

Indoor Air Quality & a Healthy Home



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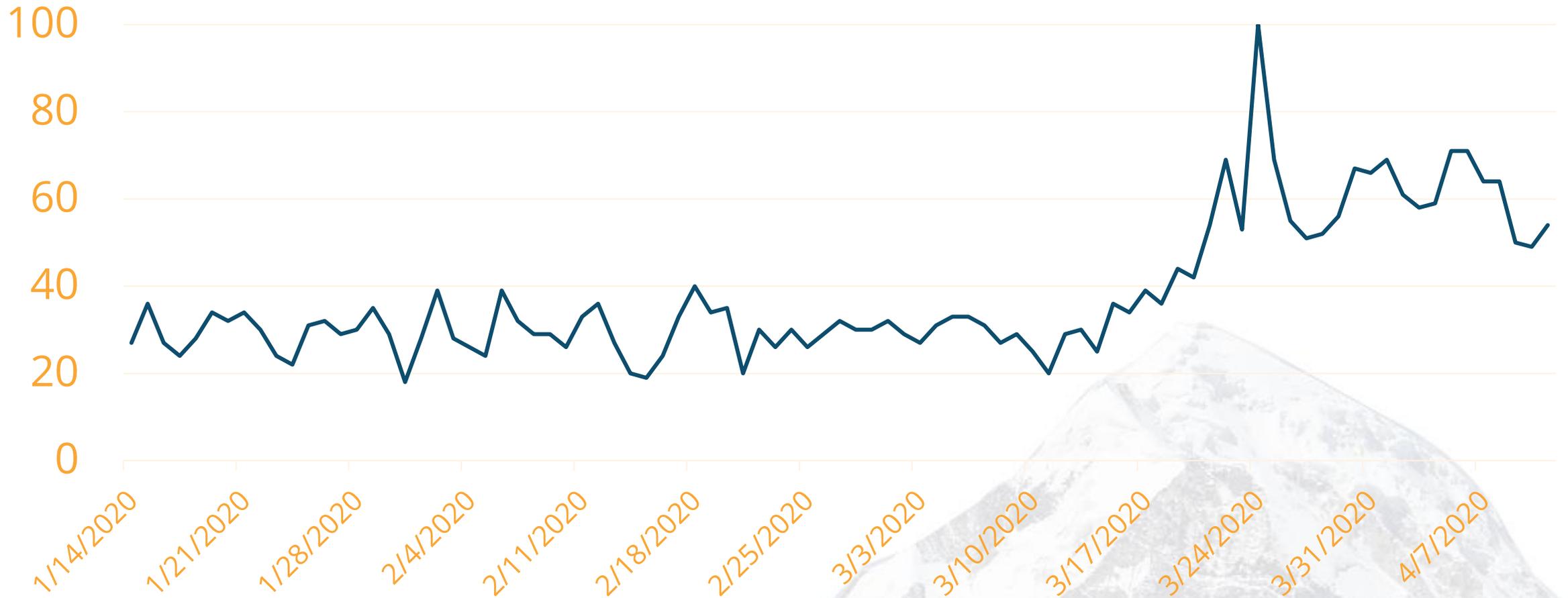


Learning Objectives

- What do we mean by a “Healthy Homes” ... and what do we not?
- What guidelines and programs exist to improve indoor air quality in homes?
- What are the key features you want your next build or remodel to have?



Google Trends - Interest Over Time "Healthy Home" Search Term Last 90 Days



COVID –19 and the Built Environment***

Building
Design

Material
Choices

HVAC
Equipment

***I am not a doctor, a microbiologist, or a health expert!



Question #1?



What does a healthy home mean to you?



Definition of a Healthy Home

Housing that is designed, constructed, maintained, and rehabilitated in a manner that is conducive to good occupant health.

- From the National Center for Healthy Housing



Principles of a Healthy Home

Dry

Clean &
Pest-Free

Ventilated

Safe

Contaminant
- Free

Maintained

Thermally
Controlled

Accessible

Affordable



What do we not mean when we talk about a healthy home?

A clean room?

Germ Free?

A space ship?

Air-tight?



What is in a home that can affect your health?

VOCs

Radon

PM_{2.5}

CO₂

Mold &
Mildew

CO

Biologics

Chronic

Acute



What are common impacts from poor indoor air quality?

