New Maryland State Programs in Environmental Management for Pediatric Lead and Asthma

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Outline

From this discussion, participants will be able to:

- Describe new Maryland State programs available to assist providers in the environmental management of children with moderate to severe persistent asthma, or lead poisoning;
- Access resources at the local or state health departments to obtain services under these programs; and
- Discuss the evidence base and documentation that these programs will improve health outcomes for these children.

What's Been Happening with Lead and Asthma?

- 2015-2016 initiative on lead testing – new Targeting Strategy, new regulations
- More national focus on lead
- Asthma – state lost CDC funding for asthma in 2014

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Lead Testing Initiative in Maryland

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Figure One
Number of Children Aged 0-72 Months Tested for Lead and Number of Those Children Reported to Have Blood Lead Levels ≥10 µg/dL: CY 2000-2016

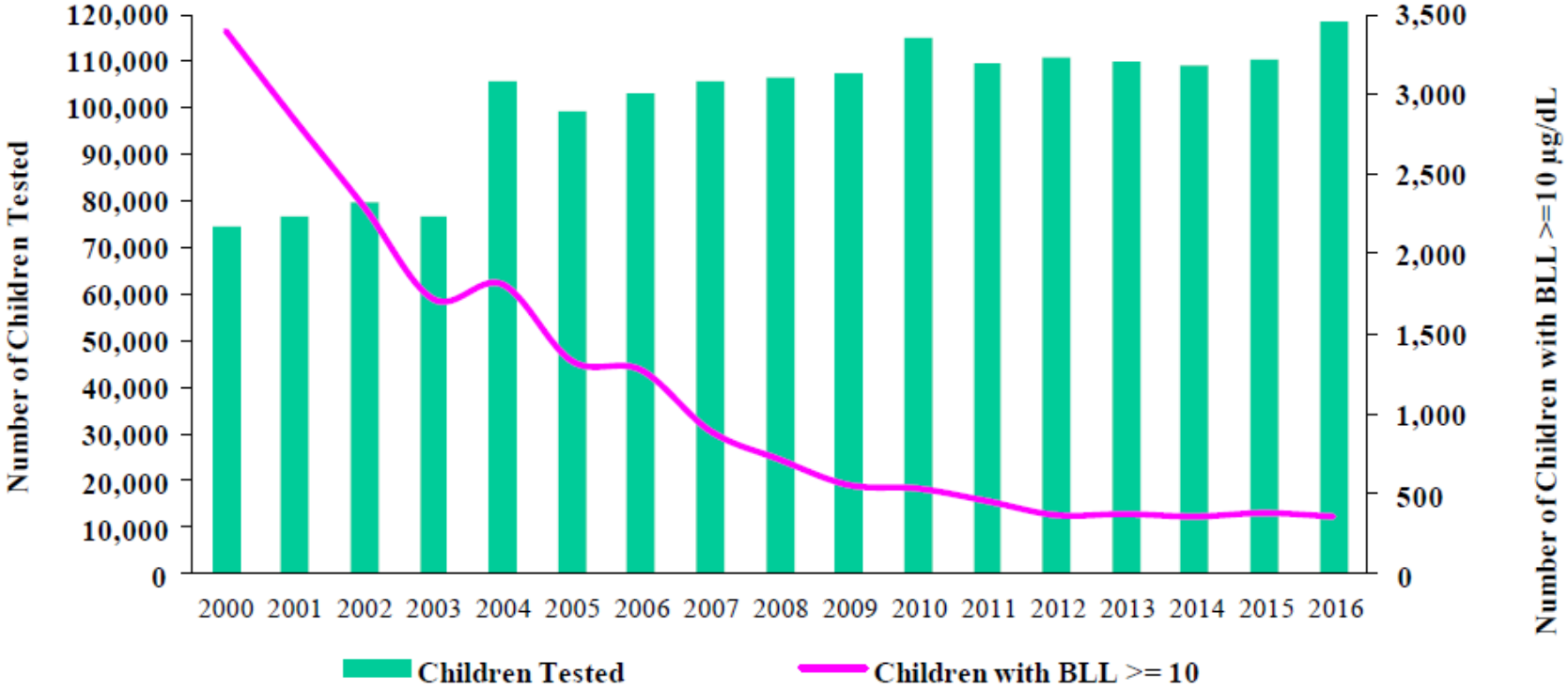


Figure Two
Percent of Children Aged 0-72 Months Tested for Lead with the Highest Blood Lead Levels
5-9 µg/dL: CY 2000-2016

