needed	Pro Needed?
Clean kitchen range hood screens				●	
Clean dryer vents and screens	●				
Clean exhaust fan outlets and screens	●				
Clean outdoor air intakes and screens		●			
Clean air conditioning coils, drain pans	●				●
Clean dehumidifier coils, check operation	●				
Clean and tune furnaces, boilers, hot water heaters		●			●
Clean and tune ovens and ranges		●			●

Electrical Equipment					
	Spring	Fall	Annual	As Needed	Pro Needed?
Check for damaged cords	●	●			
Test ground fault interrupters	●				
Test outlets for proper hot, neutral, and ground					
Check smoke and CO alarms	●	●			

Garage					
	Spring	Fall	Annual	As Needed	Pro Needed?
Ensure storage of fuel cans	●	●			
Proper operation of garage door safety shut-off	●	●			
Check for signs of water damage	●				
Check for signs of rodents, bats, roaches, termites	●	●			