Fatigue

Irritation of the
eyes, nose, or
throat

Headaches

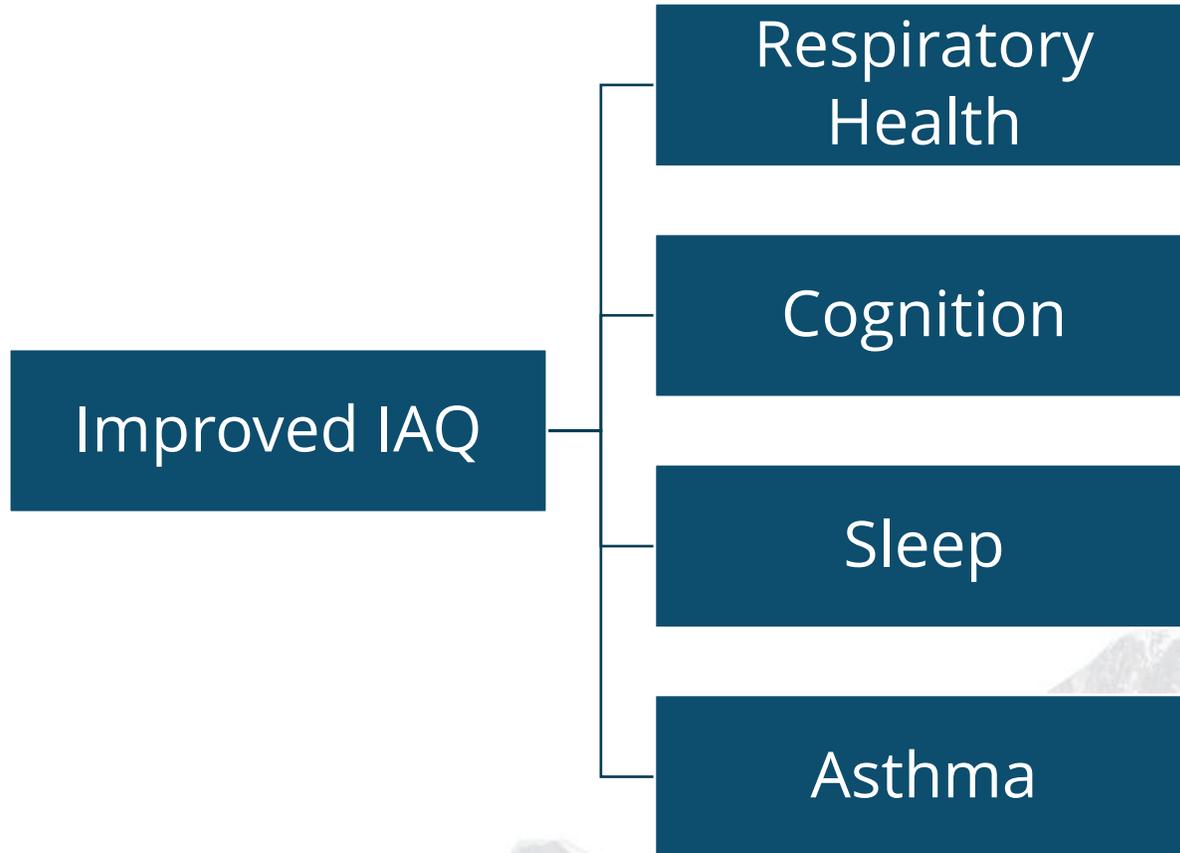
Aggravated
cardiovascular
illness

Damage to the
respiratory
system

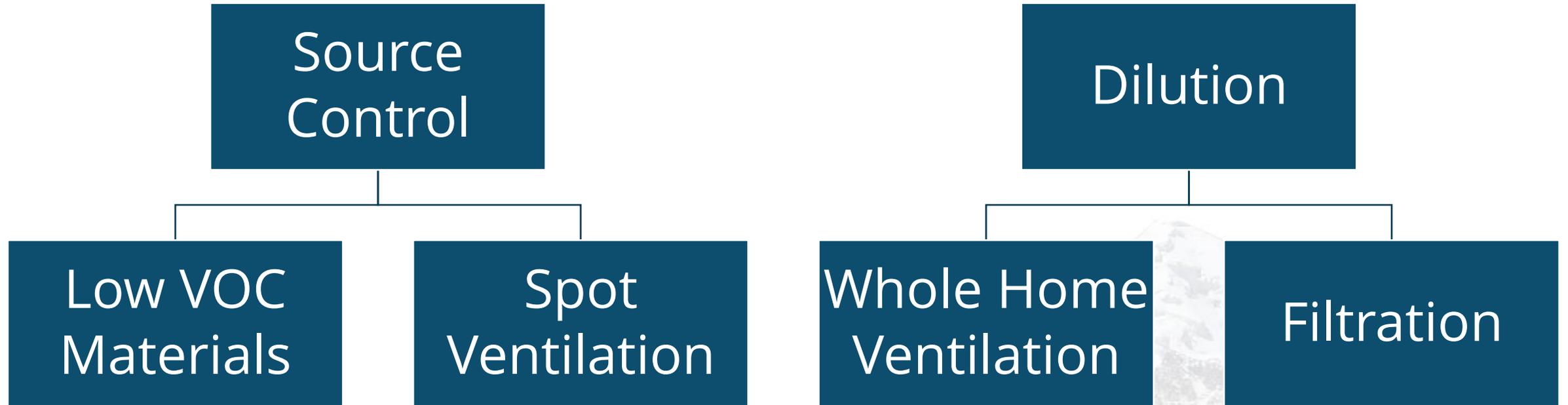
Aggravated
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What can Improved IAQ do for a homeowner?



