

Changing pO₂lity: The Elements for Improving Childhood Asthma Outcomes

The Unique Role of Schools

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Financial Disclosure

- Employee of Merck & Co.
- Executive VP and Executive Director of Merck Childhood Asthma Network, Inc. (Nonprofit organization with 501(c)3 status and funded by the Merck Co. Foundation)
- Do not and not permitted to promote commercial products
- No product discussed in this presentation and no conflicts of interest

Topics for Discussion

- Brief overview of MCAN activities
- **Changing pO₂ policy:** The Elements for Improving Childhood Asthma Outcomes
- Experiences of MCAN-funded, school-based Initiatives



- MCAN is a nonprofit organization [501(c)(3)] - funded by The Merck Company Foundation in 2005
- Mission: To enhance the quality of life for children with asthma and their families and to reduce the burden of the disease on them and society
- Vision: To be a respected authority, effective catalyst, and influential advocate for children with asthma



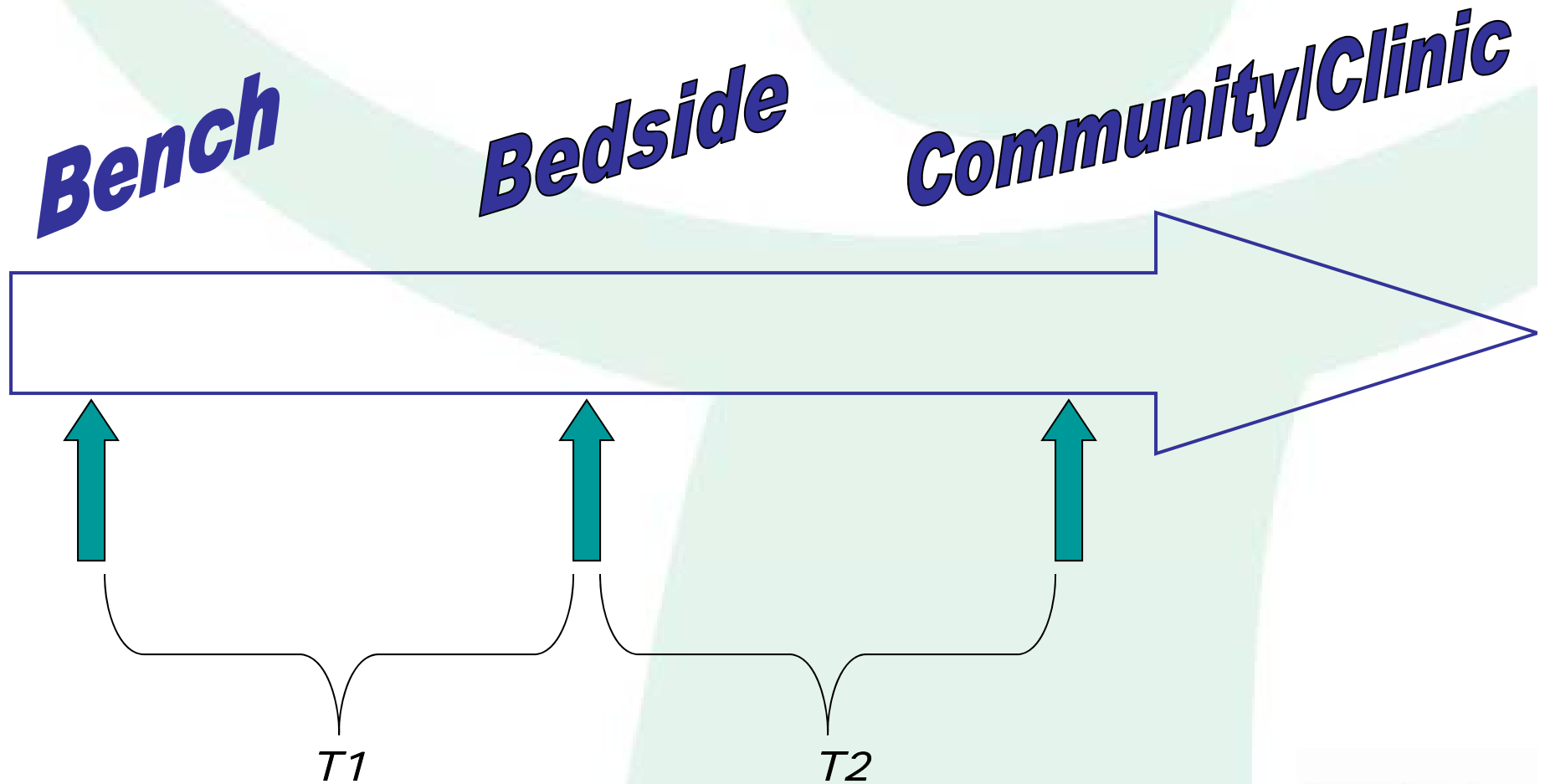
MCAN Goals

Improve *access* to and *quality* of healthcare for children, especially the vulnerable and medically underserved

