

# Investing in Best Practices for Asthma: A Business Case



*A program of The Medical Foundation*

Produced by

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# Asthma Big National Problem

## **IN NEW ENGLAND:**

- One in Ten adults and children currently have asthma
- One in Seven adults and children have been given asthma diagnosis in lifetime
- Low income, Hispanic and Black populations have severest burden

# Best Practices for Asthma Management

## **NAEPP Guidelines Outlines 4 Components:**

- 1) The use of objective measures of lung function to assess the severity of asthma and to monitor the course of therapy;
- 2) Comprehensive pharmacologic therapy for long-term management and to manage asthma exacerbations;
- 3) Environmental control of measures to avoid or eliminate factors that contribute to asthma severity; and
- 4) Patient education that fosters a partnership among the patient, family, and clinicians.

**PROBLEM: THE MEDICAL ESTABLISHMENT FAILS TO HEED LAST TWO RECOMMENDATIONS.**

# Environmental Triggers in the Home

## Allergens

Cat\* & Dog Dander

Cockroaches\* \*\*

Dust mites\*\*

Molds\*

Outdoor allergens

## Irritants

ETS\* \*\* (preschool)

Indoor/outdoor fumes

Wood burning stoves

Cleaning agents

Fragrances (candles & sprays)

# Pests and Asthma

## *Asthma and the Home Environment* (HUD 2006)

- Asthmatics living in low income, urban housing have patterns of specific sensitivities that differ from other populations, with a higher frequency of sensitivity to cockroaches, mice, and molds and less frequent sensitivity to cats, dogs, and house dust mites <sup>1</sup>
- The 2004 NIH “Inner City Asthma Study”, conducted in 7 U.S. cities, found that:
  - By reducing cockroach and dust mite allergens, asthma symptoms improve
  - Cockroach exposure and sensitivity predominated in the Northeast, whereas dust-mite exposure and sensitivity were predominant in southern and northwestern cities <sup>2</sup>

# Who Is Currently Paying?

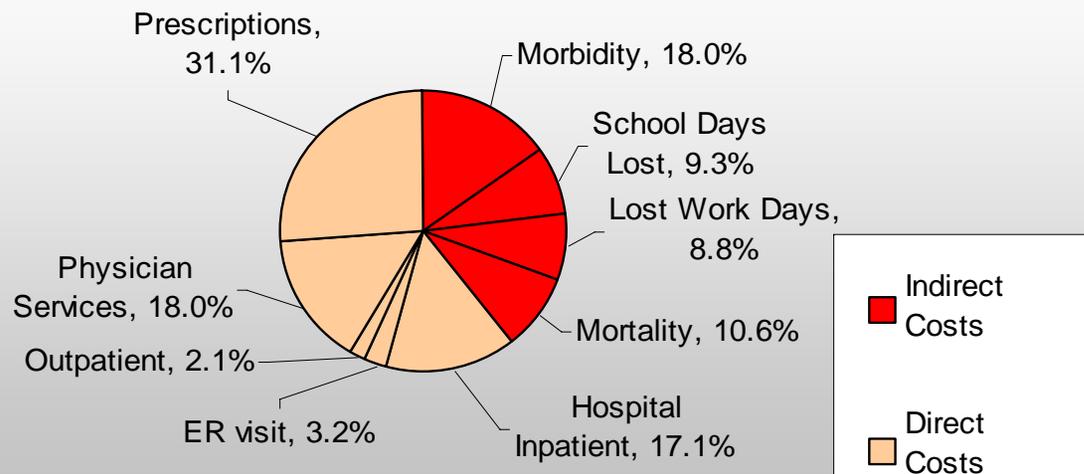
- Federal Grants (HUD, EPA, NIH)
- State and Local Health Departments
- Housing Authorities
- Local Coalitions/CBOs
- Some Private Foundations

*PROBLEM: These funding sources are not sustainable*

# Why Should the Health Sector Care?

Asthma costs well over \$16 billion in direct and indirect costs. Over 70% of those costs are born by the health care sector