Basics of Indoor Air Quality



Question #2?



What programs exist to promote healthy homes?



Resources and Programs

- Building Code Requirements for Ventilation, Moisture Control, & CO Monitoring
- HUD's Office of Lead Hazard Control and Healthy Homes
- National Center for Healthy Housing
- Indoor airPLUS™ – EPA Program
- LEED® for Homes
- National Green Building Standard (NGBS)



Resources for Finding Low VOC Materials

- SPOT – Database for UL GreenGuard Materials
- Indoor airPLUS™ “How to Find Compliant Low Emission Products”
- Scientific Certification Systems (SCS) Indoor Advantage Label
- Collaborative for High Performance Schools Database
- CRI Green Label Database
- Green Seal Label
- Red List from Living Future Institute

Tip! Look for third-party labeled materials over independently labeled



Question #3?



What features do we want as the next healthy home you build?



Goals For a Future Healthy Home

Keep Pests
Out

Promote IAQ

Easy to Clean
& Maintain

Low Cost to
Keep
Comfortable



Keep Pests Out

Pest, pest waste byproducts, & chemicals used for treatment negatively affect IAQ



Develop an Integrated Pest Management program & increased air tightness



Examples of Items in an Integrated Pest Management Program

- Barrier Systems – Wire Mesh, Basaltic Rock
- Solid Foundation Strategies
- Treat Cellulosic Material
- Inspection port
- Termite Bait Systems
- Exterior Inspection Space
- Seal Entry Points
- Water Discharge
- Landscaping



Promote IAQ

Improved
Filtration

Kitchen
Exhaust

Increased
Ventilation

Low or No
VOC
Materials

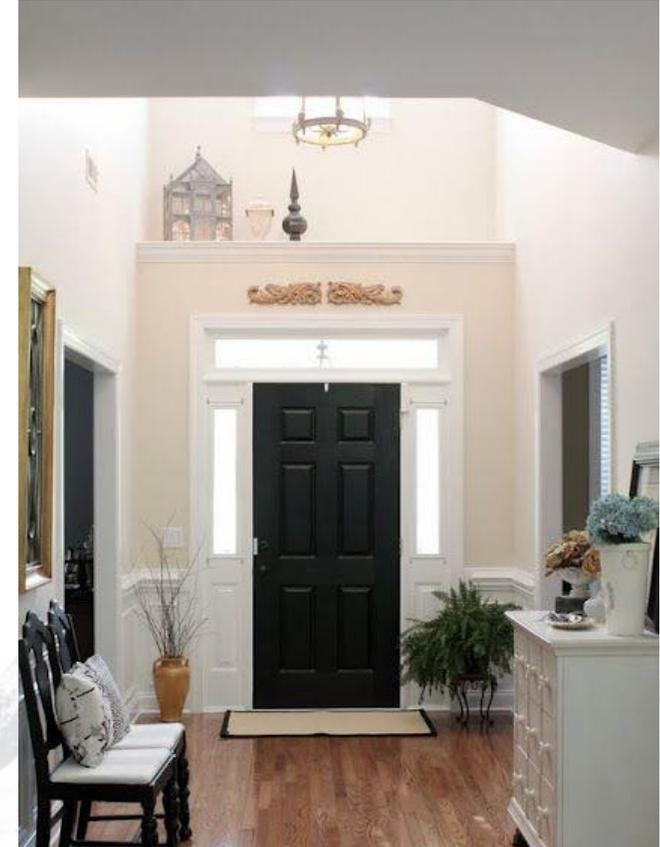
Control
Humidity

Bathroom
Exhaust



Easy to Clean

- Avoid carpet in high-traffic areas
- Easy to wipe down surfaces in commonly touched areas
- Mold and moisture resistant materials in wet areas
- Avoid shelves that dust can settle on





Low Cost to Keep Comfortable

- Meet or exceed 2012 IECC insulation requirements
- Perform a Manual J,D,&S and install HVAC per the design
- Install proper roof overhangs
- Perform air sealing and test air leakage

Thank you!

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EnergyLogic

Our vision: A world where all homes are efficient, healthy, and resilient.

ENERGY STAR® Sustained Excellence/Partner of the Year 2009-2014, 2016-2020

About eenergyLogic

Berthoud, Colorado-based EnergyLogic is a software and building consulting company that has provided expert resources, education and support to new home builders and energy raters involved in the construction of high-performance homes since 2006.