Advocate for *policies* that expedite dissemination, implementation and sustainability of science-based asthma care

Increase *awareness* and *knowledge* of asthma and quality asthma care

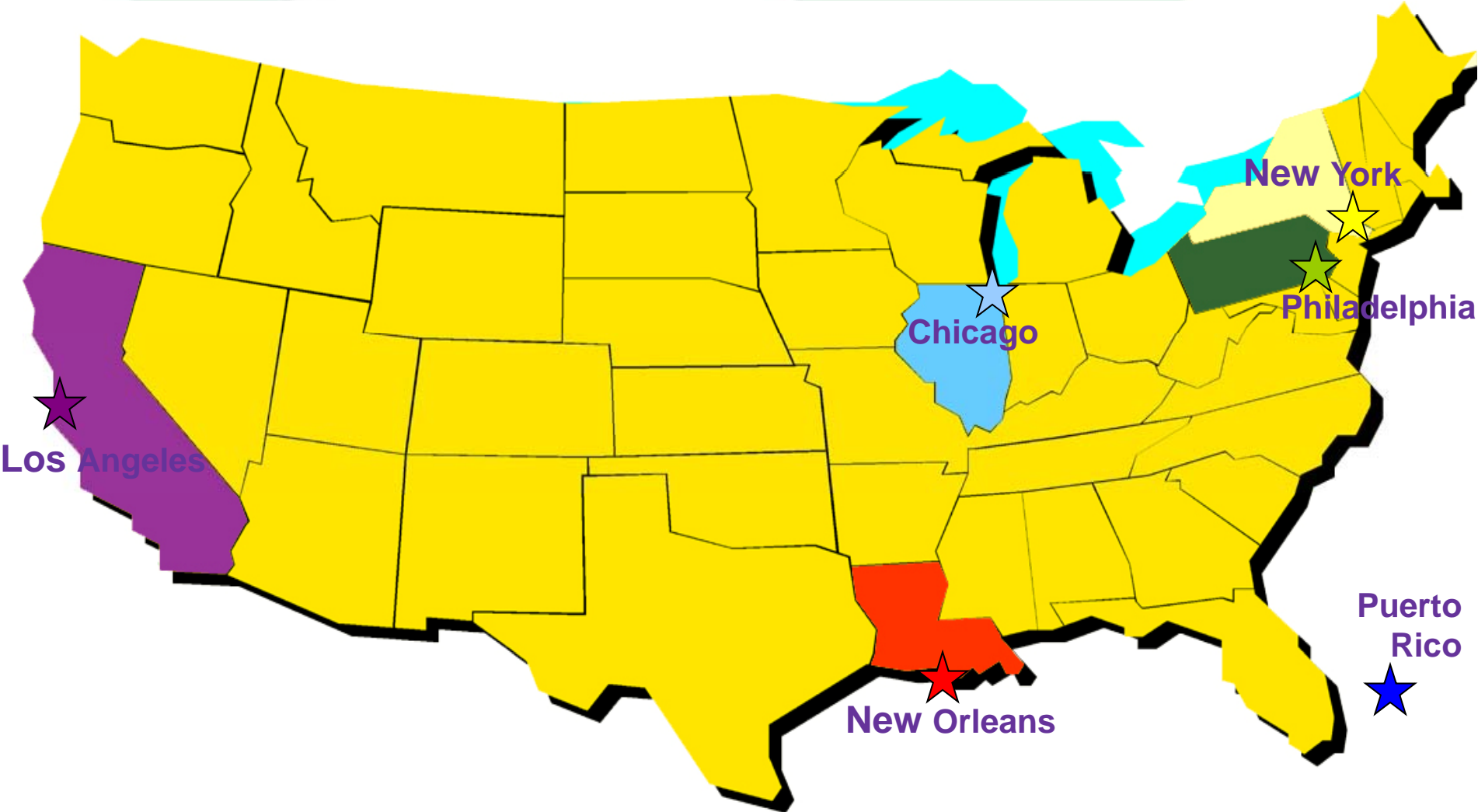
Translational Research



"Doing Better Things" "Doing Things Better"

