2008 Health Subcommittee Asthma Briefing

Why Asthma? Why Now?

• The community asked for public health support to overcome inadequate housing

 Asthma is more prevalent in people in poverty and people of color

Asthma costs \$20 billion nationally

• Multnomah County projects saving \$343,151 in hospitalization and ER visits

• Multnomah County Healthy Homes participants are 2 ¹/₂ times less likely to use the emergency department after the intervention

Asthma Disparity

Asthma is 51 % more prevalent among children from low-income households

- Oregon Department of Human Services, (2008). Geographic Disparities in Pediatric Asthma Control Among Oregon Children on Medicaid.

Environmentally Attributable Factors

• Environmental factors considered include: air, water, and soil pollutants both naturally occurring and anthropogenic.

• These calculations do not include diet, smoking, accidents, injuries, or alcohol consumption.



Asthma in Oregon

- Environmental factors contribute to both the development of asthma and the likelihood of suffering from attacks.
 - Indoor and outdoor air pollutants including ozone, nitrogen, dust mites, asbestos, and particulate matter.

 Environmentally Attributable Fraction for asthma: 30%



Environmental Childhood Asthma Costs in Oregon

- 71,085 children with asthma in Oregon
- Annual cost = \$1,116 per case
- \$79 million total annual asthma cost in Oregon for children
- Environmentally attributable fraction of 30%=

\$23,799,258 annual costs of childhood asthma attributable to environmental contaminants.



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Oregon childhood asthma rates by income



Annual Household Income



Asthma ER visits for tri-county area

Children age 0-4 with asthma on Medicaid, 2004-2005



Parenthesis are cases



Multnomah County has one of the highest emergency department visit rates among children

 Oregon Department of Human Services, (2008).
Geographic Disparities in Pediatric Asthma Control Among Oregon Children on Medicaid.



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The Healthy Homes Model

- Utilizes the strength of the family and strong partnerships
- Utilizes a multidisciplinary team
- Reduces environmental triggers
- Complements clinic interventions by improving family understanding of asthma management
- Addresses housing issues

ED utilization was reduced by ½ resulting in a Cost Savings Calculated at \$55,141

Healthy Homes Intervention reduced Emergency Department Use in Care Oregon Participants

(N=67 Children) (Significant difference, p=0.046)



Healthy Homes Intervention Reduced the number of participating families utilizing the ED by two-thirds

(N=67 Children) (Significant difference, p=0.012)



Reduced number of homes with asthma triggers



Long-term Improved Asthma Control

Cohorts 1 & 2: Comparison of Pre- and Post-Intervention, and 6-Month Follow-Up ACT Scores

[There is a significant difference between Pre- & Post-Intervention ACT Scores (p<0.007) in both cohorts.]



2009-2011 General Fund Proposal ER Cost Avoidance

The cost of an emergency room visit with asthma as the primary discharge diagnosis is estimated at \$823

Cost savings is projected at \$92,999.

~ 2005 Aggregate State Statistics, HCUP State Emergency Department Databases 2005, Agency for Healthcare Research and Quality.

2009-2011 General Fund Proposal Hospitalization Cost Avoidance

The cost of a hospitalization with asthma as the primary discharge diagnosis is estimated at \$5,956.

Hospitalization Cost savings is projected at \$250,152.

Total Projected Cost Savings = \$343,151

~ State Statistics from HCUP State Inpatient Database 2006 from Agency for Healthcare Research and Quality.

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Community Health Perspective

• Focus on low income families of color to support overcoming health disparities

 Support families in identifying asthma triggers and prioritizing interventions to improve health and quality of life

Partnership and advocacy approach

Reduced household asthma triggers overall



Reduced number of homes with asthma triggers

Environmental Asthma Triggers Before and After Healthy Homes Interventions: % of Households with Triggers

(Dust-Dander-Mites; Perfumes-VOCs-Chemicals, & Mold-Moisture are significantly different: Chi-Square, p=.001 - 0.036) (N=30)



Cohort 2 - Mold and Moisture Assessment

(Each Bar is the Sum of 3 Categories of Exposure)



Percent of Dwellings

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Successful Asthma Intervention

What results in improved outcomes:

- fewer ER visits,
- fewer missed school days,
- happier families.



Successful Asthma Intervention

- Focus on children with the greatest need
- Use evidence based methods
- Involve communities
- Go to the homes



Asthma Hospitalization in King County



King County Asthma Hospitalization Rates 2000 to 2005

Lower rates occurred when community health workers began in-home asthma education & health organizations improved the quality of care



Successful Asthma Intervention

- The Healthy Homes model works,
- Asthma intervention saves money,
- This proposal improves on our successes.

Next Steps

 Champion Healthy Homes Healthy Children Asthma Legislation

Educate fellow policy makers

 Educate member of the Ways and Means Committee