Investing in Best Practices for Asthma: A Business Case

Produced by
Dr. Polly Hoppin & Molly Jacobs/UMass Lowell
Laurie Stillman, Asthma Regional Council
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

• 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
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

- Prescriptions, 31.1%
- Physician Services, 18.0%
- Outpatient, 2.1%
- ER visit, 3.2%
- Hospital Inpatient, 17.1%
- Hospital Inpatient, 17.1%
- School Days Lost, 9.3%
- Lost Work Days, 8.8%
- Mortality, 10.6%
How Do We Convince Health Sector to Pay for Best Practices?

ESTABLISH A BUSINESS CASE

1. 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.
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
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<th>Item</th>
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<th>IPM YR 3**</th>
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Laurie Stillman, Executive Director of the Asthma Regional Council of New England (ARC) and Director of Health Policy and Advocacy

c/o The Medical Foundation
622 Washington Street, 2nd fl Dorchester, MA 02124
(617) 451-0049x 504
Lstillman@tmfnet.org

www.asthmaregionalcouncil.org