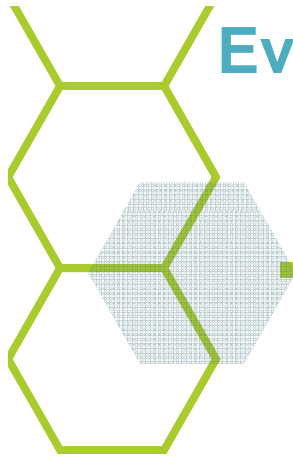
JAMA 2008; 299; 211-3

MCAN Program Sites



The Epidemic of Childhood Asthma

- ***Widespread and Serious***
 - 1 in 7 ever diagnosed
 - 9% currently have it
 - 60% will have at least 1 attack in past year
- ***Very Costly***
 - \$8 billion in medical expenditures ('06)
 - Additional \$10 billion in indirect costs
 - 40% higher ED costs



Evidence-Based Clinical Guidelines Emphasize Proper Medication, Environmental Control Measures and Patient Education

Environmental & Housing Interventions

Clinical & Health Interventions

Prevention

Policy changes to address remediation of triggers in home and community environments

Appropriate medications
Healthy self-management behavior of children and families

Diagnosis & Treatment

Access to medical home, specialty care, medications

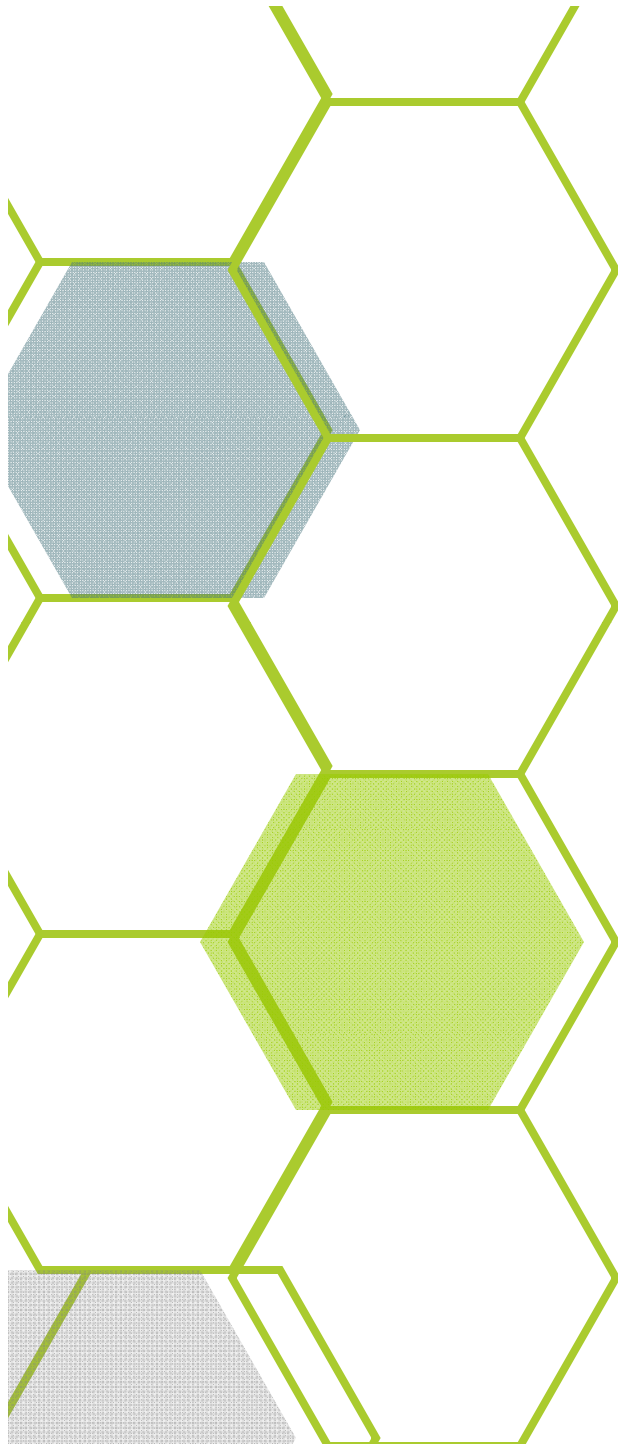
Asthma action plan

Management

Periodic environmental risk assessment

Environmental remediation in the home to address triggers

Ongoing asthma care, education and trigger avoidance for children and families; case management when necessary



