

# **Who's Choosing Your Flooring?**

A look Into Carpeting and Indoor  
Environmental Health

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# Question

## Who Should Decide on Carpeting as a Floor Surface Material?

- Focus:
  - Tenant Housing
- Target Audience:
  - Building Planners
  - Landlords
  - Renters

# Why Ask This Question?

- Often a direct cause of indoor Volatile Organic Compound (VOC) emissions
- More than 40 symptoms of various illnesses associated with chemicals in synthetic carpeting
- More than 43 chemicals associated with synthetic carpeting
- Short life-span in homes (~6-10 years)
- ~ 5 billion lbs will go to landfills this year
- Asthma & mold researchers recommend hard-surface flooring instead of carpeting
- Covers 70% of U.S. interior floors

# Why Ask This Question?

However....

- Carpeting is commonly overlooked as a critical component to Indoor Environmental Health (IEH)
  - Lack of consistency in using available information to change common building practices that involve carpeting
- Consumers can influence impact of carpeting on waste-stream

# Thesis Overview

Who Should Decide on Carpeting as a Floor Surface Material?

- Carpeting & Indoor Environmental Health
  - Government & Industry Response
- Carpeting in Waste-Stream
  - Government & Industry Response
- Alternatives to Carpeting
- Recommendations

# Objectives

- Provide a simple informative document for
  - Building planners
  - Landlords
  - Tenants
- Pilot Study
  - Provide evidence to suggest a comprehensive study on tenant housing

# Methods

- Synthesize available information on Indoor Environmental Health in new way
  - Put IEH as it relates to carpeting in context of
    - Building Planners
    - Landlords
    - Tenants

# What You Will See Today

- How carpeting can affect IEH
- Who can reduce health risks with carpeting after it is purchased
- How government references carpeting
- Industry's response to health concerns
- Pilot Study
- Recommendations

# Carpeting & Indoor Environmental Health

- 2 Main Contributors to Carpeting and IEH

1.) Installation



2.) Maintenance



# Proper Installation

- \*Burden lays with installers and landlords
- Protective Chemicals
  - Prevent Mold Growth and Stains
    - Recommended to air out carpeting for 48–72 hours before installation
- Off-gassing of VOCs from adhesives
  - Secures carpeting to floor
    - Can cause nausea, headaches, and damage to liver, kidney, and central nervous system.
    - Alternatives to adhesives with VOCs exist

# Maintenance Is Difficult

\*Burden lays with landlords & tenants

- Removal of
  - Particulates
  - Moisture
  - Mold



- Effective equipment is often expensive and dangerous
  - High Efficiency Particulate Air-filter (HEPA)
    - Costs ~ \$100 & UP
  - Deep Carpet Cleaning (Shampooing)
    - Costs ~ \$150 & UP
    - Can add moisture to carpeting if done improperly

# Government References

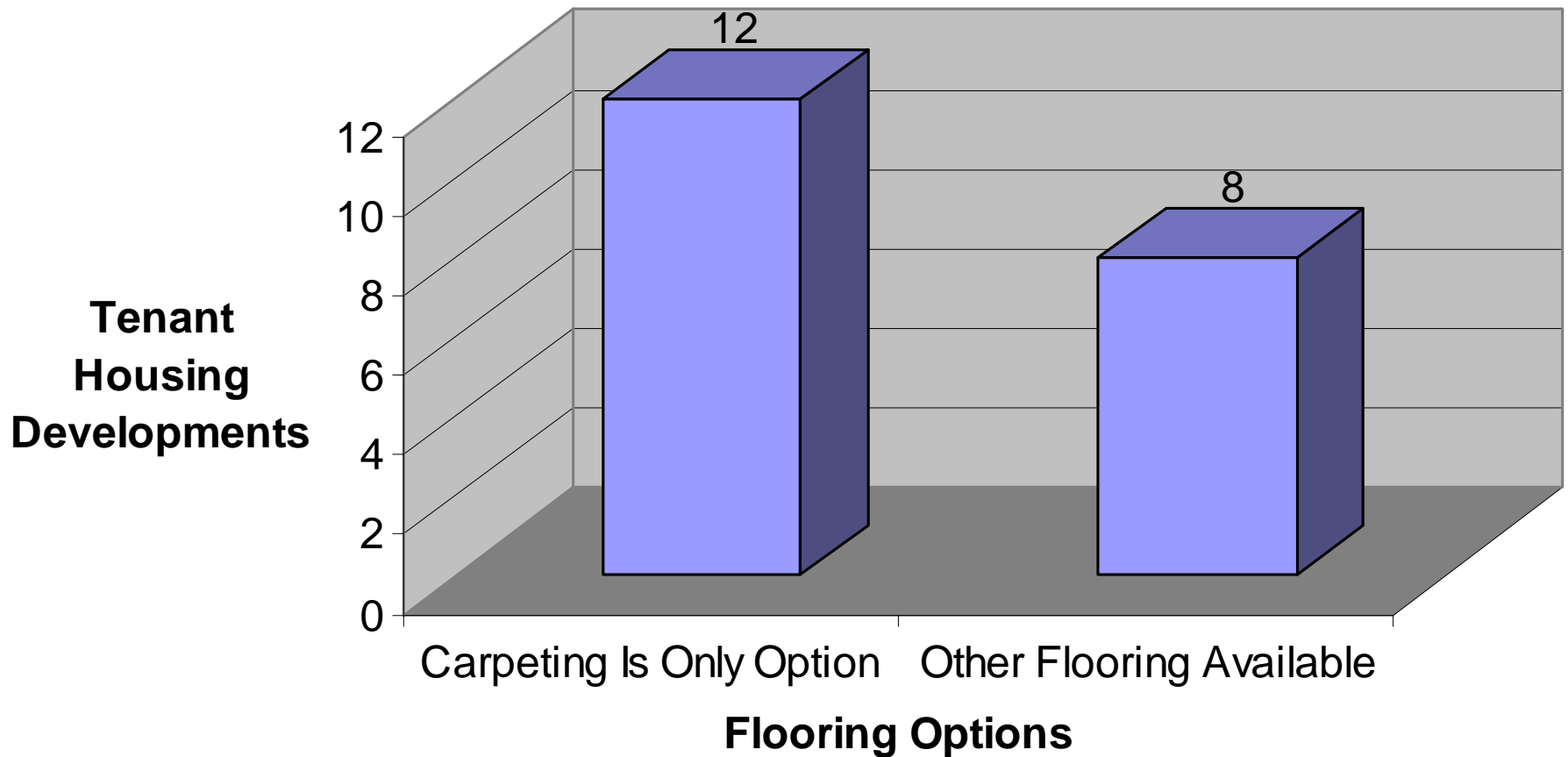
- No direct government focus on carpeting & IEH
- National Institute of Health (NIH)
  - Asthma Research → Recommends no carpet
- EPA
  - Mold Research → Recommends no carpet

# Response by Industry

- Changes in Product
  - Low or no VOC adhesives necessary for installation
  - Water-based dyes
  - Leasing programs
  - Reclamation & Recycling Programs
  - Commitments to reduce CO<sup>2</sup> emissions

# Pilot Study

Flooring Option Availability to Providence Tenants



# Recommendations

## Building Planners & Landlords

### – Consider viable flooring alternatives

- Hardwood Flooring      - Ceramic Tile
- Linoleum                      - Cork
- Cement                        - Stone

\*Alternative flooring types last longer and reduce maintenance costs

### – Provide tenants with options

- Healthy Tenants → Happy Tenants → Good Reputation

# Thank You

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