



# *The Intersection of Environment, Housing, and Health*

## Part 2: Strategies for Improved Indoor Air Quality and Resident Health

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# National Nurse-Led Care Consortium

The **National Nurse-Led Care Consortium (NNCC)** is a membership organization that supports nurse-led care and nurses at the front lines of care.

NNCC provides expertise to support comprehensive, community-based primary care.

- Policy research and advocacy
- Technical assistance and support
- Direct, nurse-led healthcare services



# Question & Answer

During the presentation, you may ask questions. Click **Q&A** and type your questions into the open field.

The Moderator will either send a typed response or answer your questions live at the end of the presentations.



# HEALTH IN THE HOME: HAZARDS AND SOLUTIONS



Thomas Flaherty

Director of Development and Marketing  
Energy Coordinating Agency



# The Ground We'll Cover

Part I: Hazards in the Home and their Health Effects

Part II: Existing Resources for addressing these issues

Part III: Case Studies of Pilot Models

1. Boston, MA. “Breathe Easy at Home”
2. Washington State “Weatherization + Health”

# The Scale of the Issue

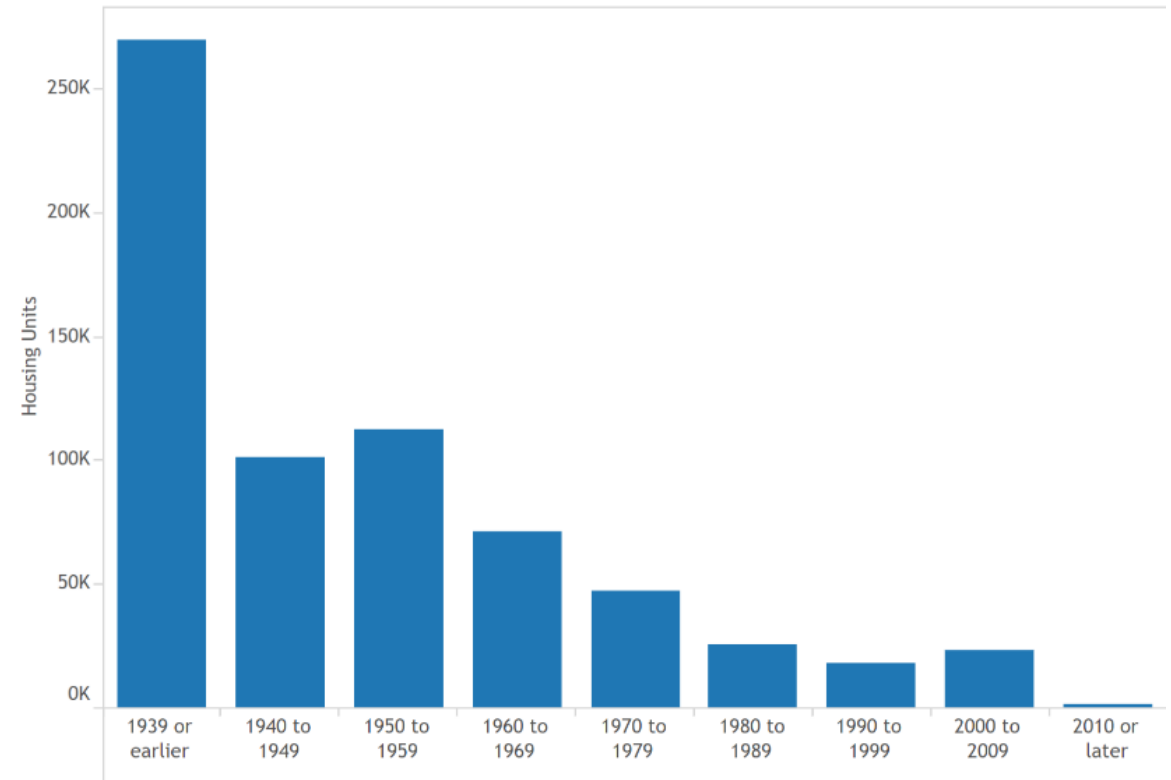
- Over 1/3 of Energy Auditors nationwide defer homes due to excessive mold  
    **“very frequently” or “frequently”**
- Mold is only ever a symptom of moisture
  - Building shell disrepair
  - Plumbing issues
- Moisture erodes building materials
- Other potential hazards include lead, asbestos, radon, and building product chemicals



