

The Washington State Low Income Weatherization Plus Health Pilot: Summary of Lessons Learned

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Weatherization Plus Health (Wx+H)

Washington State has been a national leader in the effort to integrate weatherization and healthy homes (HH) services to improve occupant health, specifically asthma and respiratory health, and decrease healthcare costs. On the strength of this work and the increasing awareness of the link between substandard housing and health, the Washington State Legislature passed HB 1720 in 2015. This bill expanded the focus of the Matchmaker Low-Income (LI) Weatherization Program beyond energy efficiency to include healthy housing improvements.

This new initiative, Weatherization Plus Health (Wx+H), is administered by the Washington State Department of Commerce (Commerce). The initiative’s vision is to integrate weatherization, health, and social services so that all Washington state low-income housing is energy efficient, safe, healthy, and durable. To achieve this vision, Commerce set four long-term goals and associated nearer-term objectives:

GOAL 1	CREATE a collaborative infrastructure for implementing integrated weatherization and HH services	<ul style="list-style-type: none"> • Create and maintain partnerships with other community medical and public health entities to deliver services, leverage resources, and improve outreach
GOAL 2	DEMONSTRATE the feasibility and benefits of delivering integrated Wx+H services	<ul style="list-style-type: none"> • Document the services and measures delivered • Identify the costs to deliver these services and measures • Assess effectiveness at reaching high-priority households
GOAL 3	DEVELOP approaches for delivering integrated Wx+H services	<ul style="list-style-type: none"> • Assess whether agencies are able to effectively integrate weatherization, HH measures, and education • Test different approaches for delivering Wx+H services • Identify and standardize delivery models and best practices
GOAL 4	INCREASE the number and capacity of agencies able to deliver these services	<ul style="list-style-type: none"> • Build agency capacity to deliver services • Leverage community resources (services and funding) • Assess whether the integrated Wx+H model is replicable in all statewide LI Weatherization agencies

To support the expanded focus, the Legislature increased overall Matchmaker funding to \$4.3 million for the July 2015-June 2017 biennium, which enabled Commerce to take two different approaches. One approach provided \$2 million allocated by formula to the low-income weatherization agencies in the state for **Basic** Wx+H. The other approach, and the focus of this summary, was a competitive grant process for \$2.3 million for the **Enhanced** Wx+H program. The pilot projects funded by the Enhanced Wx+H program were intended to:

- Focus services on households and people with asthma and other respiratory conditions.
- Encourage multi-faceted or comprehensive interventions (weatherization, HH measures, education, and follow-up visits) to increase the ability to detect health outcomes.
- Encourage innovation and flexibility in program design, partnerships, and delivery models. The expectation was that pilot projects would be used to develop and refine standard practices for subsequent funding cycles.

In September 2015, Commerce released a competitive Request for Application (RFA) for the Enhanced Wx+H pilot to state weatherization agencies. Eight agencies were awarded grants in early 2016. The list of Grantees follows, and includes the area they serve.





- The Opportunity Council (OPPCO) –Island, San Juan, and Whatcom Counties
- Pierce County Human Services (PCHS)/Tacoma Pierce County Public Health (TPCPH) – Pierce County but not Tacoma
- Yakima Valley Farm Workers Clinic (YVFWC) –Yakima County south of Union Gap
- Spokane Neighborhood Action Partners (SNAP) – Spokane County
- Snohomish County Human Services (SCHS) – Snohomish County
- King County Housing Authority (KCHA)/Seattle King County Public Health (SKCPH) – King County but not Seattle
- Blue Mountain Action Council (BMAC) – Columbia, Garfield, and Walla Walla Counties
- Yakama Nation Housing Authority (YNHA) – Yakama Nation

Timing of funding turned out to be a challenge. The use of a competitive RFA and contracting process compressed the two-year program to 15 months. Local challenges with program start up, and finding and signing contractors for HH measures, compressed the schedule still further so that most projects were completed in the final six months of fiscal year, January through June 2017.

