

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:									V	isual	Cor	nduc	ted	by:	
Alternate Co	entact:														
Address:											Da	ate:			
Unit #	Unique ID														
Resident Pho	one:						L								
ndicate the ext	ark (\checkmark) if the problem appears ent of the problem (see instruc $(*)$ above any room(s) where a	tions	s) Us	e the	extr	a rov rs. Cii	vs to	iden	tify a vhere	ny ot you	her h	nazar	ds yo	u not	
PROBLEM	I	Exterior	Porch	Entryway	Living Room	Dining Room	Kitchen	Bedroom I	Bedroom 2	Bedroom 3	Bathroom I	Bathroom 2	Basement		
Deteriorated	Walls														
oaint	Windows, door, or trim														
	Paint chips on floor				////	////									///
Soil with no gra	ass or mulch														
Cockroaches															
Rodents															
Holes in wall															
Mold/	Obvious source of moisture														
Mildew	No obvious source of moisture														
Water Damage	s: walls wet/newly stained														
Strong musty s	mell														
Natural gas/sev	ver gas smell														
	oven/dryer/heater														
Worn-out carp	eting														
Other:															
Other:															
Other:															
Other:															
Other:															
If renting, r	eceived lead hazard disclosure	info	orma	tion :	from	land	llordi	•	Yes		No				

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, (I) 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 <u>extent</u> 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 $2ft^2$)
 - M = Moderate (2 10ft²)
 - $H = High (10ft^2 \text{ or more})$
 - 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

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 " I 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 "I 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, (I) 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 <u>extent</u> of the problem for **deteriorated paint and water damage** by noting on the following on the Visual Survey Report:
 - \bullet N = None
 - L = Low (less than $2ft^2$)
 - M = Moderate (2 10ft²)
 - $H = High (10ft^2 \text{ or more})$
 - 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. D		uble-check the Visual Survey Report, Floor Plan, nd 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. D	et	ermine further testing needs and locations:
	Pla	n to take samples if you have identified any of the following:
		Deteriorated paint (lead)
		Bare soil (lead)

☐ Cockroaches or evidence

☐ Water damage (lead, mold and moisture)

☐ Unvented appliances (carbon monoxide)

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

Last updated 6/7/06

RESIDENT REPORTED INFORMATION

Bolded responses indicate areas of greater concern.

Gene	ral Housing Charact	teristics			
Type	of ownership	☐ Own house	☐ Market rate rental hsg.	☐ Subsidized rental hsg.	☐ Shelter
Age o	of home	☐ Pre-1950	□ 1950 - 1978	☐ Post-1978	☐ Don't know
Struc	tural foundation	□ Basement	☐ Slab on grade	☐ Crawlspace	☐ Don't know
	rs lived in k all that apply)	□ Basement	□ 1 st	☐ 2 nd	□ 3 rd or higher
	Fuel used	☐ Natural gas	□ Oil	□ Electric	□Wood
Heating	Sources in home	☐ Baseboards	□ Radiators	☐ Forced hot air vents	☐ Other:
Неа	Filters changed	□Yes	□No	☐ HEPA air filter	□ Don't know
	Control	☐ Easy to control heat	☐ Hard to control heat		
Cooli	ing	☐ Windows	☐ Central/window AC	□ Fans	□ None
Venti	lation	☐ Open windows	☐ Kitchen & bathroom	☐ Central ventilation	
(check	call that apply)		fans		