**Figure 1: Distribution of Asthma Costs in the US (2004): \$16.1 Billion in Total Costs<sup>7</sup>**



# How Do We Convince Health Sector to Pay for Best Practices?

## ESTABLISH A **BUSINESS CASE**

- Demonstrating **savings** (ROI)

*Savings from reduced health expenditures outweigh the cost of the program*

2. Demonstrating **cost effectiveness**

*Investments in a new service are reasonable in comparison with standard treatment given value of health benefit*

## Health Sector Stands to Improve Asthma Outcomes at Reasonable Cost

*Up front investments in best practices demonstrate:*

- \* **Cost savings** associated with the provision of discrete asthma education services-particularly to high-risk patients.
- \* **Cost effectiveness** for providing environmental interventions in the home to the same population.

# The Evidence on Education

- Hundreds of studies show health effectiveness
- 16 rigorous studies examined cost outcomes
- Settings and staffing varied
- Content similar, including triggers
- Statistically significant outcomes: Fewer ED visits & hospitalizations; improved quality of life
- ROI realized, especially in high risk populations

# Benefits of Environmental Interventions

- Numerous research studies show home-based EI improves asthma outcomes
- All RCT studies include:
  - Extensive education re. trigger avoidance
  - Basic pest abatement
  - Vacuum cleaner (HEPA)
  - Smoking cessation
- Some RCT studies include:
  - Professional pest control
  - Professional mold abatement

# The Evidence on E.I.: IT'S COST EFFECTIVE

- Examined cost per symptom free day gains using an “incremental cost ratio” paradigm
- 2 rigorous studies examined costs (RCTs)  
Cost Range: \$2-\$48 SDG
- Standard pharmacotherapy  
\$7.50 inhaled corticosteroid;  
\$11.3 budesonide; \$523 Xolair for SDG.

# Conclusion 1

*Rigorously designed research studies and program evaluations conclude that asthma education and environmental assessment, services and supplies, delivered in the clinical setting and in the home, reduce symptoms and improve quality of life at a reasonable cost and when targeted appropriately, may result in net cost savings to payers who invest in them.*

## Conclusion 2

- Cockroaches, ETS and Cats are largest offenders
- More Expensive Supplies and Services, such as HEPA filters, HEPA vacuums, and IPM services should be given to the highest risk patients, who have demonstrated allergy sensitization.
- Research does not break out cost effectiveness of individual interventions.

## Conclusion 3

- **Who Receives:** Patients should be stratified by severity: Mild persistent; moderate and severe
- **Who Provides:** The cost evaluation literature suggests that providers other than physicians—including nurses, respiratory therapists, asthma educators, social workers, community health workers, and environmental counselors—can effectively provide asthma education and environmental interventions

# HOLGATE at BHA Cost Analysis

	IPM YR 1	TRADITIONAL	IPM YR 3**
Contractor	\$10,720	\$3,459	\$6,428
IPM Coordinators	\$2,930		
Contractor call-backs		\$240	
Training Stipends	\$125		
Door Sweeps + Installation for all units	\$809		
<b>Subtotal Contract/ Direct Labor/Supplies</b>	<b>\$14,584</b>	<b>\$3,699</b>	<b>\$6,428</b>
IPM training *	\$2,000		
<b>Subtotal Start Up Costs</b>	<b>\$2,000</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL COSTS EXCLUDING BHA LABOR</b>	<b>\$16,584</b>	<b>\$3,699</b>	<b>\$6,428</b>
Building Manager Hours/Year	12	52	
Building Manager Costs/Year (\$24/hr)	\$288	\$1,248	
BHA Custodian Hours/Year	52	104	12
BHA Custodian Costs/Year (\$18/hr)	\$936	\$1,872	\$216
<b>TOTAL COSTS WITH BHA LABOR</b>	<b>\$17,808</b>	<b>\$6,819</b>	<b>\$6,644</b>

## Contact Information

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