The initial intention of the Enhanced Wx+H program was to help make the case that multi-faceted weatherization and HH interventions would have significant and measurable impacts on client medical costs. To that end, the Enhanced Wx+H grantees were encouraged to develop and deliver comprehensive services using a research-based design to:

- Target high-needs households with a focus on asthma and respiratory conditions. There is a strong record of effective multi-faceted interventions for asthma households.
- Provide comprehensive weatherization and HH assessments.
- Provide asthma management and HH education services through community health workers (CHWs) and/or agency staff home visits.
- Deliver comprehensive weatherization and HH upgrades.
- Coordinate services with community partners including public health medical or mental health case management services.
- Leverage funding for additional repairs and HH measures.

Table 1 shows a qualitative assessment of the each grantee’s success at achieving the above-state objectives. Further discussion of these results may be found in the report online at <http://www.energy.wsu.edu/documents/WxHSummaryReport.pdf>.

Table 1. Qualitative Assessment of Grantee Achievement of Enhanced Wx+H Design Principles

Grantee	Targeting High Need Households	Wx and HH Assessment	Home Visits by CHW	Comprehensive Upgrades	One-stop Service Coordination	Leverage Resources
OPPCO	High	Med	Low	Med	Low	Low
Pierce County	High	High	High	Med	High	Low
YVFWC	High	Med	High	Low	Low	Low
SNAP	Med	Med	Med	Med	Med	Low
Snohomish County	Low	Low	Low	Med	Low	Low
KCHA	Med	Med	High	Med	Low	Low
BMAC	Low	Low	Low	Med	Low	Low
YNHA	Med	Low	Low	Med	Low	Low



Goal Results

Results of the program’s four long-term goals have been evaluated, and summarized as successes, limited successes, and challenges.

Goal 1: Create and Establish Community Partnerships

Successes

- All eight grantees reached out to public health agencies, medical clinics, and other community organizations to establish referral paths.
- The grantees reported that the Wx+H model and the potential health benefits associated with it were compelling and there was strong support for the approach in the community. They also reported that Wx+H helped raise the profile of all weatherization services among stakeholders.
- Three grantees partnered with public health agencies or clinics with Community Health Worker staff. These partnerships provide a more integrated model, with education and follow-up visits more likely to occur.

Limited Successes

- Leveraging community funding for HH services, measures, or repairs was hampered by the lack of time for building relationships and the compressed timeline for completing the projects.
- Modest success was made in gaining initial entry into the Medicaid Transformation Waiver process, and gaining general support for coordination of services.

Challenges

- Without public health skills and training, grantees were less likely to provide case management services or address health and medication management issues.
- There was insufficient time and staff capacity to maintain partner relationships within the limits of the grant period. The lack of long-term, stable Wx+H funding further complicated efforts to establish and maintain these relationships after the initial pilot period ended.

In addition to providing comprehensive weatherization services, the Enhanced Wx+H program authorized a specified list of Wx+H measures (Table 2) that could be installed in homes to positively impact the health of occupants with respiratory conditions.

Table 2. Approved Enhanced Wx+H Measures

Lower-Cost Measures	Higher-Cost Measures
Wx+H client education	Pest mitigation
Green cleaning kit	Carpet removal – low VOC flooring
Dust mite covers (bedding)	Roofing
Walk-off door mats	Gutter and downspouts
Toxic household chemical removal	Plumbing leak repair
HEPA furnace filter	Sump pump and drainage systems
HEPA vacuum cleaner	Dehumidifiers
Air filter/purifier	Dehumidistat
Comprehensive cleaning (one time)	Mold abatement
<i>Water temperature adjustments</i>	<i>Crawlspace improvements</i>
<i>CO detector</i>	<i>Mechanical ventilation</i>
<i>Smoke detector</i>	<i>Advanced mechanical ventilation</i>

Measures in blue italics can be installed with Wx funding, not just Comprehensive Wx or HH funding





Goal 2: Demonstrate Feasibility and Document Outcomes

Description of allowed services within the Enhanced Wx+H Program

Comprehensive services: Households that were approved for, and thus eligible to receive all (comprehensive) measures – weatherization and household health. They also received an initial home visit for assessments. The cap for measures at each household was \$4000.