Indoor	Pollutants				
Mold a	and moisture	☐ Uses dehumidifier☐ No damage	☐ Uses vaporizer or humidifier	☐ Musty odor evident	☐ Visible water / mold damage
	Presence	☐ No pets	□ Cat #	□ Dog #	☐ Other:
Pet	Management	☐ Kept strictly outdoors	☐ Not allowed in patient's bedroom	☐ Full access in home	☐ Sleeping location:
	Cockroaches	□ None	☐ Family reports	☐ Family shows evidence	Present in □ kitchen □ bedroom □ other
Pests	Mice	□ None	☐ Family reports	☐ Family shows evidence	Present in □ kitchen □ bedroom □ other
Pe	Rats	□ None	☐ Family reports	☐ Family shows evidence	Present in □ kitchen □ bedroom □ other
	Bedbugs	□ None	☐ Family reports	☐ Family shows evidence	Present in ☐ bedroom ☐ other
Lead p	paint hazards	☐ Tested and passed	☐ Tested, failed, and mitigated	☐ Not tested/Don't know	☐ Loose, peeling, or chipping, paint
Asbes	tos	☐ Tested – None present	☐ Tested, failed, and mitigated	☐ Not tested/Don't know	☐ Damaged material
Radon	l	☐ Tested and passed	☐ Tested, failed, and mitigated	☐ Not tested/Don't know	☐ Failed test but not mitigated
Health	and Safety Alarms	☐ Smoke alarm working and well placed	☐ CO alarm working and one on each floor	□ CO alarm does not log peak level	□ No smoke alarm □ No CO alarm
Tobac	co smoke exposure	☐ No smoking allowed	☐ Smoking only allowed outdoors	☐ Smokingallowed indoors☐ bedroom☐ playroom	☐ Total # smokers in household:
Other	irritants	□ None	☐ Air fresheners	□ Potpourri, incense, candles	Other strong odors:
Type o	of cleaning	□ Vacuum (non-HEPA)	☐ HEPA vacuum	☐ Damp mop and damp dusting	☐ Sweep or dry mop

NOTES:

NURSE OBSERVED INFORMATION

Home Environment

Bolded responses indicate areas of greater concern.

Drinking \	Water Source	☐ Public water sy	stem	☐ Household V	Vell				
nen	Cleanliness	☐ No soiling		☐ Trash or garb	age	☐ Trash or garb	•	⊒ Wall/ce damage	iling/floor
Kitchen	Ventilation	☐ Functioning sto exhaust fan/vent	ve	☐ Mold growth present		☐ Broken stove exhaust fan/ver	Ţ		/e exhaust
Bathroom	1	☐ Functioning exh	naust	☐ Mold growth present		□ Needs cleaning and maintenance	ng [iling/floor
Basemen	t	□ None/No Acces	s	☐ Mold growth present		□ Needs cleaning	ng [iling/floor
Living Ro	om	☐ No soiling		☐ Mold growth present		□ Needs cleaning and maintenance	ng [iling/floor
Laundry a	area	□ None		☐ Well maintain	ed	☐ Dryer not ven			othes to dry
		·	·		·				
Sleep Env	vironment								
Patient's	sleep area	☐ Own room		☐ Shared # in room		☐ Other			
# Beds		u 0		1		□ 2		☐ More	than 2
Allergen impermea		☐ On mattress and boxspring (zippered)		☐ On mattress (zippered)	s only	☐ On mattress (not zippered)		□ No n	nattress covers
Pillows	01111111111	☐ Allergen-proof		☐ Washable		☐ Feather/ dow	/n		
Bedding		☐ Washable		☐ Wool/not wa	ashable	☐ Feather/ dov	/n		
Flooring		☐ Hardwood/Tile/Lin	oleum	☐ Small area	rug	☐ Large area r	ug	□ Wall	-to-wall carpet
Dust/mole	d catchers	□ Stuffed animals/watoys□ No clutter	ashable	☐ Non-washa toys	able	☐ Plants		□ Othe	er
Window		☐ Washable shades curtains	1	□ Washable	blinds	☐ Curtains/ dra	ipes		vindow/ entilation
Other irrit	ants	☐ Abundant cosmet	ics						
Home Sat		code violations							
General									
	novation or re		☐ Yes		□ No				
		s, railings, porches	☐ Yes		□ No				
*Hallway			☐ Aded	quate	☐ Inade	equate			
Poison co	ontrol numbe	r	□ Post	ed by phone	□ Not p	oosted by			
**Family f	ire escape pl	an		eloped and opy available	□ None	3			
Electrical space hea		radio, hair dryer,		used near	☐ Used	l near water			
Matches a	and lighters s	tored		of child's reach	□ Withi	in child's reach			
Exterior e	nvironment		□ Well	maintained	☐ Abur debris	ndant trash and	☐ Chip		☐ Broken window(s)

NURSE OBSERVED INFORMATION (continued)

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

NOTES:

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National Center for Healthy Housing