# Poverty & Maintenance

- Homes built before 1939 aren't going away (and they shouldn't)
- Households in or near poverty who inherit these homes don't have spare change for upkeep

Philadelphia, Pennsylvania: Year Built for All Housing Units



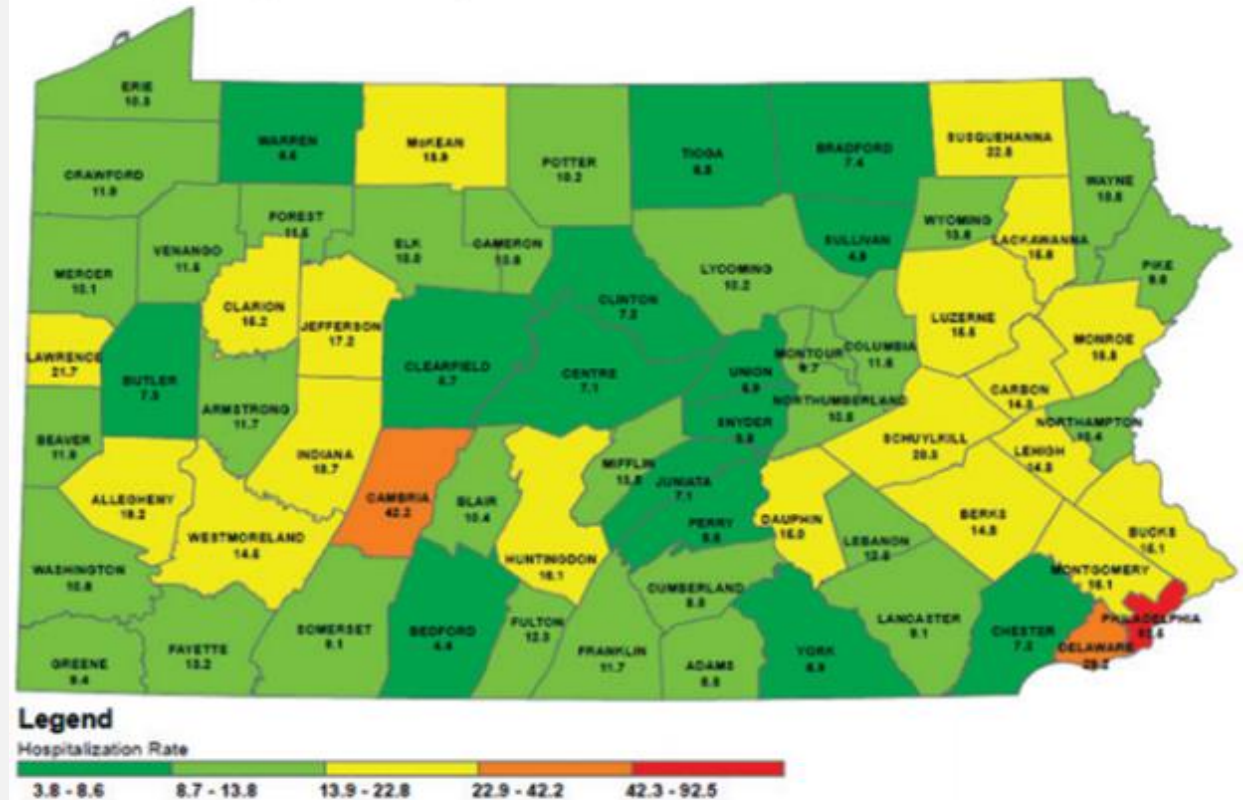
Source: U.S. Census Bureau, 2010-2012 American Community Survey