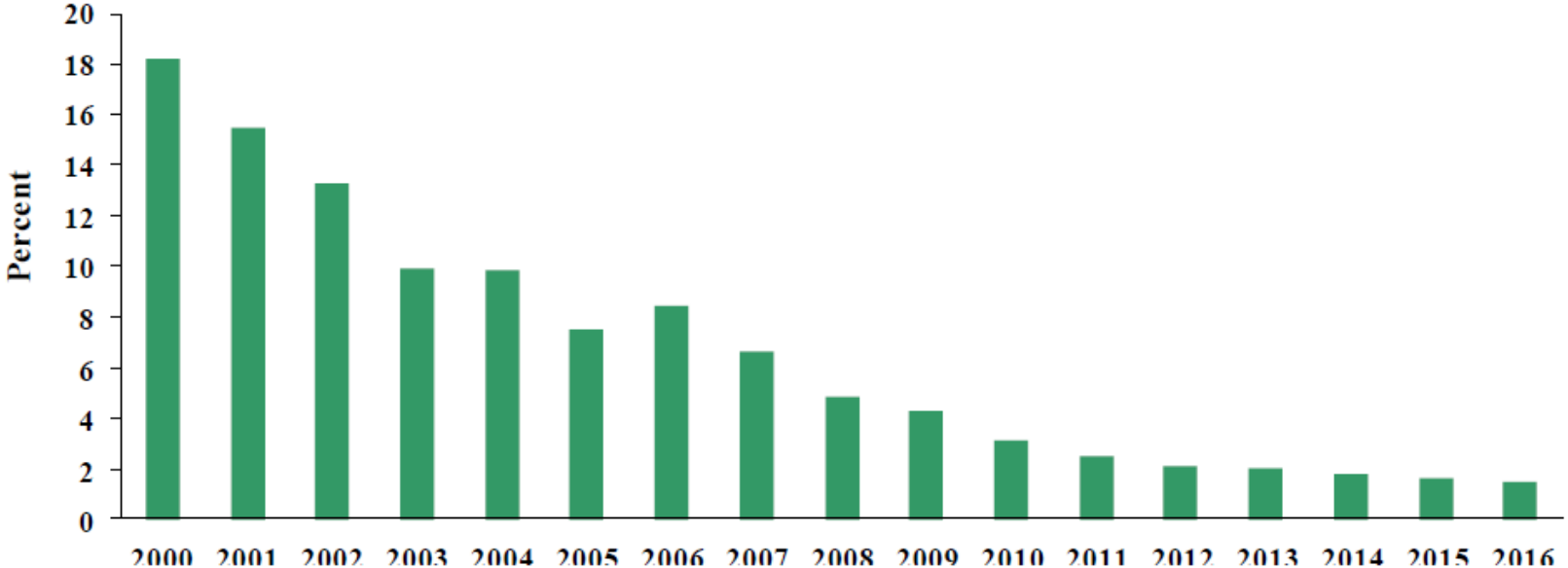
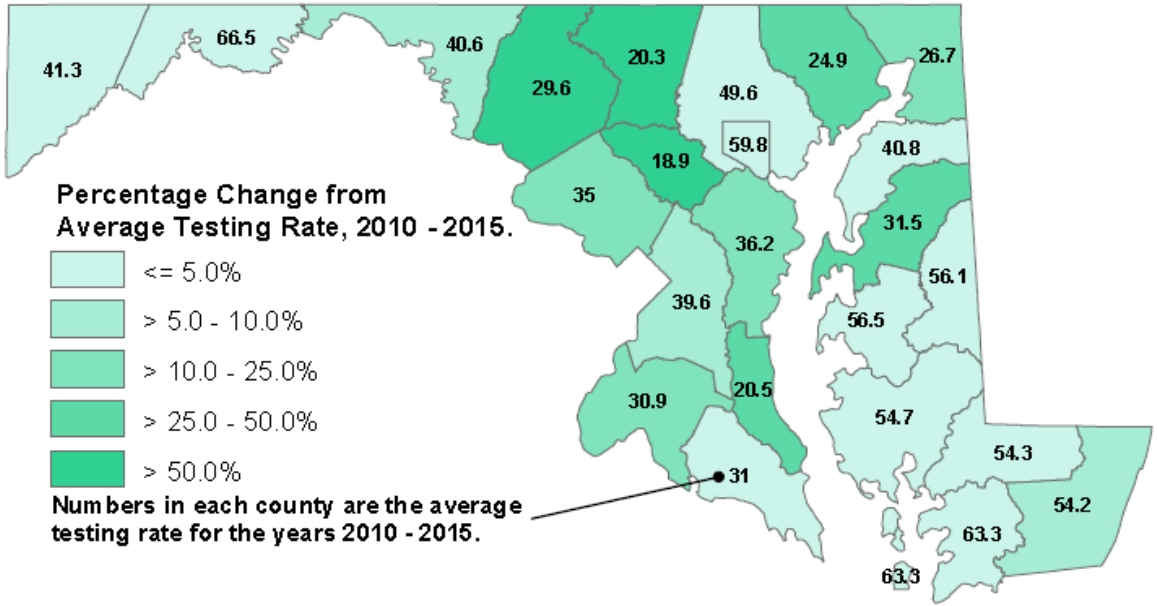


