

*Washington State Healthy Housing Initiative*

# Healthy Housing Strategic Plan

*An Integrated Approach to Protecting and  
Improving Human and Home Environmental Health*



**DOH 334-342 August 2013**

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# Executive Summary

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*“In the United States today the leading preventable causes of death, disease, and disability are asthma, lead poisoning, deaths in house fires, falls on stairs and from windows, burns and scald injuries, and drowning in bathtubs and pools.”*

*-Steven K Galson M.D., Acting Surgeon General, in reference to housing based preventable illness and injury<sup>1</sup>*

In 2011, Washington State’s Department of Health made a commitment to transition its Childhood Lead Poisoning and Prevention Program into a Healthy Housing Program. The Centers for Disease Control and Prevention (CDC) supported the planning necessary to initiate that effort which has resulted in:

- The creation of a broad stakeholder group.
- This Washington State Healthy Housing Strategic Plan.
- A case management protocol.
- A healthy housing resource clearinghouse for Washington State.
- A healthy housing surveillance database.

These resources serve as the foundation for implementing a healthy housing program in Washington State.

Washington is faced with a growing population of low-income residents who may not have adequate access to health care or home improvement services. The overarching goal of the Washington State Healthy Housing Initiative is to help residents improve the environmental health conditions in their home through education and collaboration with existing healthy housing resources.

A broad range of housing conditions are associated with poor health. In Washington, the most significant substandard conditions are water intrusion caused by leaks; inadequate ventilation; pest infestations; lead-based paint; asbestos insulation; deteriorated carpeting; unvented or improperly vented combustion appliances; and fall, trip, and drowning hazards.<sup>i</sup>

Currently there is no coordinated system in Washington State for public health agencies and medical providers to address these environmental contributors to the onset and exacerbation of injury and illness. Although many agencies and nonprofit organizations throughout the state work on healthy housing related issues, the effort is fragmented. Part of the vision of this Healthy Housing effort is to

## **Vision**

Every Washington resident lives in a safe and healthy home that is maintained to support a dry, clean, pest-free, ventilated, and contaminant-free living environment.

## **Mission**

Foster safe and healthy home environments that protect and improve the health of vulnerable populations through coordinated and effective policies, programs, and partnerships.

## **Values**

Collaboration, Evidence Based, Equity and Fairness, Public-Private Partnerships, Engagement of Community Members.

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<sup>i</sup> Washington State Healthy Housing Stakeholder Meetings, March – June 2012

braid together a consortium of organizations working on specific aspects of a healthy home into a cohesive network capable of addressing a broad range of environmental health issues in the home.

For many of the preventable conditions mentioned in the opening quote by Dr. Galson, there is evidence based, cost effective, home based interventions that can be coordinated through housing focused health initiatives. These coordinated home based interventions can be a valuable tool for helping Washington State meet Healthy People 2020 Goals and support the Washington State Department of Health and State Board of Health’s strategic plans – see Appendix A for details. The Healthy Housing Initiative provides a holistic approach to improving home environments. Health outcomes from inadequate housing that have the greatest evidence base for both health and economic benefit and how they relate to Washington State health statistics.

**Asthma** – 9.6 percent of Washington’s adults and 6.7 percent of its children suffer from asthma.<sup>2</sup> Asthma emergency room visits totaled 164,000 in 2010.<sup>2</sup> A Seattle based study showed that an asthma home visitation program was able to reduce the use of urgent care, increase school attendance for pediatric asthmatics, and reduced costs by \$185-\$334 for a two month period using underutilized methods identified by the 2006 BRFSS data.<sup>3,4</sup>

**Lead Poisoning** – In 2012, clinicians confirmed 304 cases of lead poisoning<sup>ii</sup> in Washington State children under age five after testing only 3.4 percent for the condition.<sup>6</sup> The Washington State Chemical Action Plan for lead estimates that the cost of lead exposure is between \$215 million and \$1 billion annually for lead’s effects on IQ alone.<sup>7</sup> Washington has 1.2 million housing units built before 1978, when leaded paint was still used.<sup>8</sup>

**Falls** – There were over 20,000 hospitalizations from falls in Washington in 2010. Nearly 14,000 were among adults over 65 years of age.<sup>11</sup> National data suggest that 60 percent of senior falls occur in the home<sup>12</sup> and evidence suggests that addressing trip and fall hazards in the home is effective prevention for seniors<sup>12</sup> as well as children.<sup>14</sup> Average costs for a hip fracture, the most common type of fall injury for seniors was \$18,000.<sup>16</sup>

**Smoke Alarms** – There were nearly 7,000 structural fires in Washington State (including mobile home fires) in 2010 that took 67 lives and cost \$200 million in property damage.<sup>17</sup> Twenty-two percent of fatal fires happened in facilities with no fire alarm and of those with a fire alarm at least 31 percent were not operational.<sup>17</sup> The Children’s Safety Network selected fire alarm installation as one of the most cost effective injury prevention interventions.<sup>18</sup>

## Healthy Housing Goals

### Goal 1

Develop a collaborative infrastructure for implementation of statewide healthy homes program.

### Goal 2

Ensure that homes meet minimum health and safety requirements.

### Goal 3

Reduce disease and injury outcomes from housing-related hazards.

### Goal 4

Create the shared value that healthy housing is both a right and a responsibility.

### Goal 5

Ensure Long-Term Sustainability of Healthy Homes Program.

<sup>ii</sup> Defined as a blood lead test greater than 5 µg/dL from at least one venous blood draw or two capillary draws

Other home health risks identified by the Healthy Housing Initiative stakeholder group include carbon monoxide poisoning, pesticide use, and indoor air quality which will be addressed during healthy Housing visits. The home is a vitally important determinant of health. Fostering collaboration between existing healthy housing stakeholders to ensure that Housing meet minimum health standards will lead to fewer preventable illnesses and injuries in Washington State and begin addressing one of the fundamental causes of health disparities – unhealthy Housing.

## **Introduction: Washington State’s Healthy Housing Initiative**

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In 2011, Washington State’s Department of Health made a commitment to transition its Childhood Lead Poisoning and Prevention Program into a Healthy Housing Program. The Centers for Disease Control and Prevention (CDC) supported the planning necessary to initiate that effort which has resulted in:

- The creation of a broad stakeholder group.
- This Washington State Healthy Housing Strategic Plan.
- A case management protocol.
- A healthy housing resource clearinghouse for Washington State.
- A healthy housing surveillance database.

These resources serve as the foundation for implementing a healthy housing program in Washington State. Washington is faced with a growing population of low-income residents who may not have adequate access to health care or home improvement services. The overarching goal of the Washington State Healthy Housing Initiative is to help residents improve the environmental health conditions in their home through education and collaboration with existing community based resources and home health care providers.

The advisory committee was formed with representatives from stakeholders throughout the state. The full list of advisory committee members is available in Appendix B which includes local and national experts in healthy housing, children’s environmental health, lead paint and asbestos hazards, low income housing, weatherization, air quality, code enforcement, asthma, and injury prevention.

This Strategic Plan is one of the products resulting from an eight-month effort. It is based on the contributions, ideas, and priorities of the strategic planning and advisory committee members and will serve as a blueprint for a Healthy Housing future in Washington. It is organized according to broad goals and strategies. The intention is that more detailed plans for each of these goals will be developed as the Healthy Housing Consortium called for in this plan assumes responsibility for implementation of the strategies.

While Washington has numerous organizations and agencies devoted to the health of low-income children and adults, and while Washington has numerous organizations and agencies devoted to home improvements for low-income populations – the two have essentially no mechanisms for talking to, working with, or coordinating with one another. While the program will not limit its focus to low-income populations, the working group recognized that this group will require the greatest amount of resources. There is no centralized mechanism, for example, for a physician working with an asthmatic child to prescribe the types of home improvement remedies that could alleviate that child’s suffering. The overarching goal of this strategic plan is to put that centralized coordination in place.

The barriers to such an effort are extensive. They include the lack of a centralized and cohesive surveillance database, the absence of a comprehensive list of resources, tenants who may be fearful of reporting problems, landlords who may be unwilling to make necessary home repairs and homeowners who are unaware of problems or unable to remediate them. This Strategic Plan is an attempt to address all of those barriers, incorporating greater communication and coordination among the agencies, enhanced communication and marketing to tenants, outreach to physicians, and new programs and policies aimed at landlords.

This plan is geared toward the long-term. A great deal of work is necessary, and these strategies cannot be accomplished in a few months or even a few years. With diligence, however, and especially with enhanced communication and coordination among the myriad of organizations involved in every aspect of this issue, Washington State is optimistic that a fully coordinated and operational Healthy Housing Program can be achieved.

## The Need for Healthy Housing in Washington State

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*“In the United States today the leading preventable causes of death, disease, and disability are asthma, lead poisoning, deaths in house fires, falls on stairs and from windows, burns and scald injuries, and drowning in bathtubs and pools.”*

*-Steven K Galson M.D., Acting Surgeon General, in reference to housing based preventable illness and injury<sup>i</sup>*

A broad range of housing conditions are associated with poor health. In Washington, the most significant substandard conditions are water intrusion caused by leaks; inadequate ventilation; pest infestations; lead-containing paint; asbestos insulation; deteriorated carpeting; unvented or improperly vented combustion appliances; and fall, trip, and drowning hazards.<sup>iii</sup>

Currently there is no coordinated system in Washington State for medical providers to address environmental contributors to disease treatment and control. Similarly, housing and human service providers have no coordinated system to obtain information, provide referrals, complete assessments, and ensure remediation that would help their clients deal with housing environments that are negatively impacting their health.

For example, asthma patients are often treated through drug regimens without actions undertaken to reduce or eliminate the home environmental asthma triggers such as dust and mold. As Dr. Galson points out in the opening quote, asthma triggers are just a small piece of the environmental health landscape in a home. If and when a home environment issue is recognized as a major contributor to the patient’s health, that patient may move to another home, but until that environmental health issue is resolved it will continue to put subsequent inhabitants of that home at risk.