# The Health Link

- “sick building syndrome” or “building-related symptoms”
  - Molds, mildews
  - Pests
  - Moisture
  - Carbon monoxide
  - Outgassing of building products such as:
    - Closed-cell sprayfoam
    - PVC
- Primarily, building issues affect the occupant through poor Indoor Air Quality “IAQ”
  - Patients with pre-existing respiratory issues most at risk

**Figure 3-12: Inpatient Hospitalization Rates with Asthma as the Primary Discharge Diagnosis among Children, PA 2003-2010**



Data Source: Pennsylvania Health Care Cost Containment Council (PHC4)

Note: If numbers of admissions <60, the value does not count



# Existing Federal Resources

## Department of Energy (DOE)

- Weatherization Assistance Program (WAP)

## Housing and Urban Development (HUD)

- Community Development Block Grant (CDBG),
- Lead Hazard Remediation
- HOME Investments Partnership Program (HOME)

## Health and Human Services (HHS)

- Low Income Home Energy Assistance Program (LIHEAP)
  - CRISIS Extension
  - WAP transfer

## US Department of Agriculture (USDA)

- Single Family Housing Repair Loans and Grants

# Federal Eligibility Limits

## Weatherization Assistance Program (WAP)

- 200% Federal Poverty Level (FPL), home not weatherized after 1994

## Community Development Block Grant

- Generally, <50% AMI

## Lead Hazard Remediation

- child blood level testing.

## Low Income Home Energy Assistance Program (LIHEAP) CRISIS Extension

- Client must be in a loss-of-heat situation (or, in certain states, loss of cooling.) 150% FPL.

## Single Family Housing Repair Loans and Grants

- Rural only, >62 for grants, <50% Area Median Income

# Federal Usage Limits

## Weatherization Assistance Program (WAP)

- no mold issues, no roof remediation, SIR >1.0, H&S<18%

## Community Development Block Grant (CDBG)

- ✓ State plan federally approved, county plan state approved.

## Lead Hazard Remediation

- >80% of dollars spent on lead remediation, other repairs not priority

## HOME Investments Partnership Program (HOME)

- ✓ State plan federally approved

## Low Income Home Energy Assistance Program (LIHEAP)

- ✓ State plan federally approved

## Single Family Housing Repair Loans and Grants

- ✓ Grants must be used to remove health and safety hazards.

# Examples of Creative Usage

## Community Development Block Grant

- Philadelphia uses CDBG for a Basic Systems Repair Program
- also funds ECA's Heater Hotline, repairing over 4000 heaters each winter

## LIHEAP WAP Transfer

- Washington State removes the per-home spend cap, allows for measures included roof replacement, and leveraged these funds (among others) to pilot a statewide Weatherization + Health program.

# Boston's Breathe Easy Program

## Program Model:

Clinicians have a web-based referral system to prescribe inspections by Boston Inspectional Services Department (ISD) if they suspect housing conditions trigger symptoms.





# Boston's Breathe Easy Program

## Timeline:





1. Clinician refers patient for inspection, ISD schedules appointment
2. Inspection conducted within 5 days
3. Property owner given 24 hours – 30 days to correct violations found. If an asthma trigger is the responsibility of the tenant, tenant informed of their corrective actions
4. Follow up inspection to ensure complete remediation conducted, tenants notified by mail
5. Any outstanding violations referred to Housing Court
6. Case closed when all violations have been corrected, at any point in the process

