



**National Center for  
Healthy Housing**

Creating healthy and safe homes for children through practical and proven steps.

# What Does “Healthy Homes” Really Mean and WHY Should We Care?

November 28, 2011



## Homes Shelter Us From:

- Animals and insects
- Human intruders
- Wind
- Sun
- Rain (sleet and snow)
- Cold or hot air
- Dust



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# What's a House?





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# A House Is a System





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# An Interactive System

**Air Flow**



**Heat Flow**

**Moisture Flow**



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## Why Worry About Healthy Homes?



Young children spend about  
70% of the time in their homes.

Many seniors spend 90%+  
of their time in their homes.





# What Is Healthy Housing?

## Healthy housing is...

- Sited
- Designed
- Constructed
- Maintained; and
- Rehabilitated

...in a manner that is conducive to good occupant health.







## 2009 American Housing Survey

### Exterior problems:

- 4.2% - missing roof material
- 9.8% - exterior water leakage
- 18.6% - exterior physical problems



## 2009 American Housing Survey

### Interior Problems:

- 8.1% - interior water leakage
- 4.9% - open cracks or holes
- 3.4% - pipes leaked
- 5.5% - mice
- 8.7% - blown fuses or breakers

### Safety Devices:

- 5.5% - no working smoke alarm
- 55% - extinguishers more than two years old
- 64% - no carbon monoxide alarm



## Asthma

- Asthma costs \$18 billion per year, about 3% of all healthcare costs.
- Asthma accounts for more than 10 million missed school days a year.
- Black children have 2-3 times higher rates of hospitalization for asthma – and are five times more likely to die from asthma.