Although many agencies and nonprofit organizations throughout the state work on healthy housing related issues, the effort is fragmented. Part of the vision of this Healthy Housing effort is to braid together a consortium of organizations working on specific aspects of a healthy home into a cohesive network capable of addressing a broad range of environmental health issues in the home.

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<sup>iii</sup> Washington State Healthy Housing Stakeholder Meetings, March – June 2012

For many of the preventable conditions mentioned in the opening quote by Dr. Galson there are evidence based, cost effective, home based interventions that can be coordinated through a housing focused health initiative. These coordinated home based interventions can be a valuable tool for helping Washington State meet Healthy People 2020 Goals and support the Washington State Department of Health and State Board of Health’s strategic plans – see Appendix A for details. The Healthy Housing Initiative takes a holistic approach to improving home environments. Health endpoints and risk factors that are associated with considerable health and economic benefit include the following:

**Asthma** – 9.6 percent of Washington’s adults and 6.7 percent of its children suffer from asthma.<sup>2</sup> Asthma emergency room visits totaled 164,000 in 2010.<sup>2</sup> A Seattle based study showed that an asthma home visitation program was able to reduce the use of urgent care, increase school attendance for pediatric asthmatics and reduced costs by \$185-\$334 per 2 month period.<sup>3</sup> The 2006 Washington Behavioral Risk Factor Surveillance System (BRFSS) Asthma Call-Back collected data on environmental factors present in the Housing of adults with current asthma. Simple remedies to help avoid asthma triggers, like washing bed linens in hot water, using impermeable covers on pillows and mattresses, and keeping pets out of bedrooms, were under-utilized by adults with current asthma.<sup>3</sup>

A national study attributed 21 percent of asthma cases to indoor mold, a condition common in Washington Housing, costing the country \$3.5 billion annually.<sup>5</sup> The stakeholder group identified mold and water intrusion as the most prevalent substandard housing condition in Washington. Mold growth in buildings results from moisture intrusion (like a leaking roof or plumbing problems) and condensation due to ventilation that is inadequate to remove excess indoor moisture generated by activities like cooking and showering. The 2006 Washington Behavioral Risk Factor Surveillance System (BRFSS) asked questions about water damage, the presence of a moldy or musty smell, and visible mold in the home. Among respondents whose Housing had signs of mold, 13 percent ( $\pm 2$  percent) had asthma compared to 8 percent ( $\pm 1$  percent) of those whose Housing did not have signs of mold.<sup>3</sup> The 2010 BRFSS Asthma Call-Back identified under use of asthma trigger reduction strategies in the home including under use of mattress and pillow covers that control dust mites (~70 percent do not use), allowing pets in the bedroom (53 percent allow pets in bed), carpet in the bedroom (75 percent have carpet in the bedroom).

**Lead Poisoning** – In 2012, clinicians confirmed 304 cases of lead poisoning<sup>iv</sup> in Washington State children under age five after testing only 3.4 percent for the condition.<sup>6</sup> The Washington State Chemical Action Plan for lead estimates that the cost of lead exposure is between \$215 million and \$1 billion annually for lead’s effects on IQ alone.<sup>7</sup> National studies have included healthcare costs, special education costs, and costs of increased crime in addition to IQ.<sup>9</sup> Lead interventions like cleaning, encapsulation, and removal have proven effective for many years.<sup>10</sup>

Lead-based paint from old housing is the most common source of exposure for childhood lead poisoning. Washington has 1.2 million housing units built before 1978, when leaded paint was still used.

A preliminary analysis of blood lead data and county tax assessor tax parcel data conducted by the Department of Health in partnership with the University of Washington in 2009 found that, among children for whom complete data were available, children with higher lead levels tended to be younger, were more likely to be boys, and lived in older, less valuable housing. They also lived in census block groups that had higher percentages of renter-occupied housing, and had a lower median household

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<sup>iv</sup> Defined as a blood lead test greater than 5  $\mu\text{g}/\text{dL}$  from at least one venous blood draw or two capillary draws

income. When controlling for all other variables measured, only age of housing and child's age were consistently predictive of blood lead levels of 10 µg/dL or higher.

**Falls** – There were more than 20,000 hospitalizations from falls in Washington State in 2010 and nearly 14,000 were among adults over 65 years of age.<sup>11</sup> National data says 60 percent of senior falls occur in the home<sup>12</sup> and evidence suggests that improving trip and fall hazards in the home is effective prevention for seniors<sup>13</sup> as well as children.<sup>14</sup> The average Medicare cost for senior falls is between \$9,113 and \$13,507.<sup>15</sup> Average costs for a hip fracture, the most common type of fall injury for seniors, was \$18,000.<sup>16</sup>

**Smoke Alarms** – There were nearly 7,000 structural fires in Washington State (including mobile home fires) in 2010 costing nearly \$200 million in property damage alone.<sup>17</sup> Twenty-two percent of fatal fires happened in facilities with no fire alarm and of those with a fire alarm at least 31 percent were not operational. The Children's Safety Network selected fire alarm installation as one of the most cost effective injury prevention interventions.<sup>18</sup>

**Other Home Health Risks** – There many other home health risks that were identified by our stakeholder group that will be addressed through the program and during healthy Housing visits. Examples include radon gas, carbon monoxide alarms, pest infestations, pesticide use, household products that pose poisoning risks, toxic cleaning products, toxic construction materials, issues specific to mobile Housing and trailers, hot water heaters set too high, mold and moisture, ventilation, and toxins in household dust.

Some of the risks identified can be linked to proximal health outcomes, but many environmental exposures to toxins such as carcinogens in cleaning products and building materials, or endocrine disruptors in plastics and household dust, have health effects that may be 20 years off or that may affect future generations through epigenetic effects.<sup>19</sup> The stakeholder group believed that because of the wide range of potential health risks in the home environment a holistic and integrated healthy housing strategy is needed.

## Targeting High Risk Housing in Washington State

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There are just fewer than 3 million housing units in Washington State including single family, multi-unit, and mobile Housing. Approximately 60 percent of these units are owner occupied, 30 percent are rented and 10 percent are vacant.<sup>20</sup> The population living in Washington State Housing is shifting as the state becomes more racially and ethnically diverse. Based on the U.S. Census and estimates from the Washington State Office of Financial Management (OFM), from 2000 to 2010, Washington's population increased by 14.1 percent, far faster than the national rate of 9.7 percent. If population growth outpaces infrastructure development, it can put stress on health care systems, natural resources, and housing stock.

According to the OFM's Population Trends 2012 report about 73 percent of residents are white, non-Hispanic (a decrease from about 79% in 2000). About 11 percent of Washingtonians are of Hispanic origin, 8 percent are Asians and Pacific Islanders, 3 percent are Black, and 1-2 percent are American Indian or Alaska Native. About 4 percent are of multiple races.<sup>21</sup>

Washington's minority residents are disproportionately likely to have low incomes. In 2003-2005 combined, about a third of Washington's adults of Hispanic origin and a fourth of Black and American

Indian and Alaska Native adults lived in households with annual incomes of less than \$20,000. Low-income people may have fewer resources to address home health-hazards such as lead-based paint hazards and asthma triggers. Unresponsive landlords, neighborhoods with higher levels of air pollution, and greater use of wood for home heating in Washington can also contribute to poorer indoor air quality.

The Healthy Housing Initiative will use available data about Housing and the people living inside them to target healthy housing activities. In the long term, the Healthy Housing Initiative will have its own dataset on Housing and home based risks, but at the outset the Initiative will use available state and national data to target interventions. There are many factors that may indicate that a home is at greater risk of having home based health hazards but for the purposes of this plan we will look at three: age of housing, high risk populations, and crowding.

### **Age of Housing**

Half a million housing units in Washington State were built before 1950 and 1.2 million were built before 1979.<sup>20</sup> Washington ranks 17<sup>th</sup> nationally in number of housing units built before 1979. These Housing are at a greater risk of having lead paint,<sup>22</sup> asbestos,<sup>23</sup> and structural hazards.<sup>24</sup> Statewide distribution of older housing structures can be seen in the following map titled “Percentage of Pre 1950’s Housing in Washington State by Census Tract.” High proportions of older housing are in city centers like Seattle and Spokane, but are also common in the Southeast and in some other rural counties scattered across the state.

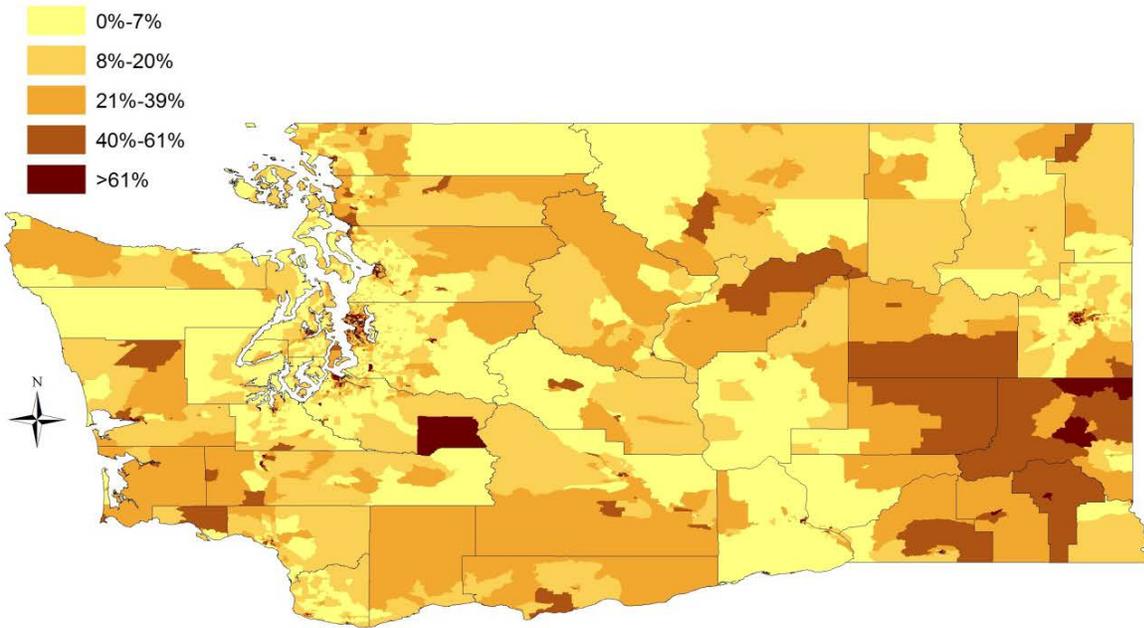
### **High Risk Populations**

Although there are many ways to define high risk populations, we are focusing on the very young and very old. These groups are more susceptible to environmental exposures, are more likely to fall, be injured, poisoned, or die in a fire in the home.<sup>25-28</sup> The distribution of this population can be seen in the following map titled “Percentage of High Risk Populations (Under 5 & over 80) in Washington State by Census Tract.” The distribution pattern is difficult to characterize and will need to take into account local knowledge about day care centers and nursing Housing but will ultimately be useful in targeting interventions in specific areas of the state.

