

# Smoke-Free Communities

## Health Effects of Smoking



# Overview

- Prevalence of smoking and asthma
- Health affects of smoking on children
- Approach to safe breathing spaces
- Recommendations



# Smoking Prevalence

- Who's smoking?
  - 20.6% adults
  - 30% mixed race adults
  - 31.1% people living below the poverty level
- Who's exposed to second hand smoke?
  - 40.1% of adult nonsmokers
  - 53.6% of young **children** (3–11 yrs/old)

# Smoking Prevalence

- Smoking
  - Associated with 400,000 -1 million childhood asthma episodes every year
  - Is the leading cause of home fire deaths
- BCHD data on indoor smoking
  - 33% all homes
  - 54% homes where an asthmatic child lives

1. American Lung Association: Asthma and Children Fact Sheet Available at <http://www.lungusa.org/lung-disease/asthma/resources/facts-and-figures/asthma-children-fact-sheet.html#2> Accessed Nov 12<sup>th</sup>, 2010.
2. Home Structure Fires: Available at <http://www.nfpa.org/assets/files/pdf/os.homes.pdf> Accessed Nov 12<sup>th</sup>, 2010

# Secondhand Smoke

- Contains 250 cancer-causing chemicals
  - formaldehyde
  - Toluene
  - Butane
  - arsenic
  - ammonia
  - hydrogen cyanide
- Secondhand smoke harms the health of children
  - 95.4% of nonsmokers
  - 84.1% of smokers



# Health Effects of Secondhand Smoke in Children

- Increased risk of
  - low birth weight babies
  - Sudden Infant Death Syndrome (SIDS).
  - respiratory infections
  - Cognitive deficits (ADHD)
  - developing asthma
  - # asthma attacks in children with asthma



1. Wright ,2007CHEST Advancing a Multilevel Framework for Epidemiologic Research on Asthma Disparities Available at: [http://chestjournal.chestpubs.org/content/132/5\\_suppl/757S.full.htm](http://chestjournal.chestpubs.org/content/132/5_suppl/757S.full.htm) Accessed Nov 13th, 2010.
2. Bryant-Stephens, 2009 J. Allergy Clin Immunology; Asthma Disparities in Urban Environments
3. Yolton et al; 2005 Environ Health Perspect; Exposure to environmental tobacco smoke and cognitive abilities among U.S. children and adolescents..

# Third Hand Smoke

- Definition
  - Residual smoke that remains after the cigarette is extinguished
- Children susceptible
  - Breathe near, crawl, play on, touch and mouth contaminated surfaces
  - Ingestion rate is 2 x that of adults

# Asthma Prevalence Nationally

- Cost \$30 billion/yr
  - Direct medical costs
- 34 million adults have been diagnosed in their lifetime
  - 1 in 9 adults
- 9.6 million children currently have asthma
  - 10.9% of all children
- # 1 reason why children miss school



# Asthma Prevalence Baltimore

- 28% of high-school students in Baltimore City reported asthma diagnosis in 2009
- The rate of ED visits due to asthma is nearly 3 x the Maryland rate
- Average mortality rate due to asthma is more than 2 x the Maryland rate
- 1. Centers for Disease Control. 2007 Youth Risk Behavior Survey. Available at <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>. Accessed April 27, 2010.
- 2. Family Health Administration, Maryland Department of Health and Mental Hygiene. Maryland Asthma Surveillance Report 2008. Online at: [http://fha.maryland.gov/pdf/mch/asthma\\_control/AsthmaReport2008.pdf](http://fha.maryland.gov/pdf/mch/asthma_control/AsthmaReport2008.pdf).

# Reducing Asthma Disparities (RAD) Initiative

- Approach to safe breathing spaces for children with asthma
  - Reduce home environmental asthma triggers
  - Provide asthma medical case management