Household Health (HH) only: Typically homes that previously received or did not need weatherization. Most measures per home were under the \$4000 cap.

Low-cost HH: Typically recipients who received initial assessments and home visits, and those low-cost measures that were distributed at that time, but were screened out or dropped out soon after. While the cap was \$1000, most measures came in at under \$500.

Table 3. Profiles of Wx measure installations by Wx+H project type.

	Total Enhanced Wx+H	Comprehensive	HH Only	Low Cost HH
Total Households	254	159	63	32
Top Ten HH Measures Installed				
Green Cleaning Kit	94%	94%	92%	94%
Bedding (Dust Mite)	70%	71%	71%	66%
Mechanical Ventilation	65%	89%	37%	3%
HEPA Vacuum	65%	67%	59%	66%
Walk-off Mats	64%	61%	68%	72%
CO Detector	57%	74%	44%	3%
Low VOC flooring	33%	32%	52%	0%
Smoke Dectector	24%	33%	13%	3%
Advanced Ventilation	17%	19%	22%	0%
HEPA/MEPA Filter	17%	19%	17%	3%
Top Ten Wx Measures Installed				
Air Sealing	69%	92%	43%	9%
Attic Insulation	48%	75%	0%	3%
WH Low Cost	46%	72%	5%	0%
Passive Venting	41%	60%	10%	3%
Floor Insulation	39%	62%	0%	3%
HVAC - Replace	30%	46%	3%	0%
Lighting	30%	46%	3%	0%
Duct Sealing	28%	43%	6%	0%
Furnace Tune and Clean	20%	32%	0%	0%

An additional 211 homes received services that were fully leveraged (paid for) by community partners. Most of these households received low-cost HH measures.



Successes

- All grantee agencies were effective at installing physical HH and weatherization measures in homes.
- All households received initial home visits for assessments.
- The pilot documented significant need and demand for Wx+H services among existing weatherization clients.

Limited Successes

- There was wide variation among grantees in measures installed, reflecting locally available contracting infrastructure and cost caps imposed by the grant.
- Grantees were able to find clients with respiratory conditions among existing applicants when referral partnerships did not yield results. Although not measured rigorously, data suggest that between 20% and 40% of low-income weatherization clients could have qualified with asthma, COPD, or other serious chronic medical condition. .

Goal 3: Develop Effective Delivery Approaches

Successes

- All grantees were effective at reaching households with medical needs and installing the weatherization and HH measures.

Limited Successes

- Grantees were less effective at delivering on HH assessments, home visits, and service integration features that are considered essential parts of multi-faceted HH interventions.

Challenges

- Weatherization program requirements for landlord participation make it challenging to serve rental units. Almost all units served were single-family, owner-occupied units, while under a third of Washington households under 125% of the Federal Poverty Level are owner-occupied.
- Grantees that did not work with a public health or medical clinic, or pursue additional public health training, were not equipped to address the specific needs of clients with respiratory conditions.
- Existing weatherization and energy assistance households had a higher incidence of COPD or other non-asthma respiratory health conditions than initially expected because weatherization clients are more likely to be elderly, who tend more towards those conditions.
- Grantees and their partners lacked support services and tools for COPD clients since such resources are much less developed, if they exist at all, than those for asthma and asthma-related conditions.
- Weatherization agencies reported that they had limited experience working with and managing client health data and, in particular, understanding and meeting Health Insurance Portability and Accountability Act (HIPAA) compliance issues.
- Delivery of HH assessment services was inconsistent and hampered by use of an outdated assessment tool that was not adequate for documenting client needs and household hazards.

Goal 4: Increase Capacity and Sustainability

Successes

- There was general support among grantees for seeking additional flexibility and funding to install Wx+H measures . on an ongoing basis.

Limited Successes

- Some grantees indicated they are likely to continue to offer integrated Wx+H services and with fully engaged community partners.





- Given current Wx+H funding levels and local capacity, integrated Wx+H service delivery is not yet ready for statewide deployment.

