

Reimbursement for Asthma Home Visits in Ohio

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FINANCIAL DISCLOSURES

NONE Related to this topic

- Funding all from federal agencies (NIH, HUD)

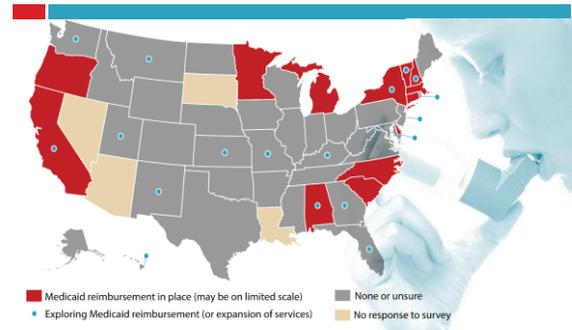
Expert Witness Fees:

- <\$15,000 total over >15 years

Reimbursement for Asthma Home Visits in Ohio

- **GOAL:** to move the funding of Asthma Home Visit programs out of the limited grant base into the general population by obtaining funding from the mainstream of health care financing, i.e. Medicaid and medical insurance companies.
- **NATIONAL PROGRESS:** 13 states have some reimbursement programs, 19 exploring it. Ohio not in either group.

Current State of Play: ASTHMA



Reimbursement for Asthma Home Visits in Ohio

RESOURCES:

- National Center for Healthy Housing Healthcare Financing Resources (Library)
 - <http://nchh.org/Resources/HealthcareFinancing>
- AsthmaCommunityNetwork.org
 - Webinar, Feb 18, 2015, Amanda Reddy, NCHH
 - ‘Securing Coverage for In-Home Asthma Care Services’

Hospitalization for Asthma is a Failure of Medical Care

MAJOR DIFFICULTIES:

- COMPLIANCE (EDUCATION/CASE MANAGEMENT)
- ENVIRONMENTAL TRIGGERS (HOME)

HOW LARGE IS THE PROBLEM?

	Asthma	
	Lifetime	Current
NATIONALLY (CDC, 2012)		
Children	13.6%	9.4%
Med expenses = \$50.1 billion/yr; 479,300 hospitalizations/yr		
CUYAHOGA COUNTY (mid sch, YRBS, 2010)		
White	18.1%	9.9%
Black	24.5%	14.7%
Hispanic	28.0%	16.0%
City of CLEVELAND (high sch, YRBS, 2009)		
White	24.0%	16.7%
Black	24.6%	13.7%
Hispanic	31.1%	15.0%

7

ASTHMA HOSPITALIZATIONS Rainbow Babies & Children's Hospital

	2011	3 years
Asthma hosp (0-19yr):		
Primary admit Dx	516	1512
Dx asthma included	1642	
Hosp including PICU	32.6%	
Re-admits within 30 d		3.44%
Ave length of stay	2.7 d	2.65 d

MetroHealth Medical Center

Asthma hosp (0-19yr):	550
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8

ASTHMA HOSPITALIZATIONS Rainbow Babies & Children's Hospital

PAYERS

Asthma hosp (0-19yr):

	2011
COMMERCIAL	6.4 % (33)
MANAGED CARE	12.8 % (66)
MEDICAID	78.7 % (406)
SELF PAY	2.1 % (11)

9

OHIO MEDICAID- CHILDHOOD ASTHMA: COSTS

-2010, ages 5-18, only Fee-for-Service data;

• Total number of children enrolled	50,328	
Children with asthma	5,622 (11.2%)	
Asthma-related ED visits	3,399 (64.5%)	
Asthma-related Hospitalizations	601 (11.4%)	
• COSTS (Medicaid Reimbursement):		
Asthma prescription meds/patient	\$3,215,989	mean = \$572
Asthma-related ED visits	\$315,517	mean = \$92
Asthma-related Hospitalizations	\$5,042,922	mean = \$8,390

-data prepared for Dorr Dearborn, by Siran Koroukian and staff, Suparna Navale and Paul Bakaki
-data from MAX-Medicaid Analytical Extract, DUA #25695

10

MEDICATION APPROACH

- Contoller medications (e.g. aerosolized steroids)
- Rescue medications (e.g. albuterol)
- XOLAIR (omalizumab)
 - Subcutaneous injection every 2-4 weeks
 - Costs (RB&C Asthma Center experience):
 - Transportation/parking for clinic (family burden)
 - 25% effort for a nurse
 - \$1500-\$2200 /injection → **\$19,000 - \$57,600 /year** (Medicaid allowed charges; 72% high end)

