Healthy Home Assessments: Principles and Practice

Introduction
Working with People

Course Precautionary Statement

All students attending this course should recognize the following:

- Any students working with occupants with significant health conditions should advise them to seek medical counsel in order to understand the true nature of their symptoms.
- For students attending this course to receive maximum benefit from the materials presented, they should have some knowledge of residential building design and construction.
- Although this course provides the basic elements for performing healthy home assessments, it is not intended to serve as sole basis of a home assessment professional's knowledge.
- 4. This course does not purport to address all safety concerns associated with assessing home environmental hazards. It is the responsibility of all students to establish appropriate health and safety practices and to determine all relevant regulatory limitations prior to performing any home-related assessment activity.

Learning Objectives

At the completion of this section the student will be able to:

- 1. Provide a brief history of the healthy home initiative in which federal agencies have been involved.
- Explain the scope of a healthy home assessment process including the basic steps from the initial phone call to the reporting of assessment results.
- 3. Describe up to five home conditions that might be described during an environmental history.
- Take a basic environmental history from a client, and identify up to five key health concerns that often serve as indicators of unhealthy environmental conditions.

Healthy Home Initiative





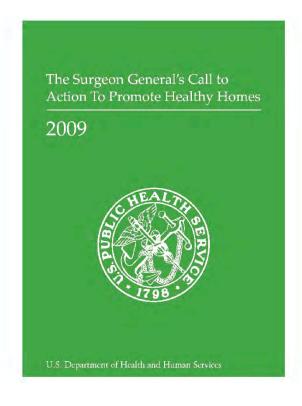








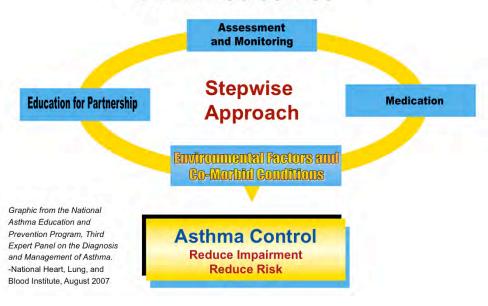
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Home Assessment Beneficial to People with Different Health Conditions

- Intermittent & Persistent Asthma
- · Elevated Lead Blood
- Severe Allergies
- Severe Eczema
- Cystic Fibrosis
- Chemical Exposure
- · Severe Injury
- Immunocompromised patients
 - Cancer, transplants

Components of Asthma Management-NHLBI Guidelines



2007 NHLBI Asthma Guidelines

- Exposure of patients who have asthma to inhalant allergens or irritants to which they are sensitive has been shown to increase asthma symptoms and precipitate asthma exacerbations
- For successful long-term management of asthma, it is essential to identify and reduce exposures to relevant inhalant allergens and irritants
 - A multifaceted, comprehensive approach is required
 - Single steps to reduce exposure are generally ineffective

National Asthma Education and Prevention Program, Third Expert Panel on the Diagnosis and Management of Asthma. National Heart, Lung, and Blood Institute, August 2007

2007 Asthma Guidelines

- Teach patients with asthma to:
 - Use multi-faceted approach.
 - Reduce, if possible, exposure to allergens to which the patient is sensitized and exposed.
 - Avoid exposure to environmental tobacco smoke and other respiratory irritants, including smoke from woodburning stoves and fireplaces and, if possible, substances with strong odors.
 - Formaldehyde and volatile organic compounds (VOCs) have been implicated as potential risk factors for asthma and wheezing.
 - Avoid exertion outdoors when levels of air pollution are high.

National Asthma Education and Prevention Program,
Third Expert Panel on the Diagnosis and Management of Asthma.
National Heart, Lung, and Blood Institute, August 2007

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2007 Guidelines

- Consider multifaceted educational programs delivered in patient's homes
 - Multifaceted programs that focus on educating patients and providing tools to reduce exposure to cockroach, dust-mite, and rodents have demonstrated success in reducing exposures and reducing asthma morbidity.
 - Further research needed to evaluate the costeffectiveness and feasibility of widespread implementation of such programs will he helpful

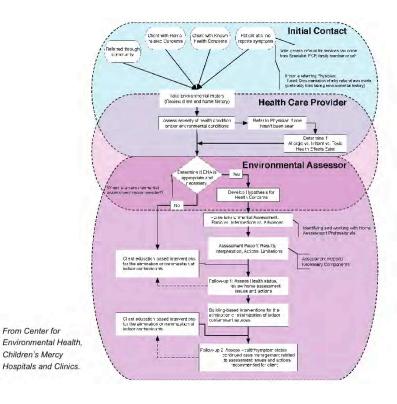
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Healthy Home Environmental Assessment Principles

1. Initial contact and collection of information

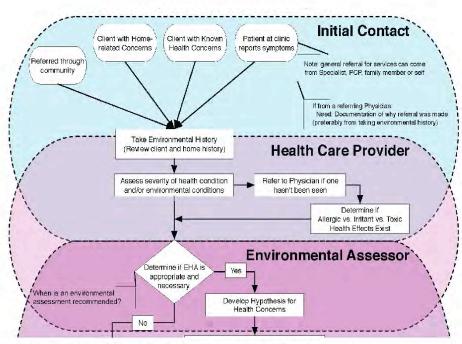
- 2. Establish a clear purpose for the assessment
- 3. Formulate initial hypotheses
- 4. Site visit and walk-through
- 5. Qualitative and Quantitative Assessment
- 6. Generate Assessment Report with Actions
- 7. Educate for Solutions

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From Center for

Children's Mercy



From Center for Environmental Health, Children's Mercy Hospitals and Clinics.