	Facilitators	Barriers
Participation	<ul style="list-style-type: none"> <li>-Clinicians work to alleviate caregiver fears about landlord retaliation</li> <li>-Educate patients on legal rights</li> <li>-Referral submission with the family present</li> </ul>	<ul style="list-style-type: none"> <li>-Unwillingness of patients to participate because of fears of deportation and landlord retaliation</li> <li>-Familial priorities that supersede asthma intervention</li> </ul>
Retention	<ul style="list-style-type: none"> <li>-Follow-up with families to address new concerns and decrease turnaround time</li> <li>-Devoted health care team that includes primary care providers, nurses, community health workers, and asthma home educators</li> <li>-Additional community resources such as the Medical Legal Partnership</li> </ul>	<ul style="list-style-type: none"> <li>Inability to reach the family to schedule an appointment or complete an inspection</li> <li>-Disagreeable relationships between the family and inspector and/or landlord</li> <li>-Uninformative and untimely web-based updates and inability to follow-up with the patient</li> <li>-Lack of written information</li> </ul>
Program Operations	<ul style="list-style-type: none"> <li>-Transparency and managing expectations by providing consistent information to family and landlord</li> <li>-Positive working relationships between inspector, tenant, and landlord to promote trust</li> <li>-Program partner collaborative capacity and aligned objectives</li> <li>-BEAH staff availability</li> <li>Consistencies and flexibility in program operation: <ul style="list-style-type: none"> <li>Patient eligibility screening</li> <li>First inspection</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-Cumbersome electronic referral system</li> <li>-Ambiguity around responsible party for violations -</li> <li>-Reluctance to accept responsibility for violations by landlord and tenants</li> <li>-Lack of financial resources</li> <li>-Inconsistencies in program operation: <ul style="list-style-type: none"> <li>Electronic updates</li> <li>Reinspection schedule</li> </ul> </li> </ul>