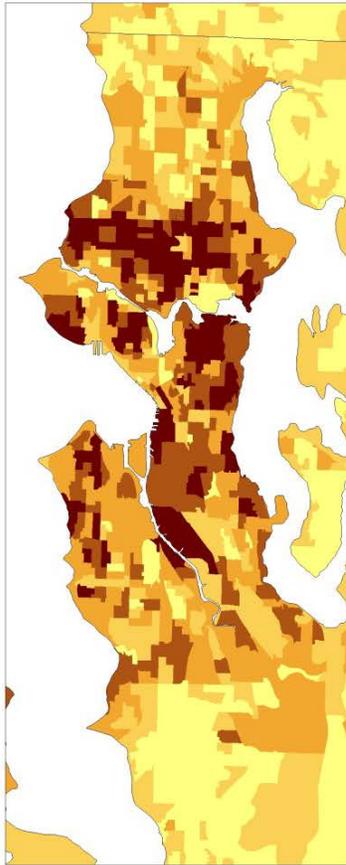
### **Crowding**

The Department of Housing and Urban Development reports that at densities above 1.5 persons-per-room, the likelihood of childhood mortality, respiratory problems, accidents, and mental illness is significantly more likely.<sup>29</sup> We estimate that there are slightly fewer than 5,000 overcrowded housing units in the state although the data for this statistic has a wide margin of error and could be off by thousands of units. Regardless, the best estimate of the geographic distribution of crowded housing can be seen in the following map titled “Number of Overcrowded Housing Units in Washington State by Census Tract.” There are relatively few areas in the state with very high numbers of overcrowded units which will be useful for targeting limited resources.

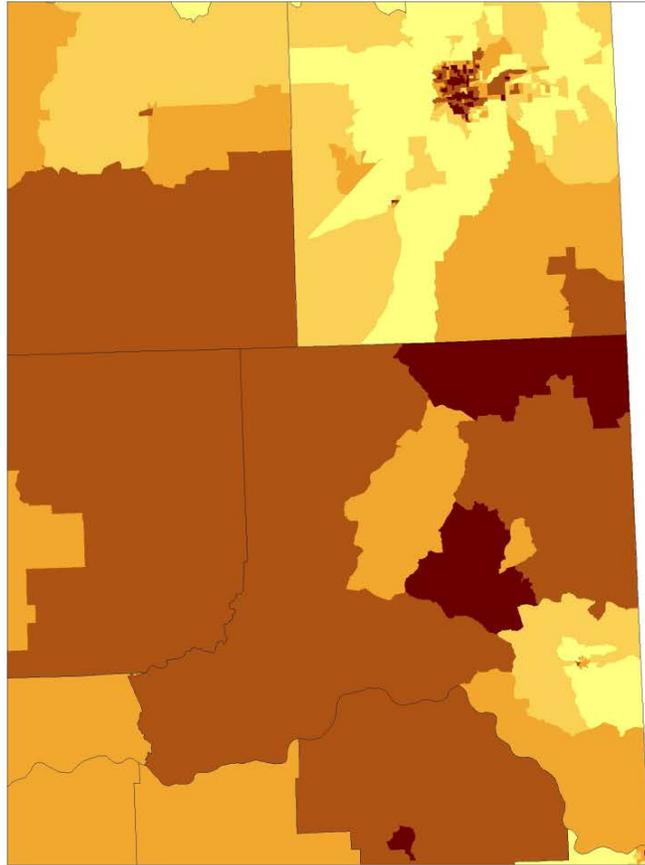
### Percentage of Pre 1950's Housing in Washington State by Census Tract



Seattle Metro

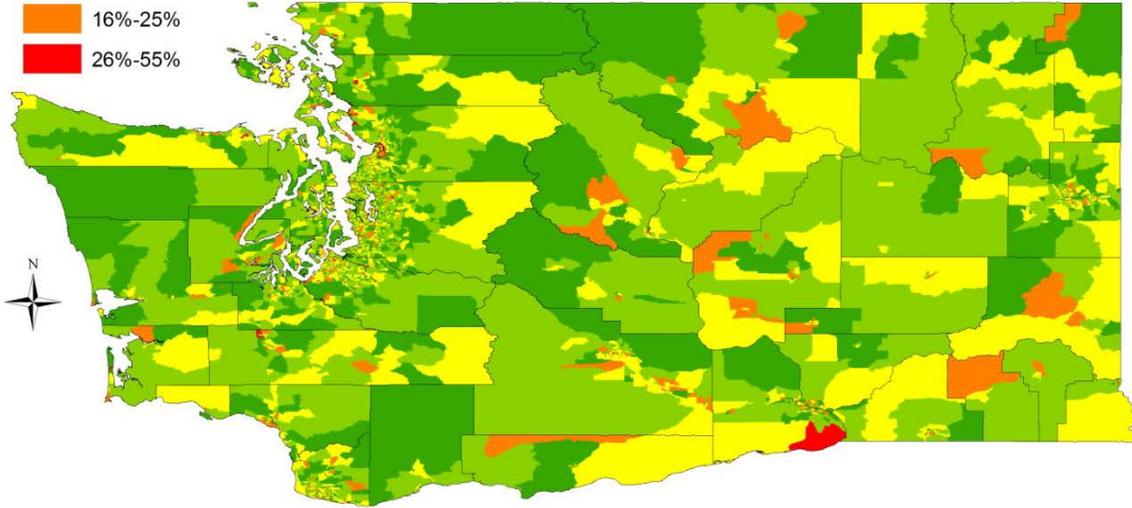


Spokane - South East Washington State

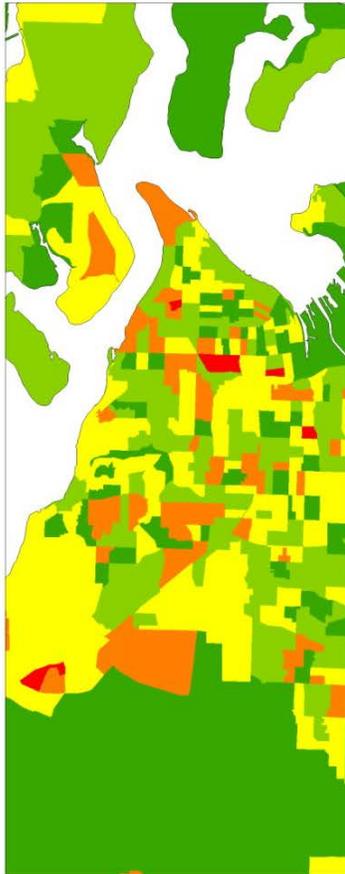


### Percentage of High Risk Population (Under 5 & Over 80) in Washington State by Census Tract

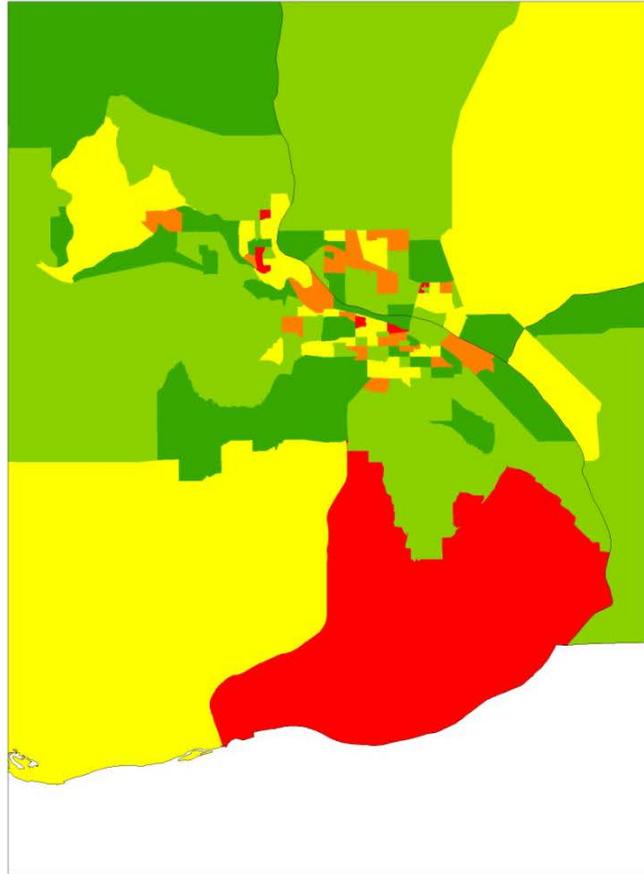
- 0%-5%
- 6%-9%
- 10%-15%
- 16%-25%
- 26%-55%