Challenges

- It was very difficult to establish and maintain capacity to deliver Wx+H services when resources and funding for the work was available in a time-limited window.
- Current Matchmaker funding is not sufficient to address high-need/high-cost households as a general practice.
- Although Wx+H is generating useful case study data on health benefits, the goal of providing a broad demonstration across multiple agencies and the goal of conducting rigorous research to establish the effectiveness of these interventions on healthcare utilization were not practically possible. Most weatherization agencies do not have the capacity, systems, and staffing to capture and maintain the data needed for this work.

Recommendations

- Encourage community partnerships and referral relationships as a longer-term strategy for building and maintaining support for weatherization services in communities.
- Develop a low-cost option for home visit measures targeted to the occupants of rental units, which would not require landlord engagement and could be an alternative to comprehensive services.
- Establish clear guidance and standard curriculum and materials for Wx+H client education and HH Assessment.
- Provide additional guidance to agencies and their partners on developing appropriate scopes of work and prioritizing which physical weatherization and HH interventions are likely to yield better health outcomes.
- Provide additional information, resources, and support to identify HH products and contractors to agencies and their partners. Explore the possibility of statewide contracts for hard-to-find services.
- Maintain and adjust caps on Wx+H expenditures. FY 2018-19 Matchmaker funding is not sufficient to address high-need/high-cost households as a general practice. Additional flexibility with Wx+H spending would be beneficial, such as to increase the cap or allow an average cost per unit accounting.
- Phase out the Basic Wx+H option. To allow some sustained effort over time, the Wx+H services should be integrated into existing services rather than offered as a stand-alone program. Given uncertainty in any individual funding stream, Commerce should allow other funding sources, such as the U.S. Department of Health and Human Services Low-Income Home Energy Assistance Program (LIHEAP), to be used for Wx+H measures to the extent permissible under the rules governing these funding sources.
- If the Legislature does provide increased and dedicated funding for the purpose of directly measuring health benefits, we recommend focusing investments in no more than three agencies with the specific charge of developing standardized assessment and data collection instruments.

Conclusions

The Wx+H program raised the awareness and visibility of the connection between substandard housing and occupant health among community partners and grantee agencies. As one Weatherization Program Manager reported, “It opened our eyes to the need to address the health needs of our clients in our work and that our staff currently do not have skills and capacity to do this.”

All eight grantees started the work of building community partnerships. Despite challenges, community partnerships were seen as valuable and worth continued development.





Grantees clearly established that there is significant need and demand for HH measures and services among existing weatherization and energy assistance clients. They were very effective at integrating HH measures into existing weatherization installations.

Grantees were less effective at integrating HH assessments, education, and follow-up services into program delivery. Weatherization program staff do not have training, expertise, or comfort with addressing medical (medication management) or social service needs.

The focus of the next Wx+H cycle should be on standardizing assessment and education tools, and strengthening the capacity of weatherization staff to address the occupants – not just on building systems. This is a big leap. In the absence of stable, multi-year funding, it is not likely that most weatherization agencies will develop the capacity or expertise to offer the full Wx+H integrated service model. Given reduced Wx+H funding through the Matchmaker Program, Commerce will focus FY 2018-19 funding on installing physical Wx+H measures in the homes of medically vulnerable clients. Commerce will limit direct investment in provision of CHW home visit services for medical screening and follow-ups either by local agency staff or community partners. As there is value to these services, local agencies receiving Wx+H funds are strongly encouraged to develop and strengthen community partnerships as well as find alternative funding sources to continue providing these services to clients.

Measure costs for comprehensive Wx+H upgrades are considerable, especially when addressing high-needs households. High unit costs make it challenging to scale up service or address hard-to-reach rental markets. Long-term sustainability may hinge on finding lower-cost alternatives for delivering Wx+H services.

Despite these challenges, there is sufficient evidence to suggest that:

- Many existing low-income weatherization clients are medically vulnerable,
- Investments in Wx+H measures result in significant and positive health outcomes, and
- Considerable non-energy benefits are likely to meet or exceed measure costs.

Ultimately, weatherization agencies have a long way to go before they can deliver a sufficiently standardized service, product, or cost structure across the state that would be medically reimbursable and scalable. This initial report suggests that it is a feasible, long-term goal that is still worth pursuing.





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