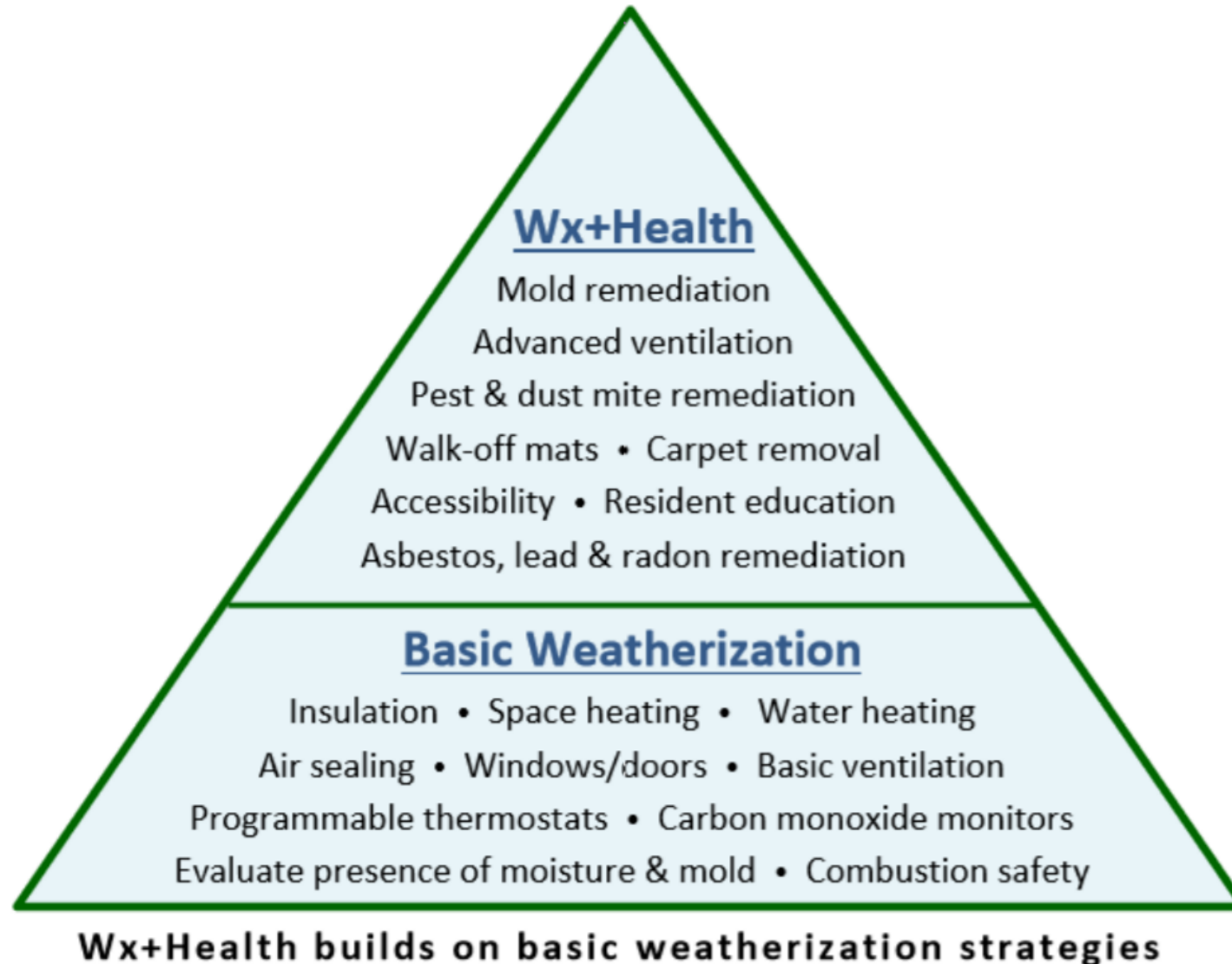
# Reflection Questions

1. When thinking of health and housing partnerships in your community, how ready is your community to collaborate on a model like BEAH?
2. Does your workplace collect information on housing, such as if patients rent or own their home?
3. Rate your familiarity with housing inspection services in your area (1- not familiar with them, 5- very familiar with them)?