Tacoma - Pierce

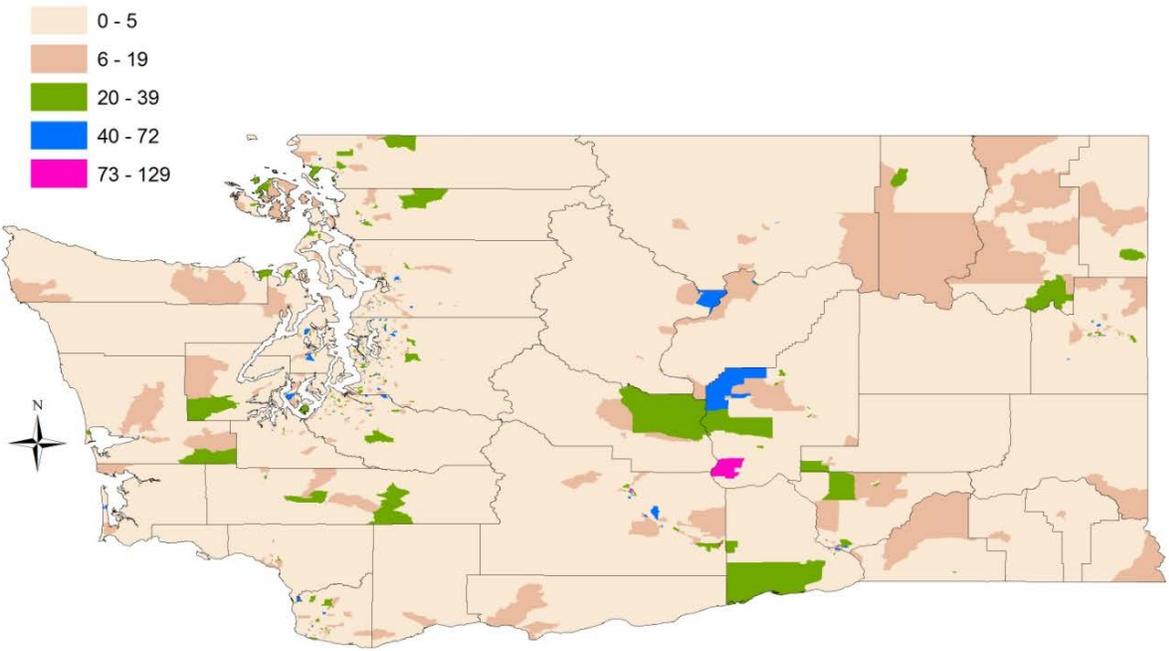


Pasco - Tri-Cities

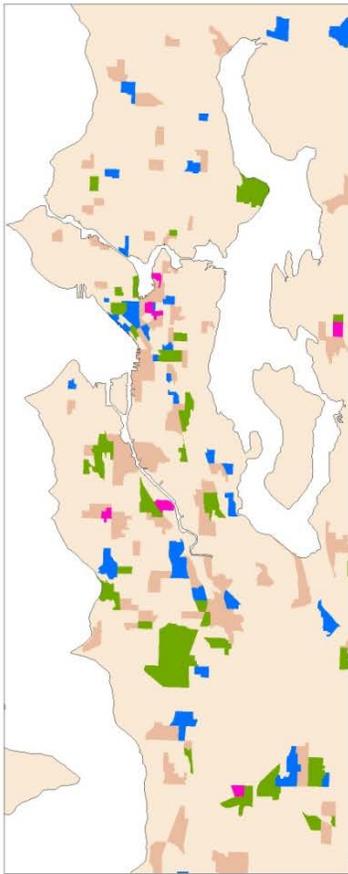


Data Source: U.S. Census American Community Survey 5-Year Estimate 2007-2011

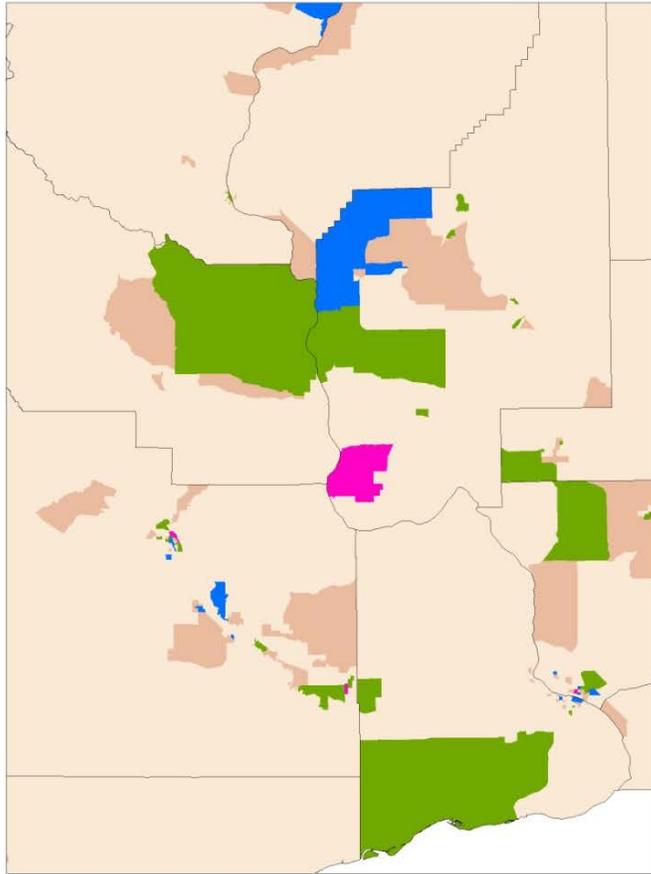
### Number of Overcrowded Housing Units in Washington State by Census Tract



Seattle Metro



Yakima Valley - Central Washington



Data Source: U.S. Census American Community Survey 5-Year Estimate 2007-2011

There are many factors that will influence how and where healthy housing efforts are targeted including buy in from local health jurisdictions, non-profits, and housing authorities, funding opportunities, and local capacity. The Washington State Department of Health will provide the highest quality healthy housing data available to its partners in order to assure that healthy housing resources target the highest need populations.

## **The Mechanics of the Healthy Housing Initiative**

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Work on the Healthy Housing Initiative commenced in January 2012. Core to the effort were the creation and facilitation of four different advisory committees and work groups whose members can be found in Appendix B. These included:

### **Healthy Housing Advisory Group**

This group was open to anyone who wanted to participate, and most often participants were those individuals who were also actively engaged in the work groups. The group met three times: first, to essentially “kick off” the Initiative, a second time to hear about and advise on the activities of all of the work groups, and a third meeting to review and comment on the Strategic Plan. Approximately fifteen individuals participated in each of these meetings.

The Advisory Group included community based organizations, health professionals, government entities, and academics who have collaborated with Department of Health, Public Health – Seattle & King County, and each other on prior housing and health activities. Many of the partners were “front line” practitioners who evaluated approaches based on community acceptability, political feasibility, potential to yield community benefit, and the ultimate likelihood of success. In addition, community members were also invited to participate.

### **Strategic Planning Group**

The strategic planning process began by surveying fifty-eight key stakeholders to identify and prioritize Healthy Housing Initiative issues. The responses were used to shape a day-long, facilitated meeting that included representatives from both housing and health-related organizations throughout the state. During this workshop, participants brainstormed a number of goals, objectives, and action items for the Strategic Plan. This was also an opportunity for participants to identify the issues and problems they felt most needed to be addressed. This input became the basis for a draft strategic plan, which was then distributed for review and comment from all participants. And, as noted above, the strategic plan also benefited from the review of the advisory committee.

Work Group chair Kathy Burgoyne, Vice-President of the Comprehensive Health Education Foundation, shared the draft strategic plan with some fifteen housing experts and low-income housing tenants throughout the state. Interviews conducted with these individuals assured that the voices of people who were unable to attend the day-long strategic planning session could provide feedback and additional advice for the plan. Their ideas were also incorporated into the draft plan.

### **Case Coordination Work Group**

This work group was chaired by Stella Chao from Public Health – Seattle & King County and Catherine Karr from the University of Washington. The work of this group resulted in three case coordination protocols related to lead, asthma, and housing. In addition, this group oversaw the development of a comprehensive database of housing and health resources from throughout the State of Washington.

The hope is that this database can be readily accessed through a web-based phone inquiry system by anyone eager to address health issues in vulnerable populations, and find available resources to remediate poor housing conditions.

These products also benefited from interviews with professionals and low-income tenants. Members of this work group travelled to four different locations throughout Washington to conduct interviews with a wide variety of health professionals. These meetings enabled participants to provide feedback and comments on the draft protocols.

### **Pilot Project Work Group**

Chaired by Nicole Thomsen from Public Health – Seattle & King County, members worked with City of Seattle Code Enforcement to create a checklist that goes beyond traditional codes to pinpoint environmental health hazards in rentals. This information would be provided to the surveillance database, triggering the case management system, if necessary.

Seattle has a high concentration of low income and minority residents and is ready to improve housing quality for low income renters. More than half of the occupied housing in Seattle is rental housing. Seattle is home to an increasingly diverse population. According to the U.S. Census Bureau American Housing Survey, Seattle area renters are more likely than owners to have incomes below the federal poverty level (16 percent renters vs. 4.6 percent owners) and are more likely to live in substandard Housing (10.5 percent renters with moderate/severe problems vs. 2.2 percent of owners with similar problems). Although the pilot project is focused in Seattle, the ultimate goal of the Healthy Housing Initiative is to expand to a statewide program.

Implementation of the tool has been deferred while the City of Seattle develops and implements a Rental Housing Registration and Inspection Program. It is hoped that the draft tool will be incorporated into the “new” inspection program as well as the existing complaint-based code enforcement program.

The Thurston County Public Health and Social Services Department and the Yakima Valley Farm Workers Clinic both piloted the healthy housing case management protocol. Thurston County will also be piloting the Healthy Housing and Lead Poisoning Surveillance System database described below.

### **Use of SharePoint**

A website was established early in the effort to make it easy for all participants to respond and participate in the Healthy Housing Initiatives. Drafts of all products were posted to the website, along with notification and reports of all of the advisory committee and work group meetings. If you would like access to the documents on SharePoint website, please contact Nicole Thomsen at [nicole.thomsen@kingcounty.gov](mailto:nicole.thomsen@kingcounty.gov).