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With thanks to

 $N \cdot E \cdot E \cdot T \cdot F$

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



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

General Housing Characte	ristic	SO		
CONCERN	Š	NURSE TO DO	FAM	FAMILY TO DO
Age of home If but the property of the proper		If built before 1978, educate as follows:		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. Consider getting a lead paint inspection or risk assessment to determine whether there are lead hazards in your home. If there are hazards, repair them based on state and local regulations and requirements. Consult with state CLPPP.
Heating source - Other: in Kerosene heaters, space in heaters, fireplaces, wood stoves		Counsel family about the dangers of such heating sources in terms of fire safety and indoor air quality. Get more information about indoor air quality and combustion sources in the home at http://www.epa.gov/iaq/combust.html and provide to family. Review items in "Family To Do" column with family.		Make sure kerosene heaters are vented to the outdoors or not used. Make sure space heaters are at least 3 feet from anything flammable. When necessary, use only 12 or 14 gauge extension cords (the lower the better). Ensure that there is a good seal on fireplace screen or woodstove doors.
Filters		Counsel family to do proper filter maintenance. Review items in "Family To Do" column with family.		Change filters twice a year. Use filters which are rated MERV 9.
macol Foliatants				
CONCERN	Ž	NURSE TO DO	FAR	FAMILY TO DO
Vaporizers/Humidifiers		Counsel the family about the importance of proper vaporizer/humidifier maintenance and impact of mold growth on patient health. Get more information about humidifier maintenance at http://www.epa.gov/iaq/pubs/humidif.html and provide to family. Review items in "Family To Do" column with family.		Change the water daily with clean cold water. Use distilled or demineralized water. Clean humidifier every 3 days. Follow manufacturer's instructions. Change filter regularly. Follow manufacturer's instructions. Change more often if dirty. Keep surrounding area dry. Drain and clean humidifier before storing. Only run humidifier a few hours a day to avoid mold growth.
Mold/Musty odor		Educate family about the importance of keeping things dry and the impact of mold on family health. Get more information at http://www.epa.gov/mold/moldguide.html and provide to family. Review items in "Family To Do" column with family.		Any mold or musty odor must be investigated for a source of water. Examine plumbing, roofing, or other possible leaks. If homeowner, then make necessary repairs. If renter, then talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.