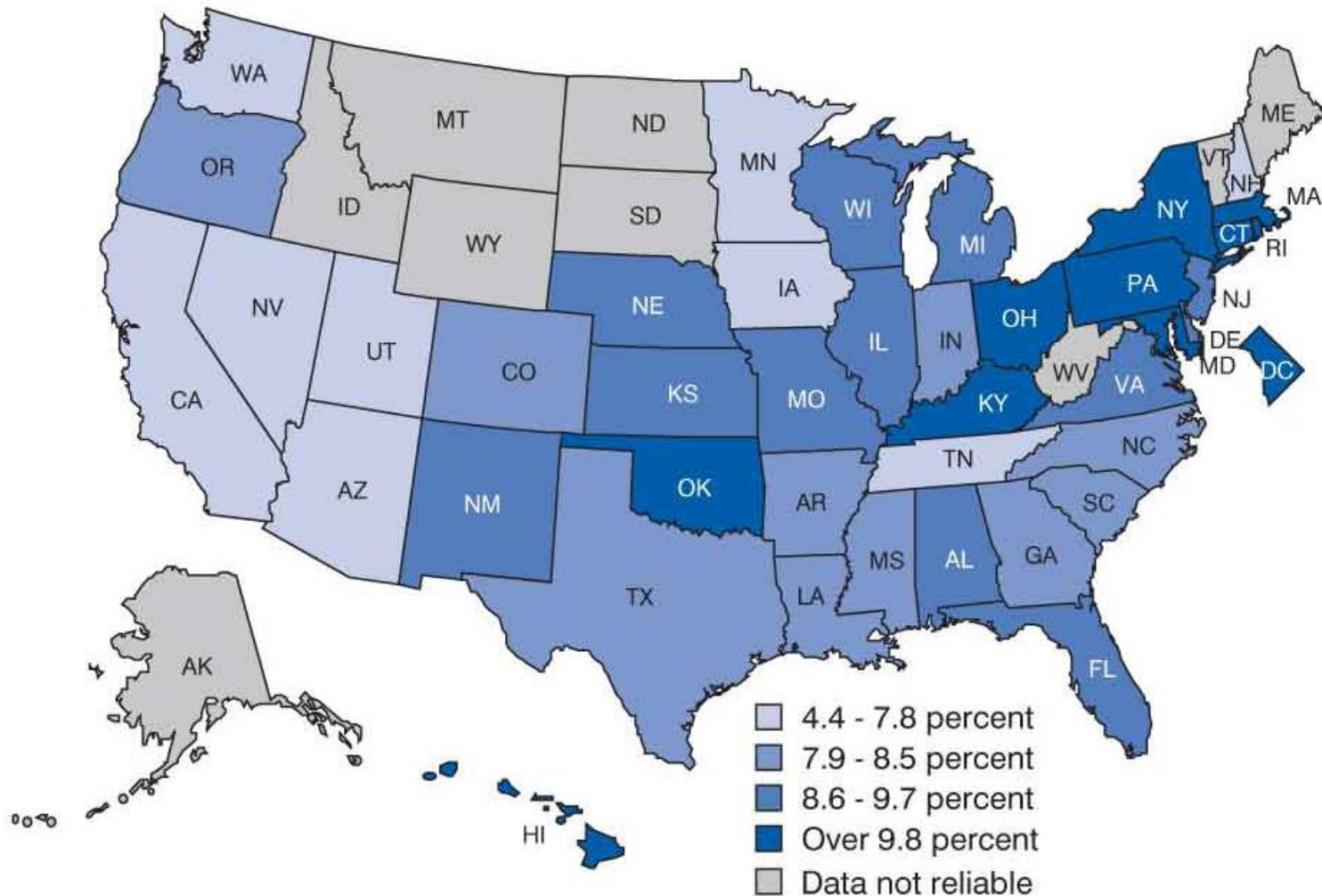
## Asthma Triggers

- Secondhand smoke
- Dust mites
- Mold
- Cockroaches
- Rat and mouse dander
- Pet dander

Low-income housing has higher exposures.

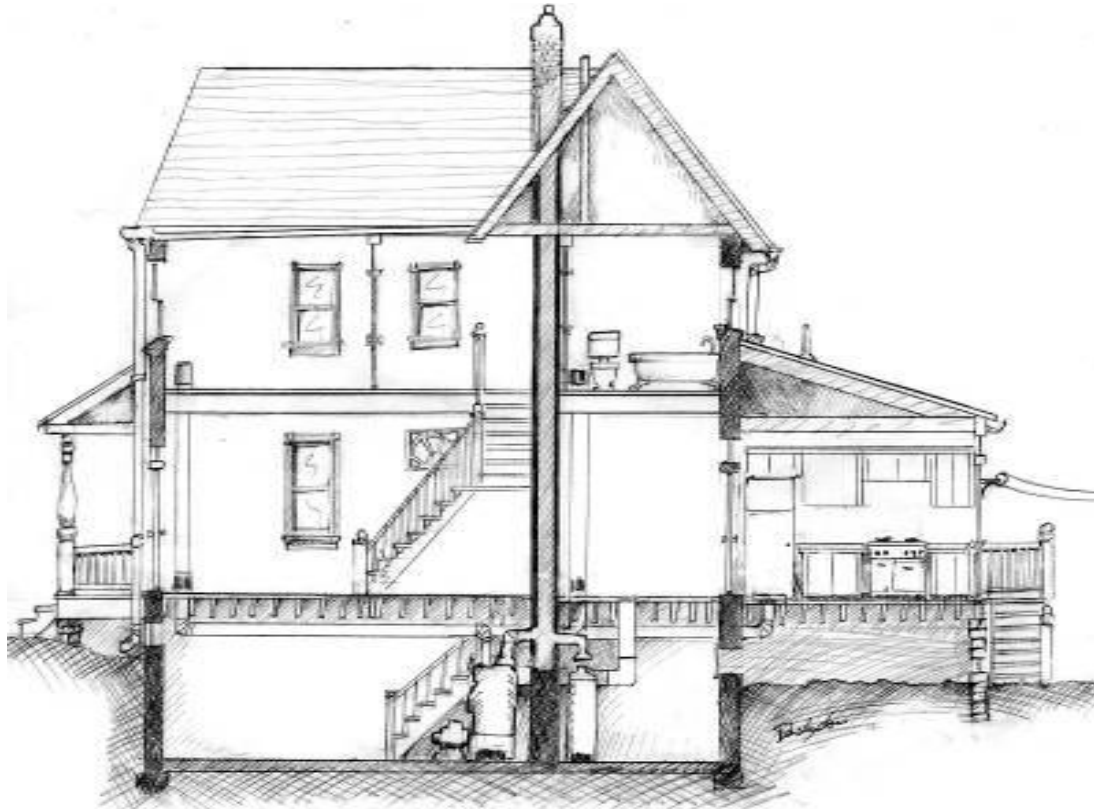


# Childhood Asthma 1980 to 2005





# Healthy Homes Principles



## Keep it:

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



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# Keep It Dry





## Moisture Causes a Host of Health Hazards

- Mold
- Dust mites
- Cockroaches
- Other pests
- Allergens
- Structural damage (wood rot)
- Paint failure (creating lead hazards)