### **Development of Surveillance Database**

In June 2013, the Department of Health successfully launched the Healthy Housing and Lead Poisoning Surveillance System (HHPSS, pronounced ‘helps’) to track health indicators in the home. This database will provide case management services for the case management protocols for housing, lead, and asthma and will also serve as a repository for environmental health data on the state’s housing stock. The database will allow Department of Health to track environmental health issues with the home as the point of reference. The database is also able to import Health Level Seven (HL7) data which will allow it to communicate with the health information exchange. The long term goal for the database is allowing the agency to analyse housing data to target interventions, give providers tools to identify patients at a

high risk for housing related illness and injury, and allow providers to monitor remediation of identified housing issues.

## Healthy Housing Strategies: 2012-2015

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### Vision

Every Washington resident lives in a safe and healthy home that is maintained to support a dry, clean, pest-free, ventilated, and contaminant-free living environment.

### Mission

Foster safe and healthy home environments that protect and improve the health of vulnerable populations through coordinated and effective policies, programs, and partnerships.

### Values

The Department of Health and its partners adhere to these values as the Healthy Housing Program is developed and implemented statewide.

**Collaboration.** There are numerous agencies working diligently to improve both housing and the health and welfare of the most vulnerable populations among us. While these individual efforts are worthy, greater success can be achieved through enhanced collaboration among all of these organizations. This strategic plan is based on a more robust level of collaboration from all.

**Evidence Based.** The strategies outlined in this plan are consistent with the research on Healthy Housing.

**Equity and Fairness.** It is widely recognized that the populations that can benefit the most from a Healthy Housing program often do not have reliable and effective access to home and health improvement programs. This strategic plan seeks to provide an equitable level of access for all populations.

**Public-Private Partnerships.** To date, most healthy Housing programs are being carried out by public sector agencies. A truly sustainable, long-term effort, however, will also require the participation of private sector property owners, managers, non-governmental organizations, foundations and community groups. This plan provides for stronger links and partnerships with the private sector.

**Engagement of Community Members.** Throughout this plan a number of activities are designed to inform, involve and engage communities in the Healthy Housing Program. It is recognized that a Healthy Housing program cannot be sustained or successful unless the community itself is fully involved and supportive of these efforts.

### Funding Assumptions

Funding is a key element of a Healthy Housing program. Throughout this plan some assumptions have been made as to where current funding might be adequate to pay for a strategy. In other areas it is obvious that new funding will be needed. There are a number of “gray areas,” however, that will require a more focused and concentrated examination of funding gaps.

The Consortium called for in this plan will play an important role in determining funding priorities and needs. The Consortium will focus on the possibilities of leveraging existing funding in a way that enables these strategies to be implemented. Where this leveraging is not possible, the Consortium will identify new funding needs and work to secure those monies.

## **Summary of Goals and Strategies**

### **Goal 1: Develop a collaborative infrastructure for implementation of statewide healthy Housing program.**

#### **Strategies:**

- Develop and implement a statewide Healthy Housing Consortium.
- Develop a comprehensive clearinghouse of all resource organizations.
- Develop and publish model policies.
- Create a Healthy Housing website.

### **Goal 2: Ensure that Housing meet minimum health and safety requirements.**

#### **Strategies:**

- Develop and implement Healthy Housing tracking and surveillance database.
- Analyze and publish surveillance data.
- React to lessons learned from the pilot programs.

### **Goal 3: Reduce disease and injury outcomes from housing-related hazards.**

#### **Strategies:**

- Implement lead, asthma, and housing protocols.
- Institute Healthy Housing “one-stop shopping” procedure.
- Closely link the Healthy Housing program with other ongoing programs.
- Train all who are entering Housing to troubleshoot and make referrals.
- Train health care providers to write Healthy Home prescriptions.

### **Goal 4: Create the shared value that healthy housing is both a right and a responsibility.**

#### **Strategies:**

- Increase education and social marketing to tenants.
- Develop productive partnerships with property owners.

### **Goal 5: Ensure long-term sustainability of healthy Housing program.**

#### **Strategies:**

- Push for statewide healthy Housing criteria, practices, and policies.
- Link healthy Housing to community planning.
- Develop greater capacity within community-based organizations.

## **Goal 1: Develop a Collaborative Infrastructure for Implementation of Statewide Healthy Housing Program.**

Although many agencies and nonprofit organizations throughout the state work on healthy Housing, the effort is fragmented. A systematic approach to improved working partnerships and communication will allow for significantly greater synergy, a collaborative use of resources, and major improvements in service delivery.

## **Strategy One: Develop and implement a statewide Healthy Housing Consortium.**

### ***Action Steps***

The Healthy Housing Advisory Committee is a first step in this direction. A core group of that committee should serve as a convening panel of the Consortium. This convening panel will be made up of representatives from various public health and housing-related organizations. They will determine who should be invited to participation in the Consortium, and will lay out the framework for how the Consortium will operate. All parties will need to make a concerted effort to ensure that both sides of the Cascades are involved in Healthy Housing.

One of the first activities of the Consortium will be to design and carry out a statewide Healthy Housing “Summit,” which has been identified as a need. The Consortium’s convening panel will be responsible for this Summit. Summit topics will include the continued development of the Consortium, a review of this Strategic Plan, and a series of action steps to put the Plan into motion. Participants in this summit would also determine the best mechanism for ongoing meetings and communication, whether that be through monthly or quarterly meetings or other avenues.

The Consortium will define the types of partnerships that need to be developed between service organizations from public health and housing, various funding sources, state and federal agencies, and others. These partnerships will be necessary for a long-term, sustained Healthy Housing program. The Consortium will take on a number of tasks related to the implementation of a statewide program, and is identified as a key component in many of the strategies outlined in this plan.

Another benefit of the Consortium will be a regular opportunity for organizations to “get their own houses in order,” that is, determine where there are regulatory and other barriers for tenants, property owners, non-governmental organizations, and community organizations, and how those barriers might be dismantled in order to promote healthy Housing.

Once established, the Consortium would develop its own work plan for the year, and will update that work plan on an annual basis. The work plan will include a specific set of action items to be accomplished, as well as tools to measure the effectiveness of the Consortium’s work.

### ***Who is responsible?***

The Department of Health will take the lead in establishing the Consortium, although the ultimate goal is to create a collaborative structure in which all participating members share some portion of the load.

The Healthy Housing Advisory Committee will develop an outline for the Consortium and a set of goals and action steps for the first year of Consortium work; this will be further refined at the Healthy Housing Summit.

This represents a great deal of work; nearly a full-time job on its own. It could be advantageous to hire a consultant for at least the first year in order to get the Consortium fully up and running.

### ***Key Milestones***

- |               |  |
|---------------|--|
| January 2014  | Convening panel develops and agrees on draft Consortium structure and key tasks for 2013. The first summit is designed to refine and further develop the Consortium structure. |
| February 2014 | Consortium activities begin.   |
| February 2015 | Review of first year; refinement of goals and activities.  |

### ***Funding***

This strategy is likely to require a new source of funding. Given the existing work loads of Department of Healthy staff, it may be necessary to hire an independent consultant to pull together, organize, and facilitate the work of the Consortium.

### ***Success Measures***

First Year            Development and first meetings of Consortium.  
2-3 Years            High level of participation in Consortium.  
5 years                Effective partnerships and streamlined delivery of services.

### **Strategy Two: Develop a Comprehensive Clearinghouse of all resource organizations.**

This clearinghouse will become the “go to” source for the Healthy Housing program.

### ***Action Steps***

The Case Coordination Work Group is currently assembling information for this clearinghouse. Once the draft clearing house has been developed, it will be turned over to Washington Department of Health for further refinement. Department of Health will also determine the best mechanisms for dissemination, whether that be through email notification, incorporation into “Washington Connects,” the development of a larger marketing campaign, or some other means of dissemination.

### ***Who is responsible?***

Case Coordination Work Group for draft clearinghouse; Department of Health for final and ongoing maintenance. Consortium will advise on dissemination and use among participating organizations.

### ***Key Milestones***

August 2013        Draft clearinghouse finished and turned over to Department of Health .  
January 2014       Clearinghouse complete and ready for dissemination.  
Ongoing            Clearinghouse disseminated; annual evaluations of effectiveness.

### ***Funding***

It is hoped that this strategy can be implemented through the reprioritization and leveraging of existing funds. If not, new funds will be required for implementation.

### ***Success Measures***

First Year            Clearinghouse developed and made available.  
2-3 Years            High level of use and participation throughout state.

### **Strategy Three: Institute a Healthy Housing Website**

A website will allow ready access to ongoing developments, programs, and materials and will enhance networking among health and housing-related service providers.

### ***Action Steps***

The Department of Health will maintain a Healthy Housing website that will serve as a resource for the public and service providers throughout the state. The website will provide alerts on new program developments, advertise training opportunities, and serve as a repository for information related to the Healthy Housing program. It will be linked to the Comprehensive Clearing house.

The development of this website is closely linked to Strategy 1 under Goal 4, which calls for the creation of an education and social marketing campaign for landlords, tenants, and homeowners. The website will eventually be a pivotal element of that larger campaign. Department of Health will also institute a

marketing campaign to ensure that all interested parties are aware of, and have access to, the website. Different marketing strategies will need to be employed in order to reach different constituencies.

As experience is gained from efforts to implement the Healthy Housing Initiative, model policies and procedures will be posted to the website. At the beginning this will include the case management protocol created as part of the CDC planning grant.

***Who is responsible?***

The Healthy Housing Advisory Committee will provide ideas and feedback for the website. The Department of Health will develop the site, launch it, and provide ongoing maintenance. Feedback from the Consortium will be conducted on a regular basis to evaluate effectiveness. Department of Health will continue to refine and make improvements to the website over time.

***Key Milestones***

September 2012	Department of Health develops skeletal website; seeks advice of convening panel members.
June 2014	New website launched.