If patient is allergic to pets, educate as follows: If patient is allergic to pets, educate as follows: Pets should not be allowed in bedrooms. If postbe, pets should be given away. Review items in "Family To Do" column with family. Educate family about pest management and water-leak behavior change. Cet more information and order print materials at waw.epa.gov/pesticides/catalogue and provide to harmily. AVOID "butanily about impact of radon on health. AVOID "butanily about impact of radon on health. See "Age of Home" above. See "Age of Home" abo	Indoor Pollutants (continued)	(pa			
If patient is allergic to pets, educate as follows: O	CONCERN	S	JRSE TO DO	FAI	MILY TO DO
Educate family about pest management and behavior change. Get more information and order print materials at water leak water leak water leak water people sticides/catalogue and provide to family. Avoid by family about impact of radon on health. Consult water water family about impact of radon on health. Consult water family about impact of asbestos on health. Consult water information about asbestos on health. Consult waw.epa.gov/radon/2 and provide to family. Consult waw.epa.gov/rabestos/and provide to family. Consult waw.epa.gov/rabestos/ander about risks and local laws regarding the presence of Co alarms. If no CO alarms, educate about risks and local laws regarding the presence of CO alarms. Review items in "Family To Do" column with family. Choose not sincovide to family. Consult waw.epa.gov/smokefree/index.html and Choose not provide to family. Consult waw.epa.gov/smokefree/index.html and Consult hyporopa.	e www.hea		If patient is allergic to pets, educate as follows: Pets should not be allowed in bedrooms. If possible, pets should be given away. If pets cannot be given away, wash pet weekly to reduce allergens. Review items in "Family To Do" column with family.		If symptomatic, get allergen testing to determine if you are allergic to pets.
See "Age of Home" above. Review items in "Family To Do" column with family. Educate family about impact of radon on health. Get more information about radon and radon testing at www.epa.gov/radon/ and provide to family. Review items in "Family To Do" column with family. Get more information about asbestos testing at Get more information about asbestos testing at Get more information about asbestos to family. Get more information about inject of aspestos on health. Get more information about inject of aspestos on health. Get more information about inject of amily. Review items in "Family To Do" column with family. If no smoke alarms, educate about risks and local laws regarding the presence of smoke alarms. If no smoke alarms in home on every level and in every sleeping area. Test them once a month. Replace the batteries at least twice a year. Replace the batteries at least twice a year. Replace the batteries at least twice a year. Replace alarms, educate about risks and local laws regarding the presence of CO alarms. Review items in "Family To Do" column with family. Educate about risks of environmental tobacco Set more information about ETS at In this you of the provide to family. Review items in "Family To Do" column with family. Get help to the presence of Column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Review items in "Family To Do" column with family. Consult to family. Consult Team of	Infestations (mice, rats, cockroaches) amount is a cockroaches)		Educate family about pest management and behavior change. Get more information and order print materials at www.epa.gov/pesticides/catalogue and provide to family. Review items in "Family To Do" column with family.	0 000	Eliminate water and food sources. Seal garbage and all foodstuffs. Look for water leaks. Call local board of health for inspection AVOID "bombs" of pesticides. Hire, or talk to your landlord about hiring, an exterminator for "Integrated Pest Management" which does NOT include spraying pesticides.
Educate family about impact of radon on health. Get more information about radon and radon testing at www.epa.gov/radon/ and provide to family. Review items in "Family To Do" column with family. Educate family about impact of asbestos on health. Educate family about impact of asbestos on health. Get more information about asbestos testing at www.epa.gov/asbestos/ and provide to family. Review items in "Family To Do" column with family. If no smoke alarms, educate about risks and local laws regarding the presence of smoke alarms. Counsel family to: ○ Install smoke alarms in home on every level and in every sleeping area. ○ Replace the batteries at least twice a year. O Replace alarms every 10 years. O Replace alarms every 10 years. O Replace about risks and local laws regarding the presence of CO alarms. educate about risks of environmental tobacco smoke (ETS) to children. C Choose not sistly in the control of the contr	Lead paint hazards				See "Age of Home" above.
 □ Educate family about impact of asbestos on health. □ Get more information about asbestos testing at www.epa.gov/asbestos/ and provide to family. □ Review items in "Family To Do" column with family. □ If no smoke alarms, educate about risks and local laws regarding the presence of smoke alarms. □ Install smoke alarms in home on every level and in every sleeping area. ○ Test them once a month. ○ Replace the batteries at least twice a year. ○ Replace alarms every 10 years. □ If no CO alarms, educate about risks and local laws regarding the presence of CO alarms. □ Educate about risks of environmental tobacco sisted in "Family To Do" column with family. □ Educate about risks of environmental tobacco in visitors to smoke (ETS) to children. □ Get more information about ETS at this in "Family To Do" column with family. □ Get help to get help to a get help to the provide to family. □ Review items in "Family To Do" column with family. □ Get help to get help to a get help to the provide to family. 	Radon Bring.or		D .		Consider purchasing a radon home test kit. Consult with your state and local departments of health about radon.
If no smoke alarms, educate about risks and local laws regarding the presence of smoke alarms. Counsel family to: Install smoke alarms in home on every level and in every sleeping area. Test them once a month. Replace the batteries at least twice a year. Replace alarms every 10 years. If no CO alarms, educate about risks and local laws regarding the presence of CO alarms. Review items in "Family To Do" column with family. Educate about risks of environmental tobacco sistors to smoke (ETS) to children. Get more information about ETS at http://www.epa.gov/smokefree/index.html and provide to family. Choose no risks of anvironmental tobacco sistors to smoke (ETS) to children. Get more information about ETS at http://www.epa.gov/smokefree/index.html and provide to family. Choose no risks of anvironmental tobacco so reserve and local laws is the family. Choose no risks from http://www.epa.gov/smokefree/index.html and provide to family. Choose no risks of anvironmental tobacco so reserve and local laws is the family. Choose no risks from http://www.epa.gov/smokefree/index.html and provide to family. Choose no risks from http://www.epa.gov/smokefree/index.html and provide to family. Choose no risks from http://www.epa.gov/smokefree/index.html and provide to family.	G Asbestos				Do not disturb any surfaces which might contain asbestos. Consult with your state and local departments of health about asbestos.
3	Smoke alarm/CO alarm Smoke alarm/CO alarm Tobacco Smoke Exposure 13		If no smoke alarms, educate about risks and local laws regarding the presence of smoke alarms. Counsel family to: Install smoke alarms in home on every level and in every sleeping area. Test them once a month. Replace the batteries at least twice a year. Replace alarms every 10 years. If no CO alarms, educate about risks and local laws regarding the presence of CO alarms. Review items in "Family To Do" column with family. Educate about risks of environmental tobacco smoke (ETS) to children. Get more information about ETS at http://www.epa.gov/smokefree/index.html and provide to family. Review items in "Family To Do" column with family.		×