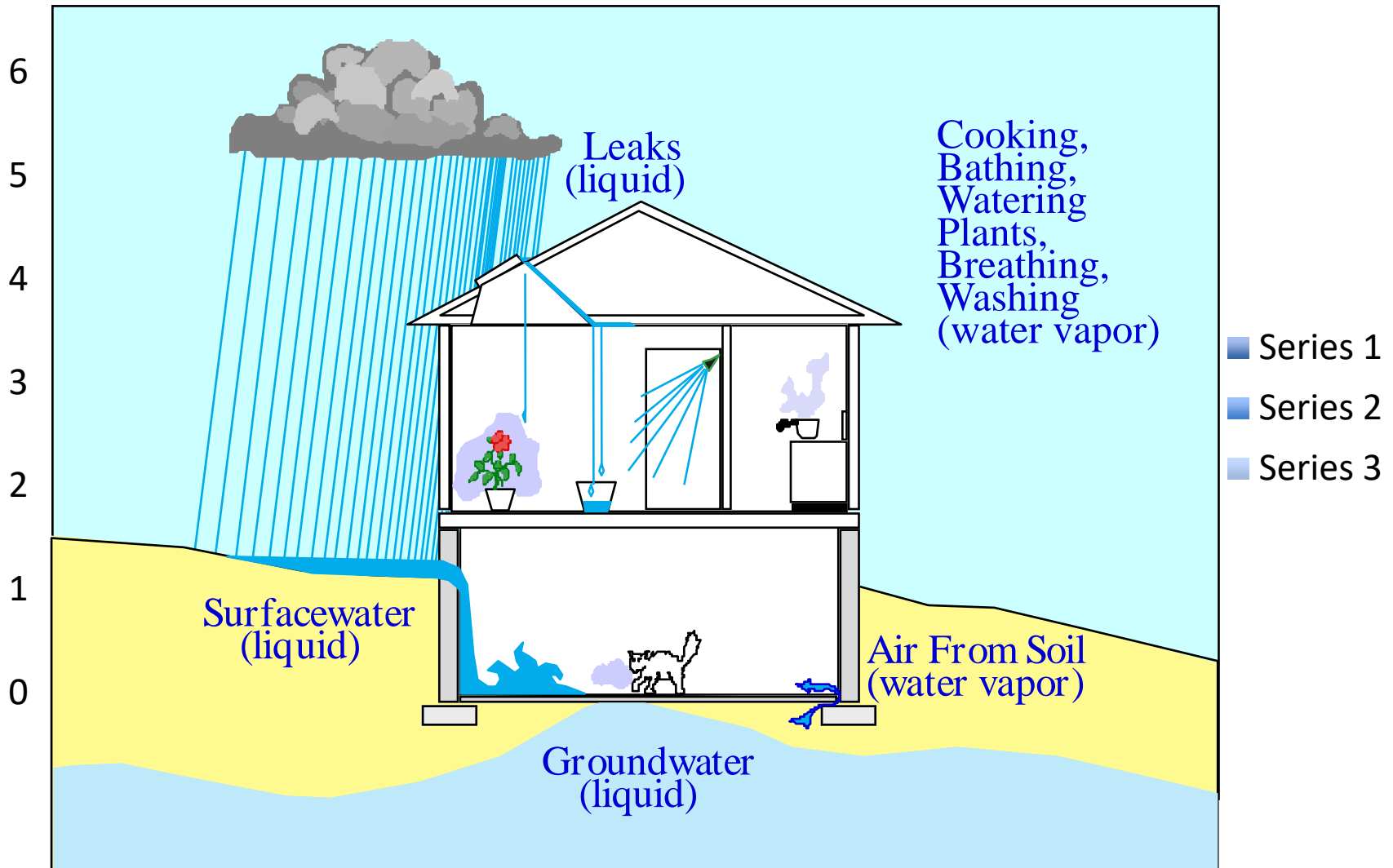
# IOM Report Mold- and Moisture-Related Health Effects

- Upper respiratory tract symptoms
- Coughing
- Wheezing
- Asthma
- Hypersensitivity pneumonitis





# How Water Enters a Building





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# Windows leak?





Plumbing leaks  
are another  
common cause of  
moisture damage



## Condensation When Cold Outside



Mold due to poor insulation or wind blowing through insulation

Mold around window where there is no insulation



**Leaky refrigerator drip pan causes mold**





Air conditioner condensation  
drains into building