11

ENVIRONMENTAL APPROACH

NIH Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma 2007

- For asthma management, essential to control relevant inhalant allergens and irritants— especially **in the home**
- Reducing exposure can reduce inflammation, symptoms, need for medication
- Multifaceted, **in-home interventions** effective; single steps generally not
- Determine inhalant sensitivity

<http://www.nhlbi.nih.gov/guidelines/asthma/>

RECOMMENDATIONS FOR ASTHMA HOME VISIT PROGRAMS

- National Asthma Education and Prevention Program (NAEPP) Expert Panel Report, "Guidelines for the Diagnosis and Management of Asthma" (NHLBI, 2007)
- Asthma Health Outcomes Project (AHOP) (EPA, 2008)
- Task Force on Community Prevention Services (the Task Force: CDC, 2008)
- The Global Initiative for Asthma (GINA, 2010)

13

HOME ENVIRONMENT APPROACH

- Smoke-free home policies for indoor areas;
- Multifaceted, tailored interventions for reducing asthma morbidity;
- Integrated pest management (IPM) to reduce cockroach allergen; and
- Combined elimination of moisture intrusion and leaks and removal of moldy items to reduce mold and respiratory symptoms.

Kreiger et al, J Public Hlth Management & Practice, 2010, 16(5 Suppl):S11-20.

14

Cuyahoga County – Asthma Home Intervention Projects (lead agencies)

- City-County Healthy House Initiative – (County Board of Health)
- Warm & Health Homes for Cleveland – (Environmental Health Watch)
- Case Healthy Homes & Patients Program – (Swetland Center for Environmental Health, CWRU School of Medicine)

15

CASE HEALTHY HOMES AND PATIENTS PROGRAM (CHHAP)

BASIC ASTHMA PROGRAM (RB&C Asthma Center):

1. Pediatric Pulmonary physician refers their patient for a home visit; a Home Health Inspector from Environmental Health Watch (often accompanied by a pulmonary fellow) goes to the patient's family's home for inspection/intervention.
2. Action Plan is devised
 - Pulmonary Fellow: Behavior education (HUD booklet)
 - HH Inspector: Home health & safety items provided, Home interventions provided / referred
 - Family embraces trigger-control actions
3. Pulmonary Fellow tracks patient's health events

16

CHHAP- Three Year Outcomes

ASTHMATIC CHILDREN-

- Clinical Outcomes- Project patients (n = 27):
 - Compared hospitalizations for the year prior to home visit to the year after the visit

Previous Year:	#	annual rate	
Hosp	50	1.85	
PICU	19	0.38	
30 d Re-Admit	6	0.12	
Year after home visit:			% decrease
Hosp	21	0.78	58%
PICU	7	0.33	63%
30 d Re-Admit	0	0.0	100%

17

OPTIMAL HOME VISIT PROGRAM

- TARGET ASTHMA POPULATION
 - Hospitalized
 - Prescribed Xolair
- PHYSICIAN REFERRAL
 - Written medical care plan
 - Allergen prick testing
- HOME VISIT STRUCTURE
 - Environmental triggers
 - Hands-on trigger education of family
 - Continued care plan education
- VISIT REPORT to Referring Physician

18

HOME VISIT: ENVIRONMENT & CASE MANAGEMENT

- **Home Inspection:** Entire house including heating system, pets, pests, etc.
- **Home Environment Education:** Family members educated during inspection
- **Environmental Interventions:** Moderate level including HEPA vacuum cleaner and IPM
- **Case Management:** Asthma Educator*- add'l medical education per written Care Plan

*Community Health Worker; not nurse or resp technician

19

HOME VISIT: ACTION PLAN & REPORT

- **ACTION PLAN:** Prevention plan with input from family; written with copy to family and patient's physician; may include further visits
- **VISIT REPORT:** Summary of observations, interventions, and prevention plan; provided to patient's physician

20

MODERATE HOME INTERVENTIONS

GENERAL:

- HEPA vacuum cleaner
- Mattress & pillow covers
- Integrated pest management
- Carpet prof'ly cleaned
- (Electric space heaters)
- Furnace filters
- Storage bins & shelves
- Air conditioner or dehumidifier

SPECIFIC:

- **NO SMOKING-** signs
- **Moisture/Combustion Gases Control-** vents
- **BEDROOM-** trigger refuge
 - HEPA room air cleaner
 - Pets kept out
 - Dust reduction
 - Cautions:
 - Stuffed toys
 - Bedding