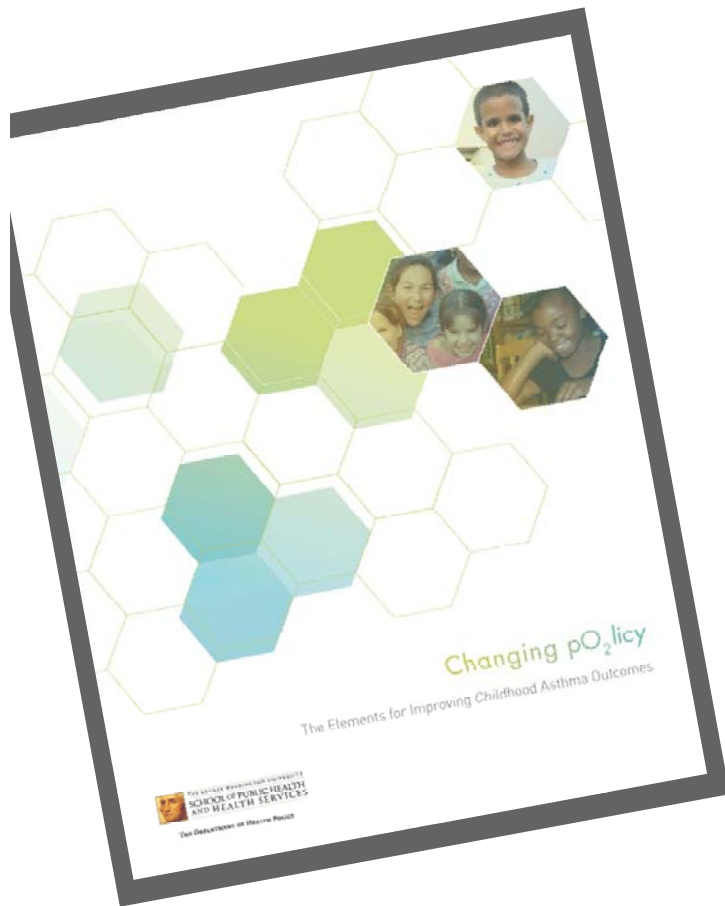
Changing pO₂lity: The Elements for Improving Childhood Asthma Outcomes

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THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF PUBLIC HEALTH
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Key Findings

Focus on Controllable Factors



Identified Priority Elements for Improvement

**Stable and
continuous
health
insurance**

**High quality
clinical and case
management**

**Continuous
information
exchange
and
progress
monitoring**

**Asthma trigger
reduction in
homes and
communities**

**Research to
learn more
about what
works**

Factor #1



Inadequate access to insurance coverage that pays for appropriate, high quality comprehensive health care and case management

Children with asthma more likely to have insurance but 9% still uninsured
1.17 million children with asthma and without coverage

Nearly 600,000 uninsured children with asthma are eligible for MA/CHIP *at current eligibility levels* but not enrolled

+

Extending eligibility to 300% FPL – as in 7 states now – covers an additional 1 million, including 180,000 with asthma

These two steps would cut the total # uninsured children with asthma by 75%

Improving Coverage: Specific Recommendations

Stable and
continuous
health
insurance



- Encourage all states to expand MA/CHIP up to at least 300% FPL
- Increase and target outreach, enrollment and retention efforts in MA/CHIP
 - FQHC outstationing
 - **Schools** and other community-based locations
- Encourage providers to make MA/CHIP enrollment a part of the individual asthma management plan for every child with asthma who is eligible for coverage



Improving Quality: Specific Recommendations

High quality
clinical and case
management



- Develop an HHS-led, cross-agency, Administration-wide guidance on how to comprehensively address quality asthma care
- Make all recommended care a focus of quality performance improvement for MA/CHIP, health centers, and IHS
 - MA/CHIP cover 30 million children and 1 in 6 has asthma
 - CHCs serve 7 million children and 1 in 5 has asthma
 - IHS serves approximately 660,000 children and roughly 80,000 have asthma

Improving Information Exchange & Progress Monitoring: Specific Recommendations



Continuous information exchange and progress monitoring

- Enhance asthma monitoring through local and regional model registries
- Share data on AAP between schools and health care system
- Encourage meaningful use of HIT among providers and link providers to public health agencies to facilitate continuous information exchange and communication of up-to-date data

Improving Environmental, School and Housing Air Quality: Specific Recommendations