***Funding***

This strategy is likely to require new sources of funding.

***Success Measures***

First Year	Launch and use of website.
2-3 Years	High degree of awareness and use of website.

**Goal 2: Ensure That Housing Meet Minimum Health and Safety Requirements.**

The Healthy Housing initiative is designed to identify Housing as “cases,” in the same way that health issues such as asthma and lead poisoning are identified as cases, and to make improvements to those Housing that will subsequently improve the health of its occupants.

**Strategy One: Develop and implement Healthy Housing tracking and surveillance database.**

Currently there is no tool available to effectively identify and track Housing that may be contributing to poor health. Nor is there a database that enables health practitioners to enter cases into a system that can link the home-related illness with resources for improving that home. This database is a crucial link in the statewide Healthy Housing Program.

***Action Steps***

Work is currently underway on database development at the Department of Health to launch the Healthy Housing and Lead Poisoning Surveillance System (HHPSS). Once the database is ready for external use, the Department of Health will train local health staff and other relevant stakeholders in the use of the database.

One critical incentive for partners to use and log data into HHPSS will be their ability to get meaningful data back out of the database. The agency will develop a streamlined data sharing agreement process that will allow organizations that enter data into HHPSS to access that data at a later date.

The current version of HHPSS does not track all of the indicators that the case management group identified as import to the health of Housing in Washington State. Department of Health will identify

and pursue options for customizing HHL PSS so that it will be able to track the indicators identified by the case management group.

Once the database is fully implemented and collecting data the Department of Health will publish healthy housing statistics and analysis on the Healthy Housing Initiative website at regular intervals. This data will be used by Department of Health and partner organizations to prioritize limited resources and to customize health messaging.

**Key Milestones**

August 2013	Draft database is available for on-line testing.
December 2013	Database testing and analysis.
June 2014	Final database ready for use.
December 2014	Database has been customized for Washington State needs.

**Who is responsible?**

The Department of Health is responsible for the creation of this tool and for entering the data into the database. To increase the amount of data available Department of Health and the Consortium will encourage other organizations to populate the database with relevant data. The Consortium will “test market” the tool and provide feedback for continued refinement and improvements. The agency will customize the database to meet needs identified by the stakeholders.

**Funding**

The draft tool is being developed through Healthy Housing grant funding. Long-term maintenance and training for users will require new sources of funds.

**Success Measures**

These types of tools often don’t fail because of the tool itself, but because of user interface and training. Success will be measured to the degree that service providers are both aware of, and regularly making use of, the database. It could take several years for the database to be fully embraced and utilized by all participating organizations.

First Year	Database developed and made available.
2-3 Years	High level of use and participation throughout state.
5 Years	Database routinely and effectively used.

**Strategy Two: React to “lessons learned” from pilot programs.**

**Action Steps**

Working with Seattle code enforcement inspectors, the Pilot Project Work Group developed a checklist these inspectors can use during the course of their usual inspections related to rental housing complaints. Beginning in August 2012, this checklist is now being used. This inspection effort will continue, with the inspectors interacting on a regular basis with Agency staff to report on, monitor, and continue to refine the inspection program. The goal is to use this pilot as a model that other programs throughout the state can use and modify to make it appropriate for their communities. This will be another strategy that will benefit from the advice and feedback of the Consortium.

**Who is responsible?**

Seattle’s Department of Planning and Development is responsible for implementing the pilot project. Key, however, is the availability of the Department of Health database, so that the results of the checklist can be entered and tracked.

### **Key Milestones**

August 2012	Healthy Housing checklist has been field tested, refined, and is being used by code enforcement inspectors.
September 2012	Seattle code inspectors continue to use checklist.
March 2013	Results of checklist use are documented; next steps determined.

### **Funding**

This strategy is currently being implemented through existing funds; expansion into future years and to other communities across the State is likely to require additional funding.

### **Success Measures**

First Year	Lessons learned are fully documented and next steps determined.
2-3 Years	Home inspections begin to be put in place beyond Seattle.
5 Years	Washington State communities institute home health inspections.

## **Goal 3: Reduce Disease and Injury Outcomes From Housing Related Hazards.**

Currently there is no systematic way to make sure health problems and injuries are linked back to the home itself. This goal is intended to put that system into place and make sure it is working effectively.

### **Strategy One: Implement lead, asthma, and housing protocols.**

#### **Action Steps**

The Case Coordination Work Group has developed three protocols: one for lead, another for asthma, and a third for the home itself. These protocols specify how a case is identified and determined, who is responsible for handling those cases, and how they are then managed through the system. The protocols will be regularly updated by the Consortium and will be reviewed by Department of Health and posted on the healthy Housing website. They will now be tested by various health care providers. Refinements will then be made to the protocols, and, when final, they will be made available to health care providers throughout the state.

#### **Who is responsible?**

The Case Coordination Work Group is responsible for the draft protocols. The Department of Health will distribute the draft protocols to various agencies for testing, and will then refine the protocols, finalize them, and distribute them for use.

### **Key Milestones**

August 2012	Draft protocols submitted to Department of Health.
December 2013	Cross-State marketing and testing

### **Funding**

The draft protocols are being developed through the Healthy Housing Initiative grant. Implementation and widespread use of the protocols is likely to require the leveraging of existing funds and, quite possibly, additional funding in the future.

### **Success Measures**

First Year	Protocols developed and made available.
2-3 Years	Cross-state marketing and testing of protocols.
5 Years	Widespread acceptance and use of protocols.

## **Strategy Two: Institute Healthy Housing One-Stop Shopping Procedure**

### ***Action Steps***

The Case Coordination Work Group has developed a flow chart and system that will enable health care providers to access resources for home improvements. This “one-stop shopping” procedure is intended to make it as easy as possible for providers to assist their patients in finding effective home improvement services. This tool and procedure could also be made available to direct use by tenants.

### ***Who is responsible?***

The Case Coordination Work Group is responsible for the development of the draft flow chart and operating directions for access to the resources. The Department of Health will test the flow chart in the field, will refine it, and will then distribute it for use. The Consortium will provide feedback on the draft tool, as well as recommendations for how it should be distributed and used.

### ***Key Milestones***

August 2012	Draft one-stop shopping procedure submitted to Department of Health.
TBD	AGENCY begins testing procedure in the field.
TBD	Flow chart and procedure finalized and distributed for use.

### ***Funding***

This strategy is being started through Healthy Housing grant funding. Widespread use of the flow chart and one-stop shopping tool is likely to require additional funds.

### ***Success Measures***

First Year	Develop flow chart and make available.
2-3 Years	Increased familiarity and use of clearinghouse, flow chart, and one-stop shopping tool.
5 years	Widespread use of one-stop shopping tool and procedures.

## **Strategy Three: Closely Link Healthy Housing with other Ongoing Programs**

### ***Action Steps***

The Healthy Housing Program has strong ties and linkages with other Department of Health programs as well as with other community based organizations and efforts. A couple of key examples include the Smoke-Free housing effort and the Tribal Healthy Housing program. It is important to strengthen the ties between all of these programs. This will prevent a duplication of effort, and, more importantly, it will enable Healthy Housing to benefit from the lessons learned and networking available from these other programs. Efforts are underway by department staff to make certain there is coordination among all of these linked programs.

### ***Who is responsible?***

Department of Health staff is taking the first step in creating a more coordinated approach. Eventually, the Consortium will be made aware of, and have responsibility for, ongoing coordination between all of these efforts.

### ***Key Milestones***

August 2012	Linkages developed; coordination begins.
August 2014	Programs closely coordinated and working collaboratively.

### ***Funding***

For the most part, these ongoing programs are funded by various grants. Closer coordination will enable all participating staff to better understand funding sources, where gaps may be emerging, and how those gaps might be closed.

### ***Success Measures***

First Year            Programs linked; collaborative working structure begins.  
2-3 Years            All programs working together in close coordination.

## **Strategy Four: Train all who are entering Housing to troubleshoot and make referrals.**

### ***Action Steps***

A wide variety of individuals with a diversity of expertise enter Housing on a regular basis, ranging from nurses to case managers to weatherization experts. Enhanced training and information would enable all of these individuals to identify potential home health/injury hazards and to provide referrals to agencies and services that can remedy those hazards. Training would also be helpful for other people working on Healthy Housing initiatives.

### ***Who is responsible?***

The Consortium will create a master list of all organizations and specialty areas that could benefit from this training, and will create an outline for the training curriculum. The Department of Health will be responsible for developing the training program and for making it widely available throughout the state.

### ***Key Milestones***

January 2014            Consortium begins work on training program.  
September 2014        Training program instituted throughout the state.

### ***Funding***

This strategy will require new sources of funding.

### ***Success Measures***

First Year            Training program developed.  
2-3 Years            Training program introduced and tested on a pilot basis.  
5 years                Widespread awareness and participation in training program.

## **Strategy Five: Train health care providers to write Healthy Home prescriptions.**

### ***Action Steps***

Although health care providers often identify home environmental issues that are making children and other vulnerable populations sick, they do not have the tools needed to ensure that the necessary home improvements will be made to improve the health of its occupants. Widespread awareness and use of the clearinghouse described earlier will provide an important tool for these providers. Ultimately we want them to write prescriptions for the home in the same way they might write a prescription for a child, and to have the resources at hand to fill that prescription. Ideally, Medicaid or other medical funding programs could reimburse expenses related to home remediation.

The challenges associated with this strategy are widely recognized. Public health professionals have documented the difficulty in creating greater awareness among the physician community and in urging that community to write these types of prescriptions. Physicians and other providers will be particularly reluctant to take this step unless the home improvement resources are readily available and affordable

for their patients. Success of this strategy cannot be achieved unless the clearinghouse is fully and effectively operational.

***Who is responsible?***

The Department of Health is responsible to ensure that the clearinghouse is adequately up and running for use by health care and other service providers. Before introducing the clearinghouse to health care providers it will be important to make sure the clearinghouse is functioning without any hiccups, so that every experience with the clearinghouse is smooth and successful. The Consortium will provide advice and feedback on how this tool can most effectively be distributed and used.

