A Cost-Effective, Patient Centered Asthma Program

Institute for Environmental Health Assessment and Patient Centered Outcomes
Project Goals

• Increased health care provider knowledge.

• Patient/Patient Family Education.

• Home Assessment and Action Plan Development.
Project Description

• Exposure to indoor air pollutants is an important contributor to the onset of respiratory system illnesses.

• Environmental triggers contained in indoor air play a key role in the exacerbation of pediatric asthma.
Health Care Provider Training

• In-home environmental triggers.
• Components of an exposure reduction plan.
• In-home assessment techniques.
• Informational packet materials.
  • National Asthma Training Program
Patient /Family Education

• Informational Packets:
  • Asthma and symptomology;
  • Environmental triggers;
  • Home environmental checklist;
  • Exposure reduction plan.
• Informational DVD materials.
• Age appropriate materials for the patient.
In-Home Assessment

- Administer Questionnaire
  - Video training materials
- IAQ measurement:
  - CO, CO$_2$, RH, temperature, PM
- Walk through assessment
- Trigger Reduction Planning
- Electronic Environmental Record
- Telephonic and Electronic Referral System
Current Guidelines: (Asthma Care Quick Reference, 2013)

- Clinical Issues:
  - Initial Visit/Follow up Visits
  - Manage Medication Use
  - Education for Self-Management
  - Special Care Needs
  - Manage Exacerbations
  - Recommend Control Measures for Environmental Factors
  - Manage/Treat Comorbid Conditions
Talking Points

- Medicaid children have a 3 times higher asthma Emergency Department visit rate than children with commercial insurance.

- The ED pediatric patient return rate within 30 days is high.

- Over 10% of Missourian children have asthma, 26% in the greater St. Louis area.

- MOHealth Net childhood asthma expenditures from 2008-2010 show an increase of $12 million or 38.6% in Medicaid costs.
Talking Points

Environmental Trigger Reduction Program Outcomes:

- >600 health care providers trained using in-service programs, significant gains of knowledge observed;
- Approximately 1150 participants showed a 20-60% improvement in adverse conditions or behaviors.
- ED use:
  - Participants: 13/100
  - Controls: 92/100
  - Sick visits 5:1
Talking Points

- The use of a fully integrated clinical and environmental program will make Missouri a national leader in asthma care.

- Overall cost of Medicaid children with asthma is approximately $1417/mth per participant.
  - Those patients receiving guideline based care show an average cost savings of $454/mth/participant. There is a 5% reduction in asthma direct costs to Medicaid, which demonstrates a 30% annual decrease in total health care costs.
Talking Points

• An eight year Home Assessment Implementation Program in Missouri has saved approximately $300,000-$500,000 per year in Medicaid dollars.

• Adapting current Medicaid expenditures to a comprehensive asthma management program is an important step in protecting children in the state of Missouri and demonstrating patient-centered care innovation across the nation.
The Future is Here Now…..We **ARE** Ready!

- Effective January 1, 2014, CMS aligned Medicaid regulations to its enabling statute and changed the language to “recommended by a physician or other licensed practitioner….”

- The Institute will function as the State’s Call Center for Fee-For-Service and Managed Care Medicaid asthma patients 22 years old and under.

- In three states now and moving into three more.

- CDC funded program in Illinois and Missouri.
Why a Holistic Approach?

Biophysical Environment
- Elements
  - Air, Water
  - Soil, Microbes
  - Plants, Animals
- Features
  - Air Quality
  - Food Quality
  - Water Quality

Socioeconomic Environment
- Elements
  - Home
  - Workplace
  - Health Care
  - Neighborhoods
  - Political Institutions
- Features
  - Early Childhood Development
  - Social Support
  - Empowerment
  - Community

Biological and Behavioral Filters

External BE

External SE
So Why Important to You?

• Public’s Knowledge:
  • Not taking essential actions to reduce exposure to indoor asthma triggers;
  • How can you take actions when you don’t know what to protect yourself against?
  • Children are more susceptible to allergic reactions than adults, and approximately 80% of children with asthma also suffer from allergies.
  • Behavior change is really easy…right?
Behavior Change

Physical Environment (Home)
- Living spaces
- Structural gaps
- Moisture
- Overcrowding

Environmental Assessment

“Home Visits”

Education (ranging from allergen avoidance measures to self-management)

Persons (households) with Asthma

Change in Asthma Knowledge, Attitudes, Skills

Change in Asthma Management Behaviors

Change in Asthma Maintenance (i.e., controller medications, asthma action plans)

Change in Clinical Interactions/Management

Environmental Remediation

Change in levels of asthma triggers
- Allergens (i.e., dust mites, cockroaches, mold)
- Particulates
- Tobacco Smoke
- Viruses

Change in Trigger Reduction Behaviors

Change in Asthma Control

Change in asthma morbidity
Environmental Remediation Intensity

**Minor**
- Environmental assessment
- Pillow and mattress covers

**Moderate**
- Pest management
- HEPA filters, vacuums
- Vent filters

**Major**
- New form of ventilation/heating
- Re-roofing
- Insulation
- Removal of water damaged materials
Is Asthma REALLY a managed chronic disease in today’s Medical World?
So Why Important?

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CHALLENGES ARE GREAT

NEED IS URGENT

WE CONNECT THE RESOURCES FOR POWERFUL SOLUTIONS
Missouri IS Leading the Way to Excellence in Asthma Management!!