SHome Environment		
© CONCERN	NURSE TO DO	FAMILY TO DO
Other Irritants (scents, potpourri) abhraid	If air fresheners present, educate as follows:	□ Remove air fresheners from home.
Cleaning Cleaning Nestraining.org	 □ Educate about benefits of wet mopping. □ Review items in "Family To Do" column with family. 	□ Avoid dry mopping or sweeping which makes dust airborne and may trigger an asthma exacerbation. Use wet mopping instead
Drinking Water Source – Public water supply seconds - Se	Get more information about water testing at www.epa.gov/safewater/labs Review items in "Family To Do" column with family	 □ Test water for lead. Contact local or state department of health for water testing information. □ Find out if the public water supplier has notified consumers of any violations of health-based standards in the last year.
e 101 of 137		

	FAMILY TO DO	rotected and well testing information. Test water for lead. Contact local or state department of health for water rotected and well testing information. rding to state or other ciffication? nor infants in household, rate source used or bottled water)? nor bottled water)? or bottled water)? nor bottled water)? or bottled water)? or bottled water)? or bottled water)? and contaminants in he last or clarity? (In this case, nant woman or infant is in commend testing more infant is in the commend testing more infant is in the commend testing in	ter testing at column with family.	or" recommendations	is as they relate to damage. If homeowner, then make necessary repairs. If renter, then talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations. Consider calling them to talk with family. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations. Consider calling the local board of health for possible code violations Consider calling the local board of health for possible code violations Consider calling the local board of health for possible code violations Consider calling the local board of health for possible code violations Consider calling the local board of health for possible code violations Consider calling the local board of health for possible code violations Consider calling the local board of health for possible cal
()	NURSE TO DO	Ask these additional questors the wellhead proconstructed acconrequirements/special swater tested an pregnant woman nitrates, and okayor is water tested and etected and alter (appropriate filter swater tested and etected and alter (appropriate filter swater tested and etected, but alter swater beauties). Are there noticeal taste, odor, color especially if pregnate household, refithan once a year? Has there been a near water supply testing for chemic color wolatile organic colo	Get mor www.ep Review	See "Mold and Musty Od above. Make sure fans in bathro outside, not just in to wall moisture out of home. Review items in "Family"	Educate about mold risks If family owns home, then behaviors. If family rents home, then their landlord. Review items in "Family T
nued	ž				
Home Environment (continued)	CONCERN CONCERN	Prinking Water Source – Household well water Household well water Another Source – Brinking Water Source – Household water For British Source – For British	Refere	^{plo} S ences - Pag	^{өбр} ө 102 of 137