***Key Milestones***

January 2014 Information to health care providers regarding the clearinghouse.  
March 2014 First series of quarterly assessments to determine use and effectiveness.

***Funding***

The database is being developed through current Healthy Housing grant funding; training and widespread acceptance/use by physicians and others is likely to require new funds.

***Success Measures***

Although this is a crucial aspect of a comprehensive Healthy Housing program, it will take a great deal of information, training, and trial-and-error before health care providers view this as a routine and helpful aspect of their work. Ultimate use of such a “prescription tool” is likely to take several years.

First Year Fully develop and test clearinghouse and referral procedures.  
2-3 Years Begin introducing procedure to health care community; conduct field testing.  
5 years Widespread prescriptions for healthy housing.

**Goal 4: Create the Shared Value that Healthy Housing is both a Right and a Responsibility.**

Tenants are often cautious about reporting home health hazards to their landlords out of fear of retaliation. Property owners aren’t always cognizant of the ways in which their housing units might be contributing to poor health. This goal seeks a common understanding about, and shared support for, healthy housing.

In implementing this strategy, the Consortium will need to employ a delicate balancing act. Will landlords respond more to incentive programs or to new regulations that require them to make housing improvements? Should we institute a “Healthy Housing Seal of Approval” to those Housing that meet specified health criteria, or would it be better to legislate for improved housing conditions? If a home is deemed to be “unhealthy,” how does it eventually get off that list and onto a better list? And, of course, we don’t want any measures to be so punitive that low-income housing stock is removed from the market; thereby making it more difficult for our vulnerable populations to find available housing.

**Strategy One: Increase education and social marketing to tenants.**

***Action Steps***

Tenants can benefit significantly from increased information about the physical hazards that may be present in their Housing, as well as the way in which their own behaviors can contribute to an unhealthy living environment.

**Who is responsible?**

The Consortium will identify the effectiveness of current tenant education programs and determine where there are gaps related to healthy home environments. The Consortium will determine if the gaps can be remedied through improved use of existing education, or if new education and marketing programs are necessary. The Consortium will also determine where and how partnerships should be established with tenant organizations, community councils, and other agencies that can help to effectively spread the word about healthy housing. The Consortium will make recommendations to the Department of Health, which will then determine action steps for increased education to tenants.

**Key Milestones**

February 2014	Consortium begins work on this issue.
June 2014	Consortium makes recommendations to Department of Health.
September 2014	Department of Health institutes new education program.

**Funding**

This will depend on the findings and recommendations of the Consortium. If existing programs can be used to greater effectiveness, new funds may not be required. New education and marketing campaigns, however, will require new sources of funding.

**Success Measures**

First Year	Current programs identified/gap analysis.
2-3 Years	New education/marketing campaigns initiated if necessary.
5 Years	Widespread awareness of home health issues and ways to remedy them.

**Strategy Two: Develop productive partnerships with property owners.**

**Action Steps**

A healthy Housing program cannot be successful unless property owners are engaged and motivated to improve their housing units in ways that reduce health and injury hazards. This goal requires that the public health community extend itself in new ways to create stronger partnerships with property owners and managers.

**Who is responsible?**

As noted above, the Consortium will need to determine the types of approaches that are likely to be most effective with this group. These could be incentive programs for housing improvements, new legislation requiring those improvements, or a combination of both. The Consortium will also design and implement partnership activities, assigning tasks and responsibilities as it further develops the program.

**Key Milestones**

January 2014	Consortium begins to address this issue.
March 2014	Action program identified.

**Funding**

This will depend on the findings of the Consortium. If partnerships already exist that can be further strengthened, no new sources of funding may be needed. If there are no partnerships, new funding will be required to establish them.

### ***Success Measures***

First Year	Most effective approaches identified and program developed.
2-3 Years	New program with private owners instituted.
5 Years	Widespread private sector awareness and involvement.

## **Goal 5: Ensure Long-Term Sustainability of Healthy Housing Program.**

Healthy Housing can only become a long-term reality through proactive, statewide policies and practices.

### **Strategy One: Push for statewide Healthy Housing criteria, practices, and policies.**

#### ***Action Steps***

It will take some time to develop the kinds of partnerships between the public health and housing communities that can ensure widespread application of healthy housing measures. The Consortium will develop new programs in this regard and can monitor their effectiveness over time. The Consortium will be in a position to recommend measures for improvements to housing units, and will lay out a set of actions and strategies to strengthen the incentives and/or regulatory structures needed for compliance with healthy home practices. A particular challenge for the Consortium will be to determine the most effective ways to engage the business and non-profit communities in a more comprehensive Healthy Housing Program. In effect, the Consortium may determine that a “coalition” of both private and public interests will be needed. If so, the Consortium will take advantage of existing plentiful information regarding the creation and maintenance of such a coalition.

#### ***Who is responsible?***

The Consortium is responsible for making a recommendation in this regard and for developing an action plan to carry it out, assigning tasks and responsibilities as it does so.

#### ***Key Milestones***

January 2015	Evaluate existing efforts and determine best course of action.
March 2015	Develop strategy for statewide policies and/or regulations.

#### ***Funding***

New sources of funding are likely to be necessary for this strategy.

### ***Success Measures***

First Year	Most effective approaches identified and developed.
2-3 Years	Legislative and/or educational approach implemented.
5 Years	New legislation or other approaches adopted.

### **Strategy Two: Link Healthy Housing to community planning.**

#### ***Action Steps***

Healthy Housing can move into a significantly more proactive role by becoming a player in ongoing community planning. Some local jurisdictions, for example, are incorporating health issues into their comprehensive plans. Others have initiated “healthy community assessments,” and there may be numerous other avenues and mechanisms for the introduction of healthy housing values into the future of communities. This should be on the Consortium’s “radar screen” in the short-term, and over time the Consortium can determine how to best be effective in this arena.

**Who is responsible?**

The Consortium will be responsible for assessing this issue, the resources currently available at the community planning level, and the degree to which healthy Housing can be a significant player in this environment.

**Key Milestones**

June 2014	Consortium begins to address this issue.
December 2014	Consortium has developed an action plan.

**Funding**

This will depend on the action plan.

**Success Measures**

First Year	Consortium develops master list of possible planning programs.
2-3 Years	Consortium participates in a number of planning efforts to “field test” effectiveness.
5 years	Healthy Housing principles are widely incorporated in community planning.

**Strategy Three: Develop greater capacity within community-based organizations.**

**Action Steps**

Public health agencies cannot be solely responsible for healthy Housing; this must be carried out by non-profit and other organizations at all levels. Many community-based organizations may not have the skills and resources necessary to implement education programs and other activities related to healthy Housing. By developing greater capacity within these organizations, healthy Housing initiatives are likely to have a greater likelihood of success.

**Who is responsible?**

The Consortium will be in the best position to evaluate existing capacities and where there may be gaps. Based on this evaluation, the consortium will develop an action plan designed to develop greater capacity within community-based organizations.

**Key Milestones**

June 2014	Consortium begins to address this issue.
September 2014	Consortium has developed an action plan.

**Funding**

To be determined, based on the recommendations of the Consortium.

**Success Measures**

First Year	Capacity building needs and approaches identified.
2-3 Years	Capacity building begins.
5 Years	Fully active and participating Healthy Housing network.

# Appendix A: State and National Health Objectives Advanced by the Healthy Housing Initiative

## Healthy People 2020 Goals

### *Environmental Health (EH)*

- EH-8 Reduce blood lead levels in children.
  - EH-8.1 Eliminate elevated blood lead levels in children.
  - EH-8.2 Reduce the mean blood lead levels in children.
- EH-13 Reduce indoor allergen levels.
  - EH 13.1 Reduce indoor allergen levels: cockroach.
  - EH13.2 Reduce indoor allergen levels: mouse.
- EH-14 Increase the percentage of Housing with an operating radon mitigation system for persons living in Housing at risk for radon exposure.
- EH-15 Increase number of Housing built with radon-reducing new home construction techniques.
- EH-18 Reduce Housing with lead-based paint hazards.
  - EH-18.1 Reduce the number of U.S. Housing found to have lead-based paint.
  - EH-18.2 Reduce the number of U.S. Housing that have paint-lead hazards.
  - EH-18.3 Reduce the number of U.S. Housing that have dust-lead hazards.
  - EH-18.4 Reduce the number of U.S. Housing that have soil-lead hazards.
- EH-19 Reduce housing units with Physical Problems.

### *Injury and violence protection (IVP)*

- IVP-12 Reduce unintentional injury deaths.
- IVP-28 Reduce residential fire deaths.

## State Board of Health Strategic Goals

- #3 Reduce health disparities.
- #4 Encourage healthy behaviors.
- #5 Promote healthy and safe environments.

## Washington State Department of Health Strategic Plan

### *Core Activities*

- Preventing disease, disability, and premature death, and reducing or eliminating health disparities.
- Protecting the public from unhealthy and unsafe environments.
- Producing and disseminating data to inform and evaluate public health status, strategies, and programs.

### *Ten Essential Public Health Services*

2. Detecting and investigating health problems and health hazards in the community.
3. Informing, educating and empowering people and organizations to adopt healthy behaviors to enhance health status.
5. Developing and implementing public health interventions and best practices that support individual and community health efforts and increase healthy outcomes.

## Appendix B: Contributors to the Healthy Housing Initiative Strategic Plan, Case Management Protocol, Pilot Project, and Advisory Group

A contributor is defined as someone who attended at least one of the general or working group meetings. Many contributors participated in more than one working group.