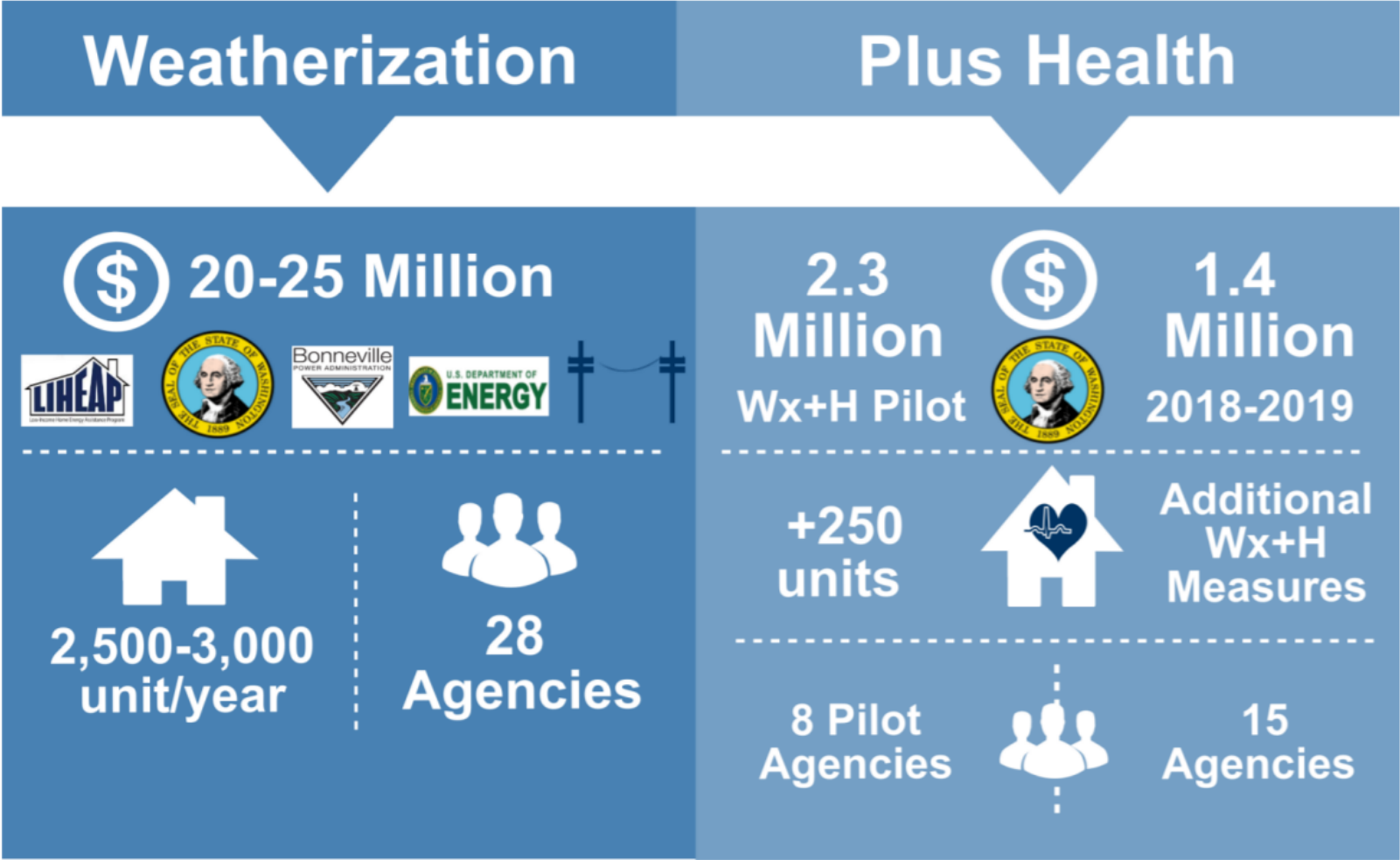
# Washington's Wx+Health Program

Traditional Weatherization	Education	Additional Healthy Homes Measures (\$4000+)	Client Support Tools
 New heating systems or repairs Increased ventilation Insulation Air Sealing Low Cost (pipe wrap, showerheads, lighting)	 Energy and Healthy Homes Education Condition specific health education (CHW)	 Hard Surface Flooring Duct cleaning or deep cleaning Advanced ventilation Roofs, repairs, mold abatement, and plumbing	 Filtered (HEPA) vacuum Green Cleaning Kits Mattress dust-mite covers Air filters Humidity gauges (CHW) Medication Spacers/Nebulizers (CHW)