Asthma trigger
reduction in
homes and
communities



- Encourage public health agencies, education authorities, housing authorities, and environmental agencies to promote evidence-based interventions and services that fall outside of the traditional health care interventions to reduce exposure to asthma triggers

Improving Research Agendas: Specific Recommendations

Research to
learn more
about what
works



- Promote a strengthened and diversified Administration-wide research agenda to include basic, clinical, and translational/implementation investigations to learn more about what works and what can be translated into policy change – including those affecting **schools**

Communication and Coordination are Key

Federal Agencies Involved in Research and Policy Initiatives That Address Childhood Asthma



Health and Human Services, including:

- Agency for Healthcare Research and Quality
- Centers for Disease Control and Prevention
- Centers for Medicare and Medicaid Services
- Food and Drug Administration
- Health Resources and Services Administration
- National Institutes of Health (NIH)
 - National Heart, Lung, and Blood Institute
 - National Institute of Allergy and Infectious Diseases
 - National Institute of Environmental Health Sciences
 - National Institute of Child Health and Human Development
 - National Center on Minority Health and Health Disparities
- Office of Minority Health
- ONCHIT



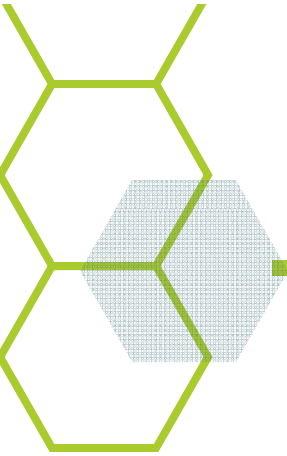
Environmental Protection Agency



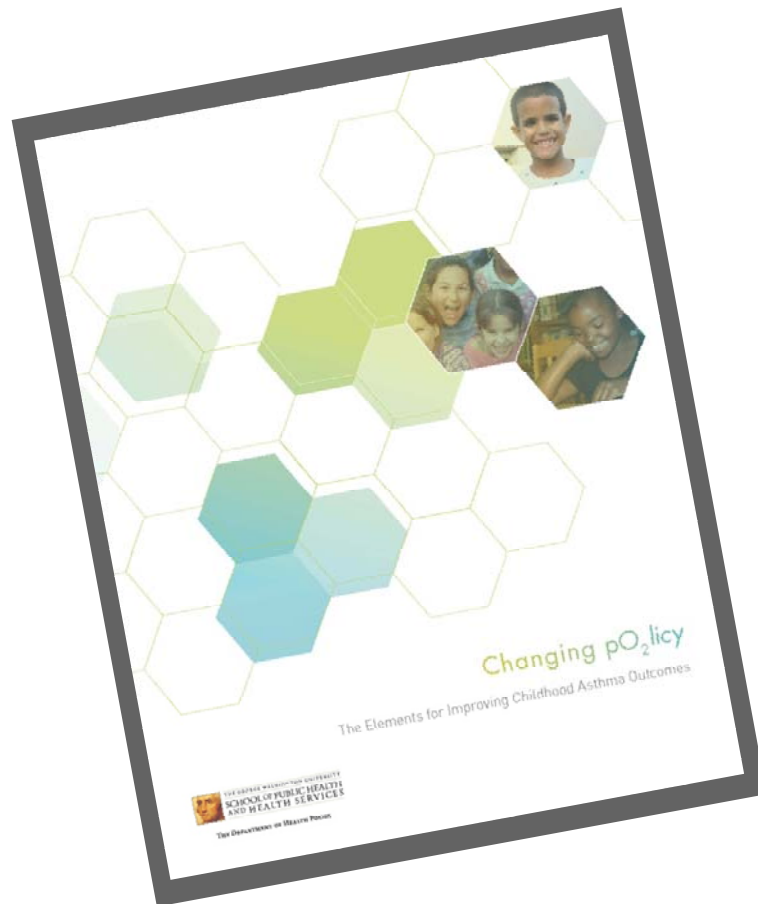
Housing & Urban Development

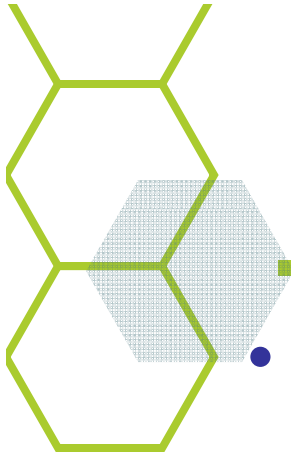


Department of Education



More information:
www.mcanonline.org





Experiences of MCAN-funded school-based Initiatives

- The Los Angeles Unified School District (LAUSD) has created a Comprehensive Asthma Program (“Asthma Program”) and uses a multilevel intervention that focuses on the role schools and school personnel can play in decreasing the burden of asthma among students and families.
- At the core of the Asthma Program is an intensive case management program that utilizes specially-trained school nurses to coordinate care for students with poorly controlled asthma.
- Other school-based programs in MCAN-funded projects do not play major roles in overall asthma management