The First Phone Call

- Important to Understand:
 - This is a call for help and guidance
 - the client believes he or she has a problem (home concerns)
 - Referrals are made or people call directly because of a perceived health concern
 - They are generally seeking assistance
 - What resources are available?

Healthy Home Environmental Assessment Principles

- 1. Initial contact and collect general information
- 2. Establish a clear purpose for the assessment
- 3. Formulate initial hypotheses
- 4. Site visit and walk-through
- 5. Qualitative and Quantitative Assessment
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- 7. Educate for Solutions

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Commonly Reported Health Concerns Related to Homes

- Symptoms only present themselves when client at home
- Client wakes up feeling worse and better after leaving home
- · Acute vs. Chronic Health Effects

Commonly Reported Health Concerns Related to Homes

Acute Symptoms

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

Chronic Symptoms

 Allergies, asthma, neurological, lethargy, infections, cancer

Signs and Symptoms	Environmental Tobasco Smoke	Other Combustion Products	Fiological Pollutants	Volatife Organies	meany Metals	Sick Eldg. Symfroms
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Respiratory						
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Epic axis				■ 1		
Franyr gittis, sough	•					
Wheezing, worsening asthm	a =	•		•		•
Dyspnea	= 2					
Severe lung clacas	e					■6
Other						
Comune iva irritation				•		
Hazdache or dizzi	ness =		-	•		
Lethargy, fatigue, malaisc		•	•			
Saussa, vomiting ancrexia		-		•		
Cognitive impain personal ty chan?		■4			×	-
Kashes						
Favar, chills			■ 6		=	

From, Indoor Air Pollution- An Introduction for Health Professionals, EPA 1995.

- The Goal is to understand:
 - The client's physical surroundings
 - The type of home they live in
 - Where the client spends time
 - The client's routine activities
 - Potential hazards and to identify risks
 - · Hazards and exposure time

Focus on "open-ended" questions (What.. How.. Tell me.. Describe for me..)

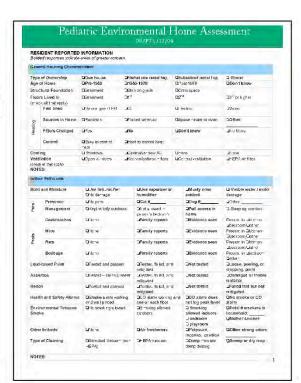
Determine if there are any reported signs and/or symptoms of home-related concerns:

- Timing (same time each day)?
- Location (same place in house)?
- Others affected?
- Improvement when away from home?

- Type, age, condition of dwelling
 - Basement, crawlspace, slab foundation?
- Renovation or Construction
 - On-going, recent, planned
- Type of Heating/cooling systems
 - Maintained? Last Serviced?
- Hobbies
- · Chemicals routinely used?
- · Own Pets?
- · Observed Pests?
- Any Smokers
- Occupations
- School concerns

Exercise #2

From, Pediatric Environmental Home Assessment, National Center for Healthy Housing, 2005.



When is a Home Assessment:

- Appropriate?
- Necessary?
- Are there Alternatives?

Home Assessments are a form of Risk Assessment and Include:

- Hazard Identification
- Exposure Assessment
- Risk Characterization

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Client's Environmental History Helps Characterize Risks

Establish Risk Criteria:

- –Are they Health-Based?
- -Are they Environment-based?

Risk Criteria- Examples

- · Health-Based
 - Asthma Risk Criteria
 - Lead EBL Action Level
 - Radon Action Level
- Environment-based
 - Flooding, recent major event
 - Reported chemical spill or miss-use
 - Reported pest infestation
 - Age of housing occupied by family

Develop Assessment Hypothesis

- Summarize Health History and reported symptoms
- When appropriate, discuss Environmental History with Health Provider
- Develop an Hypothesis
- Determine Assessment Level

Determine and Establish with the Client, the Scope of Assessment

- How much of the property will be assessed?
- Will the property owner be present or available to discuss any issues identified?
- What level of assessment is appropriate?

Determine the Level of Assessment

- <u>Basic</u>- Visual assessment and healthy home education only
- <u>Intermediate</u>- Visual assessment and healthy home education supported by basic environmental measurements. Sampling in rare cases
- Advanced- Visual assessment and healthy home education supported by basic and/or advanced environmental measurements.
 Sampling and lab analysis optional.

Key Messages

- Referrals for home assessments may come from a variety of sources
- Clients and referring providers are looking for housing concerns that may relate to health symptoms
- Taking an environmental history is essential in guiding your decision-making
- Establishing a clear purpose (scope) and developing a hypothesis and level of assessment are important steps prior to visiting homes

	
	
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