21



Asthma trigger sources



Inhalant Allergens

- House dust mites
- Cockroaches
- Warm-blooded pets
- Rodents
- Mold

Respiratory Irritants

- ETS
- Formaldehyde
- VOCs
- Combustion by-products
- Outdoor pollution

2007 NIH Asthma Guidelines <<http://www.nhbi.nih.gov/guidelines/asthma/>>



Asthma trigger interventions

- EHW
 1. Family education
 2. Health & safety items [moderate]
 3. Pest control, small repairs/remediation [moderate]
 4. Referral agencies – furnace repair, roof repair, mold remediation [major]
- Family – e.g., smoke outside, no pest sprays
- Clinic visits – reinforce behavior changes

23

Interventions for rapid trigger exposure reduction – 1. HEPA vacuum & 2. bedding covers

1. Provide HEPA vacuum cleaner – to reduce allergen/irritant particulate loadings on surfaces and in reservoirs (e.g., carpet, upholstered furniture)
2. Provide allergen-impermeable mattress and pillow covers – to reduce exposure to dust mites (and other allergens/irritants that migrate to bedding)



24



Interventions for rapid trigger exposure reduction –
3. IPM for roaches & mice

- o Family – environmental controls
- o **Integrated Pest Management (IPM)** for cockroach control-
 - o flush potential harborages with hot air gun,
 - o HEPA vacuum to immediately capture live roaches, roach parts, eggs, and other allergenic material,
 - o bait identified harborages IPM



Interventions for rapid trigger exposure reduction –
4. clean/decontaminate/declutter

- o Cleaning to reduce trigger contamination and clutter (which impedes cleaning & IPM)– HEPA vacuuming, wet washing, removal of contaminated material (program staff, family, or contractor)
- o Provide storage bins and shelves to reduce clutter
- o Have carpets professionally cleaned, with additional extraction step to reduce the potential for residual moisture leading to mold growth

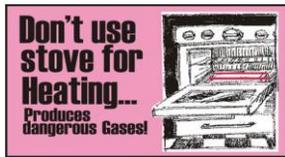


26



Interventions for rapid trigger exposure reduction –
5. electric space heaters, 6. furnace filters

- o Provide electric space heaters – to eliminate use of gas stove & unvented fuel-burning heaters for room heating and the related combustion gas exposure.
- o Replace furnace filters and provide additional pleated filters



Interventions for rapid trigger exposure reduction –
7. bedroom safe space

- o Help the family create & maintain the bedroom as an area of reduced trigger loading-
 - o Provide HEPA room air cleaner for bedroom
 - o Make site-specific recommendations, e.g., keep doors closed, bare floors, reduce dust collectors, smoke-free, pet free, no irritant cleaning or “air freshening” products, etc.



28



Interventions for rapid trigger exposure reduction –
8. occupant behavior

- o Pest control practices
- o Smoking - provide “Smoke-free Home” and “Smoke-free Car” signs
- o Pets management
- o Household cleaning and “air freshening” products
- o Dust reduction
- o Moisture reduction
- o Bedding covers
- o Humidifier cautions



MODERATE HOME INTERVENTIONS

- **COST ESTIMATE:**
 - Between \$800 and \$3600 depending on the number and level of interventions needed.

30

HUD PILOT SUMMIT- Sept 2012 Health Care Financing of Asthma Home Visits

SUMMARY:

- Three expert panels (NIH,EPA,CDC) plus GINA recommend inclusion of home environment in medical management of asthma.
- Asthma home visit should be closely tied to clinical care team and medical care plan.
- Asthma home visits should be dual purpose: home environment and case management.
- Cost-effectiveness more likely attained by targeting previously hospitalized patients
- Grant funding is insufficient to cover the need

Health Impact Bonds: Fresno, CA pilot program

- 200 asthmatic children selected based on expense profiles with Medi/Cal
- HI Bond will pay for in-home inspections/interventions
 - Community health workers; environment & case management; monthly calls, quarterly home visits
- Project 30% reduction in ED, 50% decrease in hospitalizations --> net savings \$5,000 per pt/yr
- Investors receive a portion of the savings

<http://ehp.niehs.nih.gov/2013/02/121-a45/>

32

REIMBURSEMENT FOR ASTHMA HOME VISITS Current OHIO Strategy

GOAL:

- Fee-for-service funding for asthma home visits

PROGRESS:

- Brought together Ohio Healthy Homes grantees to address complexities and uniformity→ consensus
- Obtain Ohio Medicaid endorsement/facilitation (not asking for direct funding)
- Educate and enlist medical insurers- MMCO's
- Institute pilot program in Cuyahoga County

33

Reimbursement for Asthma Home Visits in Ohio

SUMMARY POINTS:

- Closely tied to the medical system, i.e. clinical referral, care plan and report back
- Moderate level interventions only
- Most effective if include both Environmental and Case management
- Cost-effectiveness only likely with more severe patients, e.g. previously hospitalized

34

Disclaimer

The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of the Ohio Department of Health.

35