Objectives the of LAUSD Intervention

- Provide case management for 400 children annually with excessive school absences, recent hospital care, and/or frequent ER use - using Nurse Case Managers (NCM).
- Partner with community agencies, university and medical centers to provide annual asthma educational programs for school and community physicians, school-based nurse practitioners, and school nurses.
- Link 1600 children with asthma and their families to health care providers, either within the District or with community providers.

Elements of Case Management

- NCM performed an assessment of the student, the home environment as it affects asthma (cockroaches, cigarette smoke, dust mites, molds, and animals), treatment regimen, child and parent skills in medication management and asthma monitoring, medical care and other service needs, psycho-social impacts, and quality of life indicators.
- The NCM helped each family establish a relationship with an asthma care provider, either through a free or community clinic, a county clinic, a managed care provider, or the *Breathmobile*.
- NCM also helped families enroll into health insurance programs by referring to the District's outreach, enrollment and assistance program, CHAMP (Children's Health Access and Medi-Cal Program).

Student criteria for case management (one or more)

- 10 or more absences due to asthma
- recent use of emergency room or hospitalization due to asthma
- inability to participate in school curriculum due to asthma
- referral for assistance in asthma medication management
- other indication of a need for asthma-specific health education and assessment

Individualized Health Plan (IHP)

(developed by NCM to include)

- environmental controls
- use of anti-inflammatory and bronchodilator drugs prescribed by the student's health care provider
- self-monitoring strategies
- expected outcomes

Successes/challenges with AAP

- LAUSD found AAP use can be increased through case management and care coordination.
- Reported AAP use increased significantly from baseline (16%) to over 75% upon follow up at 6 and 12 months.
- Many families do not receive education about the AAP or what to do with it (e.g., take a copy to school);
- Many providers do not have the time to complete an AAP;
- Many schools do not have medical personnel (e.g., school nurses) or office staff that understand how to implement a AAP
- Some AAPs are not printed in color to highlight the educational message of using red/yellow/green zones for asthma management and decision making
- Some AAPs are coupled with the prescription, and families may not take the AAP home after receiving medication from the pharmacy.