# Washington's Wx+Health Program



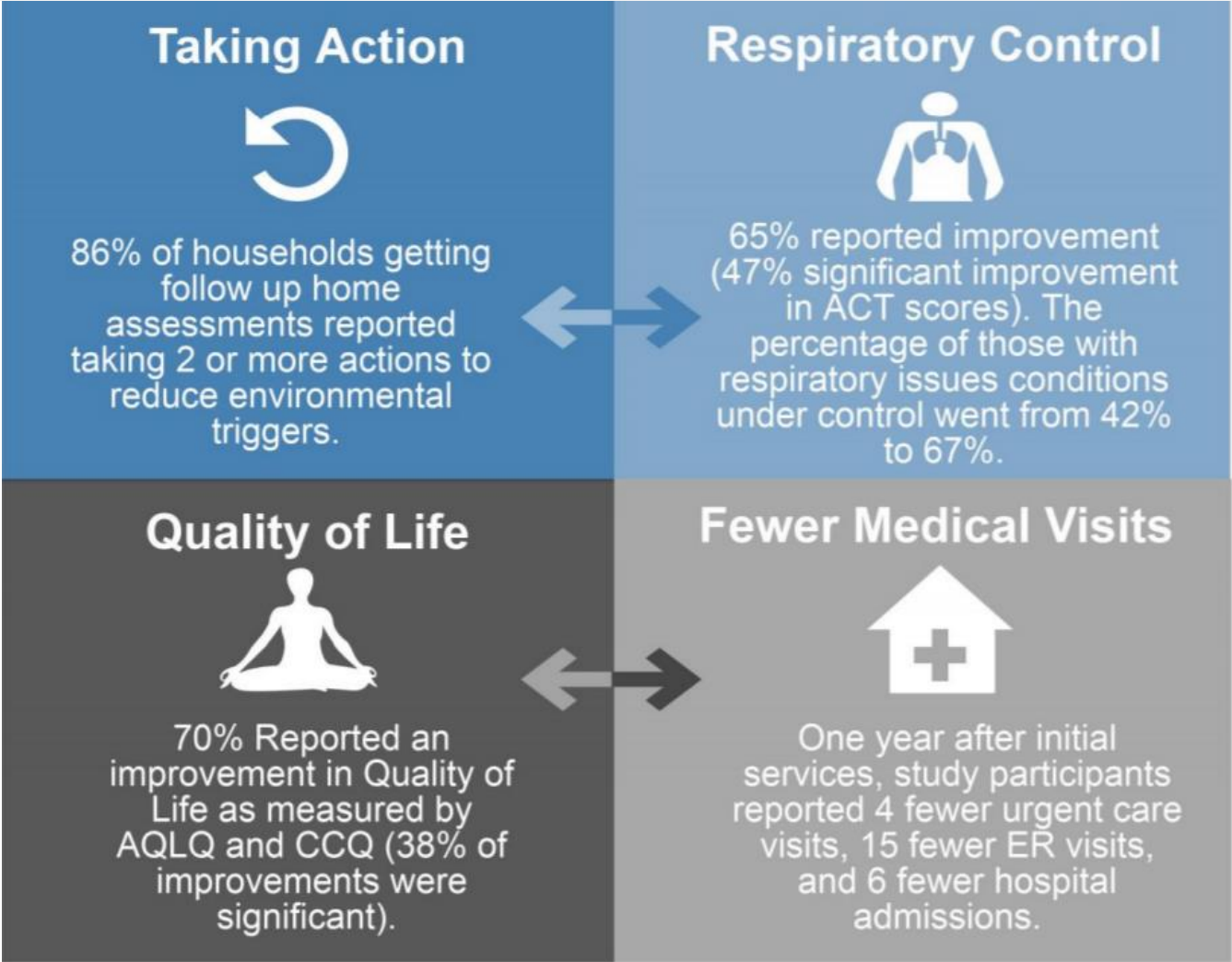
# Washington's Wx+Health Program



Slide Credit to:  **Department of Commerce**

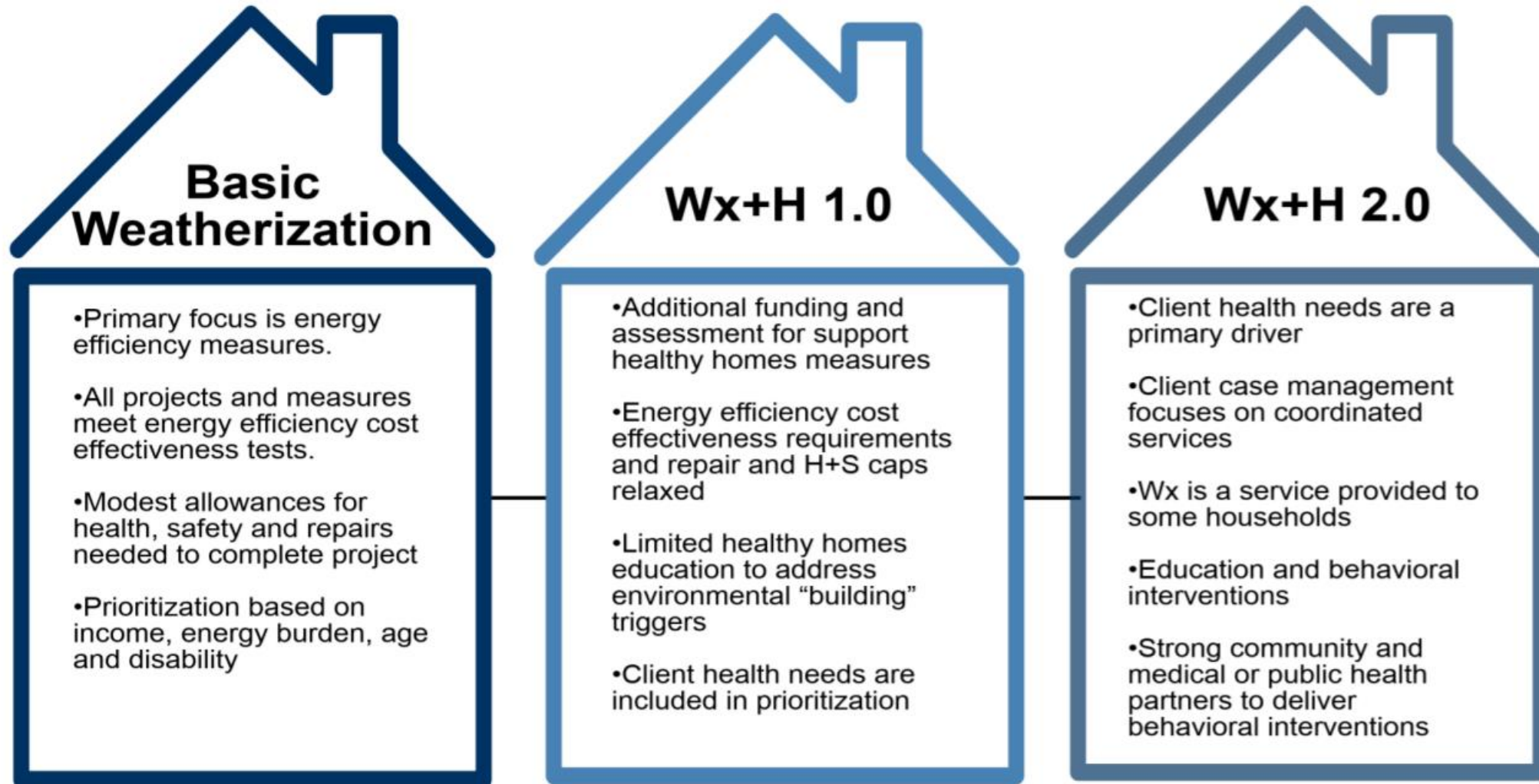


# Washington's Wx+Health Program



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# Washington's Wx+Health Program



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Department of Commerce

# Reflection Questions

Washington State's model can operate because:

- Most of the federal monies necessary flow through the same state entity.
  - The state legislature is sympathetic to the program model, and ready to match federal funds with state monies.
- 
1. What is the relationship between your state legislature and public health efforts?
  2. What is the relationship between your state legislature and affordable housing efforts?

# Action Steps

1. **Engage** your patients, especially with IAQ sensitivities, on the health of their home and the places they spend time
  - It could be an adults place of work, or a child's school building
2. **Connect and collaborate** with local weatherization providers, home repair providers, and code enforcement agencies.
3. **Advocate** for the programming and coordination that will improve environmental health in your community.

# THANK YOU

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# Bibliography and Further Reading

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# Questions





To receive credit...

We will send an email with a link from Clinical Directors Network within 1-2 days after the webinar.

You must complete to receive credit and the certificate will arrive within 1 week of completing the survey.



# National Nurse-Led Care Consortium

*Remaining webinars for the Learning Collaborative Series:*

Part 3: Climate Change and Considerations for Health Care

- [Wednesday November 20, 2019 @ 2:00 pm ET](#)
- NNCC will host an extra 30 minutes for “office hours”

Part 4: Exploring Neighborhood Factors that Impact Health

- [Wednesday, December 4, 2019 @ 2:00 pm ET](#)

# Thank you!

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