Clossing Area			
CONCERN	NURSE TO DO		FAMILY TO DO
Mattress covers	If patient is allergic to dust mites, educate as follows: ○ Use allergen impermeable mattress covers with zippers on beds and pillows. □ Review items in "Family To Do" column with family.	educate as mattress covers pillows.	☐ If symptomatic, get allergen testing to determine if you are allergic to dust mites.
Carbed Carbed Mealthyhor	☐ Review items in "Family To Do" column with family.	olumn with family.	 □ Clean wall to wall carpet with vacuum weekly. □ Shake area rugs outside weekly. □ If carpet is more than 8 years old, consider replacing it with smooth wipeable flooring to reduce dust exposure. (8 year number came from Megan Sandel. Need to determine if that is number used by others too.)
Dust catchers	☐ Review items in "Family To Do" column with family.	olumn with family.	☐ Reduce dust with less clutter.☐ Seal clutter in bags or boxes.
windows ining.or	☐ If patient is allergic to dust mites, review items in "Family To Do" column with family.	review items in	 ☐ If symptomatic, get allergen testing to determine if you are allergic to dust. ☐ Use window treatments that are wipeable. ☐ Avoid curtains and drapes to reduce excessive dust exposure.
Home Safety			
General Safety			
CONCERN	NURSE TO DO		FAMILY TO DO
Renovation/remodeling References	☐ See "Age of Home" above. ☐ Review items in "Family To Do" column with family.	olumn with family.	See "Age of Home" above. If the home was built pre-1978 and there is a child less than six years old: o get a lead paint inspection or risk assessment. requirements. Consult with state CLPPP. If the home was built pre-1978 and there is no child less than six years old: consult with the CLPPP at your state and local departments of health about lead-safe renovation. Change behaviors, such as modifying dust generating techniques and containing the work area.
Stairs, walls, railings, porches, lighting	If family owns home, then counsel to change behaviors, such as making minor repairs to fix	I to change repairs to fix	☐ If homeowner, then make necessary repairs. ☐ If renter, then talk with your landlord about needed repairs. Consider calling
j e 1 (☐ If family rents home, then counsel them to talk with their landlord.	I them to talk with	
03	_	olumn with family.	
Jo Poison control		umber 1-800-222-	☐ Post the national poison control number 1-800-222-1222 near telephone.
3	☐ Keview items in "Family 10 Do" column with family.	olumn with ramily.	

General Safety (continued)				
e concern	Š	NURSE TO DO	ΕĀ	FAMILY TO DO
Family fire escape plan		Counsel to change behaviors, such as develop a family safety plan. Get more fire safety information at http://www.usa.safekids.org/content_documents/firechecklist.pdf echecklist.pdf Review items in "Family To Do" column with family.		Develop a family safety plan. Need to know two ways out of the house. Need to have a place to meet after you are outside the house. Teach children the family safety plan for escaping your home in a fire and practice it
thy Helectrical appliance	00	Counsel to change behavior. Review items in "Family To Do" column with family.		Do not use electrical appliances near water.
Matches and lighters		Counsel to change behavior. Review items in "Family To Do" column with family.		Do not store matches and lighters where children can reach them.
Exterior environment		If abundant trash and debris, counsel family about waste management. If waste containment is the problem, counsel family to talk with landlord. See "Infestations" above. 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. Review items in "Family To Do" column with family.		See "Age of Home" above. See "Age of Home" above.
Young Children				
CONCERN	N	NURSE TO DO	FΑ	FAMILY TO DO
Hot liquids/cleaning supplies/medicines		Counsel to change behaviors. Review items in "Family To Do" column with family.		Do not have hot liquids, cleaning supplies, or medicines within a child's reach.
Lead testing for children ess than 6 years old		If the home was built pre-1978, counsel the family to have the child's blood tested for lead. See "Age of Home" above. Review items in "Family To Do" column with family.		Contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health about lead testing resources. See "Age of Home" above.
Child watched by an adult T while in tub B		Counsel to change behavior. Educate family about importance of not leaving children unattended in the tub. Review items in "Family To Do" column with family.		Do not leave children unattended in the tub.
Hot water temperature 7 7		Educate family about dangers of scalding. Review items in "Family To Do" column with family.		Set hot water temperature to <120 F
Toddler gates		Counsel family to install non-accordion toddler gates at the top and bottom of stairways. Review items in "Family To Do" column with family.		Contact local injury prevention program to determine whether there are toddler gate resources available. Install non-accordion toddler gates at the top and bottom of stairways.

Young Children		
Seconcern	NURSE TO DO	FAMILY TO DO
Crip mattress www.healthyhor	 □ Counsel family that crib mattress should fit snugly next to the crib so that there is no gap. □ If two adult fingers can be placed between the mattress and the crib, then counsel the family to immediately replace the mattress. □ Review items in "Family To Do" column with family. 	 □ Put your baby to sleep in a crib with a firm, flat mattress and no soft bedding underneath. □ Ensure that your crib mattress fits snugly next to the crib so that there is no gap.
Window guards Mestraini	 Counsel family about window safety. Contact local injury prevention program to determine whether there are window guard resources available. Review items in "Family To Do" column with family. 	 □ Contact local injury prevention program to determine whether there are window guard resources available. □ Install window guards.
Window blind cords	 □ Counsel family to keep window blind cords out of children's reach and to purchase childproofing items for cord safety. □ Review items in "Family To Do" column with family. 	 □ Keep window blind cords out of children's reach □ 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 <u>PEHA Survey form</u>. 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 <u>PEHA Survey Form</u> 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).