Asthma Friendly Schools Initiative

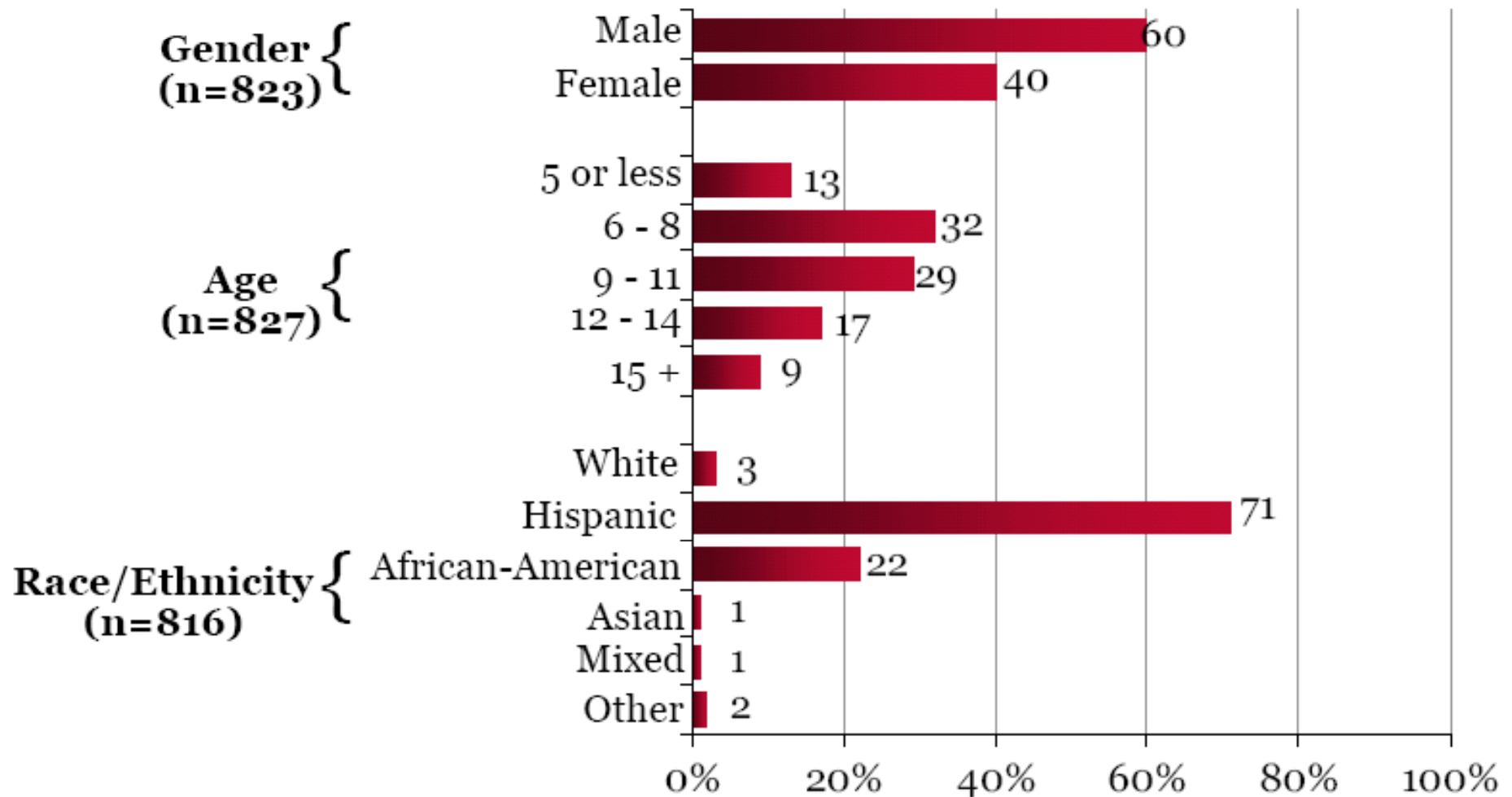
- LAUSD Asthma Program entered into a partnership with ALA for a grant from CDC/DASH
- In 2009, nearly 800 PE teachers were trained in basic asthma concepts and that *children with asthma can participate in physical activities if asthma is well controlled*
- More advanced training occurred in 2009/10

Preliminary findings of the Asthma Friendly Schools Initiative*

- 12% increase in the ability of PE teachers to identify the symptoms of an asthma episode
- 7% increase in the number of PE teachers who identified asthma as a chronic disease that can be controlled with medication
- 23% increase in the number of PE teachers who felt “very” comfortable identifying asthma triggers
- 24% increase in the number of PE teachers who felt “very” comfortable with what they should do during an asthma episode
- 14% increase in the number of PE teachers who identified ways to help their students prevent and manage asthma symptoms without avoiding physical activity

* Confidential information – not for dissemination

The Student Sample As Of December 15, 2009 (Baselines)



Selected outcome measures by baseline and follow-ups (LAUSD Program)*

<u>Characteristic</u>	<u>Baseline</u>	<u>3mo</u>	<u>6mo</u>	<u>12mo</u>
No. ER visits (mean, 12mo)	1.81	0.93	0.71	0.47
Days wheeze (2 weeks)	5.78	2.13	2.21	2.30
Night awakening	3.58	0.64	1.22	1.37
Days Quick relief med	5.74	2.37	2.13	2.31
Asthma Action Plan	16%	46%	78%	76%