# RAD Initiative

- **CHW Model with Nurse Supervision**

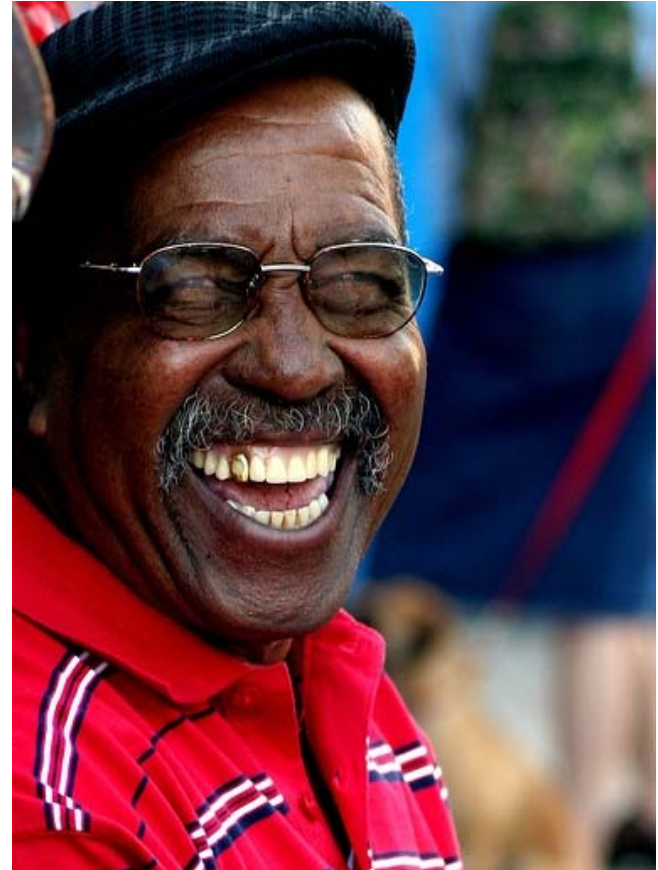
- **Intervention**

6 home visits over 6 months with 1 yr follow-up

- Medication and technique review
- Identification of asthma triggers
- Trigger reduction education
- Coordination with providers

# Approach to Safe Breathing Spaces

- Stages of Change
  - Meet the family where they are
  - One-on-one intervention
- Measures to capture change
  - Whole house to one room
  - Indoor to outdoor



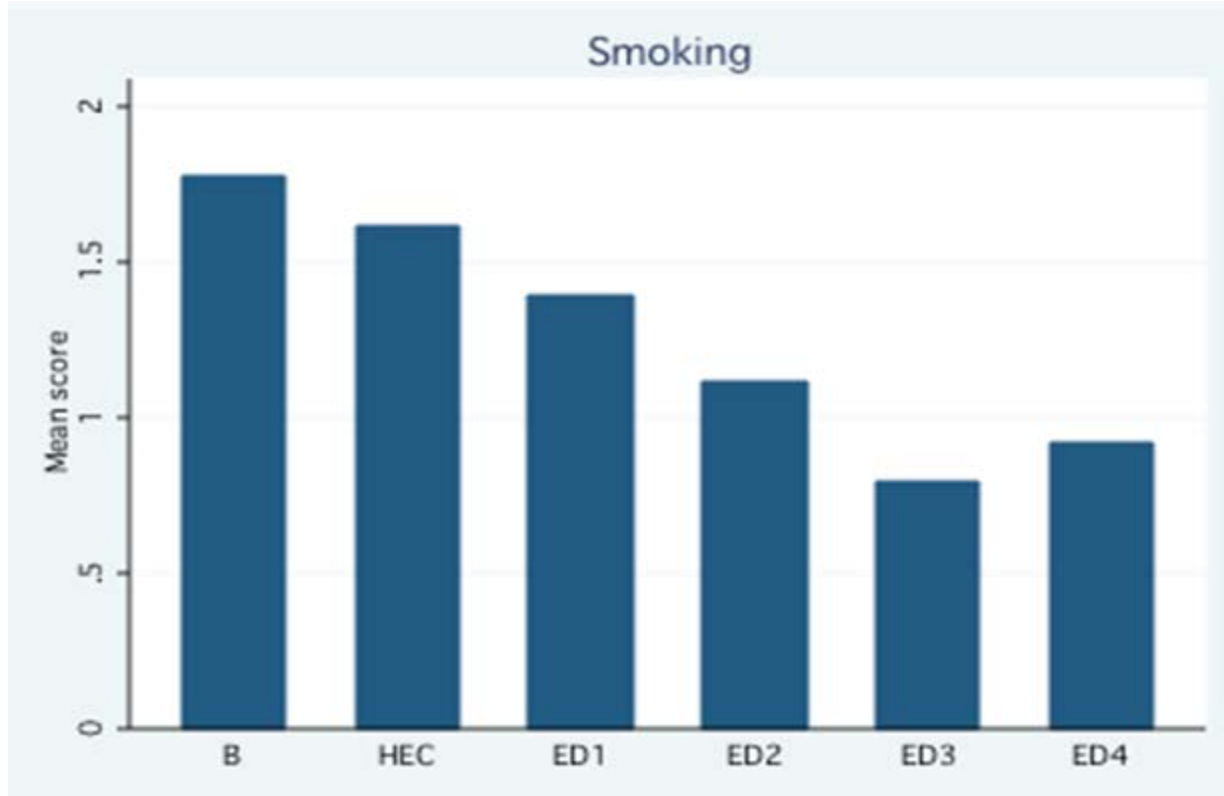
# Motivational Interviewing: Safe Breathing Spaces

## Findings:

- 54% homes with indoor smokers at baseline



# Environmental Home Exposures: Smoking



Scoring system:

0= NONE

1= MILD (smoking outside of the home only)

2= MODERATE (smoking in the home when child is not present)

3= SEVERE (smoking in the home when child is present )

# Recommendations

- Survey residents to determine preference
- Educate residents of the value of smoke free housing
  - Improved health benefits
- Provide support and engage smokers in smoking cessation



# Contact

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