**SP – Strategic Planning**

**CM – Case Management**

**PP – Pilot Project**

**A - Advisory**

			Strategic Planning	Case Management	Pilot Project	Advisory
Aileen Gagney	American Lung Association	Master Home Environmentalist Coordinator	SP	CM	PP	A
Glen Patrick	WA Department of Health	Manager, Environmental Epidemiology	SP	CM	PP	A
Keith Zang	WA Department of Health	Asthma Program - Program Manager	SP	CM	PP	A
Nicole Thomsen	Public Health - Seattle & King County	Project Manager	SP	CM	PP	A
Rad Cunningham	WA Department of Health	Lead Program - Epidemiologist	SP	CM	PP	A
Jonathan Green	WA Department of Early Learning	ECEAP Specialist	SP	CM	PP	
Catherine Karr	Northwest Pediatric Environmental Health Specialty Unit	Director	SP	CM		A
Gillian Mittelstaedt	Tulalip Air Quality Program	Indoor Air Coordinator	SP	CM		A
Lowest Jefferson	WA Department of Health	Maternal Child Health	SP	CM		A
Stella Chao	Public Health - Seattle & King County	Deputy Director, Environmental Health	SP	CM		A
Carolyn Gleason	HRSA - Region X; Maternal Child Health Bureau	Regional MCH Consultant	SP	CM		
Cynthia Sanderson	WA Department of Commerce	Lead Hazard Control Grant Program Manager	SP	CM		
Jim Krieger	Public Health - Seattle & King County	Chief, Chronic Disease and Injury Prevention Section	SP	CM		
Kat Hall	The Lands Council	Conservation Program Director	SP	CM		

Lilia Gomez	Washington Community Health Worker Network	Outreach & Special Population Coordinator	SP	CM
Lorrie Grevstad	HRSA - Region X; Maternal Child Health Bureau	Regional Project Officer	SP	CM
Peggy Sheehan	City of Vancouver	Community Development Grants Manager	SP	CM
Shannon Meagher	Kiemle & Hagood	Director of Community Building	SP	CM
Sharyne Shiu Thornton	International District Housing Alliance	Executive Director	SP	CM
Eleanor Trainor	Rental Restorations	Founder	SP	PP
Joe Puckett	Washington Multi-Family Housing Association	Director of Government Affairs	SP	PP
Merf Ehman	Columbia Legal Services	Attorney	SP	PP
Paul Trautman	Spokane Community Development Dept.	Housing Program Director	SP	PP
Kathy Burgoyne	Comprehensive Health Education Foundation	Senior Director of Applied Research	SP	A
Margo Young	EPA - Region X	Coordinator, Children's Environmental Health	SP	A
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Aurora Martin	Columbia Legal Services	Deputy Director	SP	
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Beth Ebel	Harborview Injury Prevention & Research Center	Director	SP	
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Chris Pegg	Cowlitz County Housing Authority	Director	SP	
Cornelius Van Niel	SeaMar	Pediatrician	SP	
Grace Wang	ICHS	Medical Director	SP	
Harry Hoffman	Housing Development Consortium	Executive Director	SP	
Jeff Ketchel	Grant County Health Department	Director	SP	
Jonathan Grant	Tenants Union		SP	
John Thayer	Yakima Farm Worker Clinic	Asthma Outreach Program Coordinator	SP	
Jon Gould	Children's Alliance	Deputy Director	SP	

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Karen White	Code Enforcement		SP			
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Jonathan Grant	Tenants Union of Washington	Executive Director		CM		A

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Angelica Villa	Community to Community	Cocinas Sanas Promoter Coordinador - AmeriCorps	CM	
Annette Dieker	WA Department of Health	Early Childhood Comprehensive System - Manager	CM	
Bethany Dearborn	Tierra Nueva	Family Support Center; Co-Director	CM	
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Bridget McLeman	Children's Home Society of Washington	Executive Director	CM	
Carolyn Robinson	King County Housing Authority	HQS Inspection Coordinator	CM	
Chris Hoffer	HUD - Region X		CM	
Christine Price	WSU - Extension	Director	CM	
Cindy Green	Spokane Regional Health District	Program Manager - Health Promotion	CM	
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Dale Lewis	Community Action Council of Lewis, Mason and Thurston Counties	Director of Housing & Emergency Services	CM	
Dave Finet	Opportunity Council	Executive Director	CM	
Debbie Paton	Opportunity Council	Program Director	CM	
Debbie Riley	Mason County Public Health	Environmental Health Manager	CM	
Eileen McKenzie Sullivan	Senior Services for South Sound	Executive Director	CM	
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Griselda Arias	Yakima Farm Workers Clinic - Toppenish	Program Coordinator - Asthma Program	CM	
Henry Bierlink	Whatcom Farm Friends	Executive Director	CM	

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Janice Gonzales	Northwest Community Action Center	Emergency Services Manager	CM
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Jennifer Helseth	Sound to Harbor Head Start & ECEAP	Health Services Coordinator	CM
Jennifer Sass-Walton	Skagit County Public Health Department	Child & Family Health Manager	CM
Jessica Nguyen	Housing Development Consortium	Membership Manager	CM
Jocelyn Lui	Asian Counseling and Referral Service	Project Manager	CM
Julie Parker	Public Health - Seattle & King County	Public Health Nurse; Child Care Health Program	CM
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Kathy Hirschel		Mom from Quincy	CM
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Kim Klint	Mason Matters	Executive Director	CM
Kim Stewart	Longview Housing Authority		CM
Lanae Aldrich	WA Department of Health	Asthma Program	CM
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Leah Greenwood	Affordable Community Environments	Housing Development Project Manager	CM
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Michael Torres	Lower Columbia Community Action Program	Community Services Program Director	CM
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Paul Mar	Seattle International District Preservation Development Association	Director of Real Estate	CM	
Rosalina Guillen	Community to Community	Executive Director	CM	
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Shelia Capestany	Open Arms Perinatal Services	Executive Director	CM	
Tamra Ingwaldson	United Way of Mason County	Executive Director	CM	
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Teresa Edwards	Mason County Shelter	Case Manager	CM	
Todd Clark	Kiemle & Hagood	City of Spokane Single Family Housing Rehabilitation Program	CM	
Todd Nelson	Bellingham Whatcom County Housing Authorities	Development Manager	CM	
Todd Phillips	Grant County Health District		CM	
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Vicki Kirkpatrick	Mason County Public Health	Health Department Director	CM	
Wade Gardner	Opportunity Council	Weatherization	CM	
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Kristine Beaton	City of Seattle	Code Compliance Inspector	PP
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Lalaine Diaz	WA Department of Early Learning	Health Specialist	A
Mark Kastenbaum	WA Department of Early Learning	Health Specialist	A
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Wally Ried	EPA - Region X		A
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## References

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1. The Surgeon General's Call to Action to Promote Healthy Housing. 2009.
2. Tran N. et. al. The Burden of Asthma in Washington State. Washington State Department of Health. 2013 Update.
3. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance Survey; 2006 Adult Asthma Data: Prevalence Tables and Maps.
4. Kreiger JW, et. al. The Seattle-King County Healthy Housing Project: A Randomized, Controlled Trial of a Community Health Worker Intervention to Decrease Exposure to Indoor Asthma Triggers
5. Mudarri D, Fisk WJ. Public health and economic impact of dampness and mold. *Indoor Air*. 17(3):2007
6. Washington State Department of Health Blood Lead Registry 2012.
7. Davies H. Washington State Lead Chemical Action Plan. Washington State Department of Ecology; 2009
8. United States Census Bureau. 2007-2011 ACS 5-Year Estimates, Selected Economic Characteristics DP03.
9. Gould E. Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control. *Environmental Health Perspectives*. 117(7):2009.
10. Dixon SL. Effectiveness of Lead-Hazard Control Interventions on Dust Lead Loadings: Findings from the Evaluation of the HUD Lead-Based Paint Hazard Control Grant Program. *Environmental Research* 2005.
11. Washington State Injury and Violence Prevention Guide: Washington State Department of Health. January 2013.
12. Stevens JA. et.al. Falls Among Older Adults –Risk Factors and prevention Strategies. *Falls Free: Promoting a National Prevention Action Plan*. 2005
13. Gillespie LD et. al. Interventions for preventing falls in elderly people. *The Cochrane Library* 4:2007
14. Phelan KY et. al. A Randomized Controlled Trial of Home Injury Hazard Reduction. *Arch Pediatr Adolesc Med*. 165(4): 2011
15. Shumway-Cook et. al. Falls in the Medicare population: incidence, associated factors, and impact on health care. *Physical Therapy* 89(4): 2009

16. Barrett-Conner. The economic and human costs of osteoporotic fracture. *American Journal of Medicine*. 1998
17. Office of the State Fire Marshal. *Fire in Washington 2010*.
18. Children’s Safety Network. *Injury Prevention: What Works? A Summary of Cost-Outcome Analysis for Injury Prevention Programs, 2012 Update*.
19. Gluckman PD et.al. Effect of In Utero and Early-Life Conditions on Adult Health and Disease. *New England Journal of Medicine*. 359(1):2008
20. *American Community Survey 5-Year Estimates 2007-2011, U.S. Census*
21. Washington State Office of Financial Management. “Population Trends 2012” September, 2012.
22. Jacobs DE, et al. The Prevalence of Lead-Based Paint Hazards in U.S. Housing. *Environmental Health Perspectives*. 110(10): 2002.
23. *Asbestos in the Home*. Consumer Product Safety Commission. Document #453.
24. *American Housing Survey for the United States: 2005*. US Census Bureau August 2006.
25. Koepsell TD Weiss N. *Epidemiologic Methods: Studying the Occurrence of Disease*. Oxford University Press 2003.
26. Warda L. House Fire Injury Prevention Update. Part 1: A Review of Risk Factors for Fatal and Non-Fatal House Fire Injury. *Injury Prevention* 5(2):145-50: 1999.
27. Washington State Community Health Assessment Tool, Injury Hospitalization data 2011-2012.
28. Chance GW Harmsen E. Children are Different. *Environmental Contaminants and Children’s Health*. *Canadian Journal of Public Health*. 1998.
29. U.S. Department of Housing and Urban Development. *Measuring Overcrowding in Housing*. Office of Policy Development and Research. September 2007.