* Confidential, not for dissemination

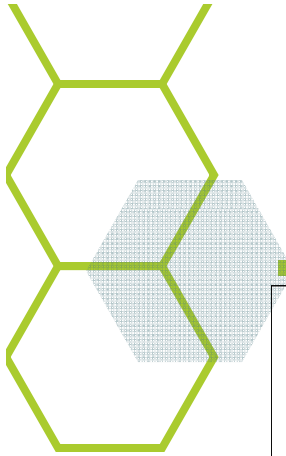
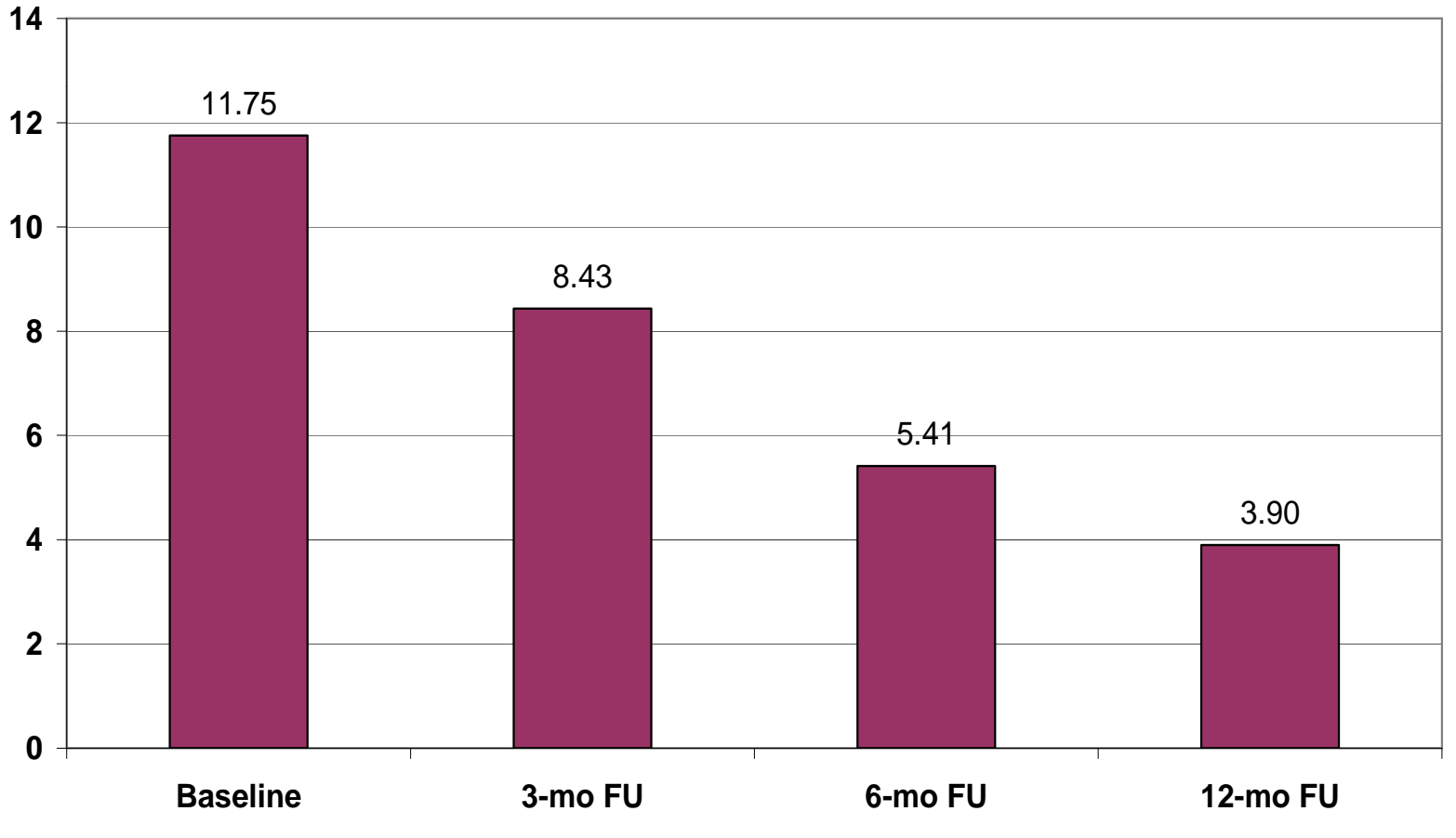


Figure 2: Days of school missed due to asthma over the last 12 months at baseline, 3-month, 6-month and 12-month follow-up (Mean, days)



School-based Asthma challenges in NY

- The New York City school system has established an agreement with the NYC-ALA to support offering OAS to all 3-5th graders.
- Nurses are challenged and find little incentive to do the courses
- WIN staff were trained by ALA to offer OAS
- OAS sessions to be held during summer school, and offered to all children, with and without asthma
- Asthma case identification: The NYC DOHMH worked with the schools to institute an Automated School Health Record (ASHR) system, which facilitates identification of children with asthma
- Additional challenges included follow-up of school-based environmental assessments, and incorporation of asthma-based activities into the school curriculum

Schools and Health Programs

(Lessons learned and concluding remarks)

- Schools priority areas of focus are: student **attendance** and **academic performance**; asthma-focused programs need to be framed in the context of schools and their areas of focus;
- Schools are best suited for prevention and health promotion, but can play an important role in disease management;
- Cost-benefit analyses are needed to fully appreciate the investment in student health.