National Center for Healthy Housing

National Healthy Homes Training Center and Network

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.

	Soning		Anna San	\$ \$ \$	% of o
Yard & Exterior	16	4	MA	W	M
Water drains away from house	0				
No trip, fall, choking, sharp edge hazards	0	0			
Fence around pool intact	0	0			
Check for signs of rodents, bats, roaches, termites	0	0			
Drain outdoor faucets and hoses		0			
Clean window wells and check drainage	0	0			
Clean gutters and downspouts	0	0			

	Simo	110	Annes	\$ % %	\$ \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Basement & Crawispace		W	1	 	
No wet surfaces, puddles	0	0			
Sump pump and check valve working	0	0			
Floor drain working	0				
Vacuum basement surfaces	0				
Check for signs of rodents, bats, roaches, termites		0			

	Sino		Annus	AS No.	40 %
Exterior Roof, Walls, Wind	lows	114	a		
Shingles in good condition	0				
Check chimney, valley, plumping vent, skylight flashing	0				
Make sure gutters discharge water away from building	0				
Check attic vents		0			
Check attic for signs of roof leaks	0				
Check for icicles and ice dams			winter		
Look for peeling paint	0				
Look for signs of leaks where deck attaches to house	0				
Check below window & door that flashing intact	0				
Repair broken, cracked glass		0			
Look for signs of leaks at window and door sills	0				
Clean dryer vent	0	0			
Check exhaust ducts are clear	0	0			

Maintenance Checklist continued on next page



	Sagar	4	₽çı,	\$ X	0,0
Interior Walls, Ceilings, W	indov	vs, Do	ors	<u> </u>	
Check for signs of water damage			0		
Check operation of windows and doors	0				
Lubricate and repair windows and doors				0	

	Soning	1	Anna	As No.	00 Nov.	¢λ ₉ ,
Plumbing, Fixtures and Ap	plian	ces	•	i for		
Check washer hoses- connections			0			
Check dishwasher hoses for leaks			0			
Check toilet supply/shut-off valve			0			
Clean & check refrigerator drip pan-icemaker connections			0			
Check shower-tub surrounds for signs of damage			0			
Check traps and drains under sinks, tubs, showers for leaks			0			
Check hot water heater for leaks		0				
Check boiler for leaks		0				
Check water main/meter or well pump for leaks or sweating		0				
Check water main/meter or well pump for leaks or sweating		0				
Clean septic tank			2 yrs			
Check drain and supply time for leaks	0	0				
Check bath and kitchen fans operation	0	0				

	Spring	l _e all	Annual	4s No.	P. O. W.
Appliances	1	4	-		
Clean kitchen range hood screens				0	
Clean dryer vents and screens	0				
Clean exhaust fan outlets and screens	0				
Clean outdoor air intakes and screens		0			
Clean air conditioning coils, drain pans	0				0
Clean dehumidifier coils, check operation	0				
Clean and tune furnaces, boilers, hot water heaters		0			0
Clean and tune ovens and ranges		0			0

	Sonio	1/6	Annua /	4s No.	4.0 √ 0
Electrical Equipment	57				
Check for damaged cords	0	0			
Test ground fault interrupters	0				
Test outlets for proper hot, neutral and ground			once		
Check smoke and CO alarms	0	0			

Garage	Spring		Annual N	4s New	Page No. A.
Ensure storage of fuel cans	0	0			
Proper operation of garage door safety shut-off	0	0			
Check for signs of water damage	0				
Check for signs of rodents, bats, roaches, termites	0	0			

HVAC Equipment - Replace filters

Warm air furnace (merv 8)

Air conditioner (central air merv 8)

Dehumidifier

Outdoor air to return to heat recovery ventilation

See www.healthyhomestraining.org

Attic

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)

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