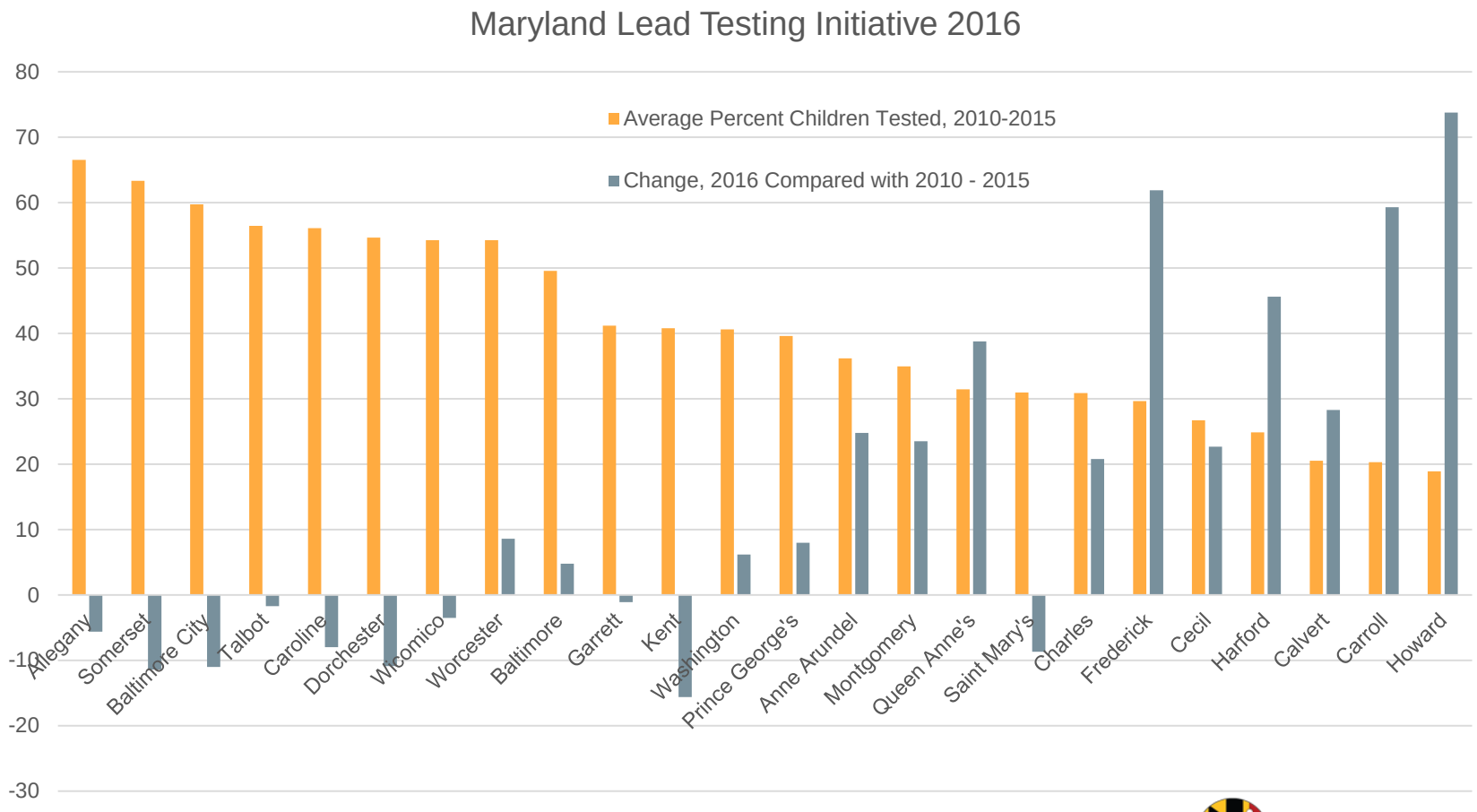
Table Two provides a breakdown of blood lead testing of children aged 0-72 months by jurisdiction in 2016. Appendix A provides a breakdown of blood lead testing and the status of children by age groups of 0-35 and 36-72 months by jurisdiction in 2016.

First Year of the Initiative

Change in 2016 Maryland Blood Lead Testing Rates of One and Two Year Old Children by County, Compared with Average Rates of Blood Lead Testing from 2010 - 2015.



Source: Maryland Childhood Lead Registry



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Asthma in Maryland

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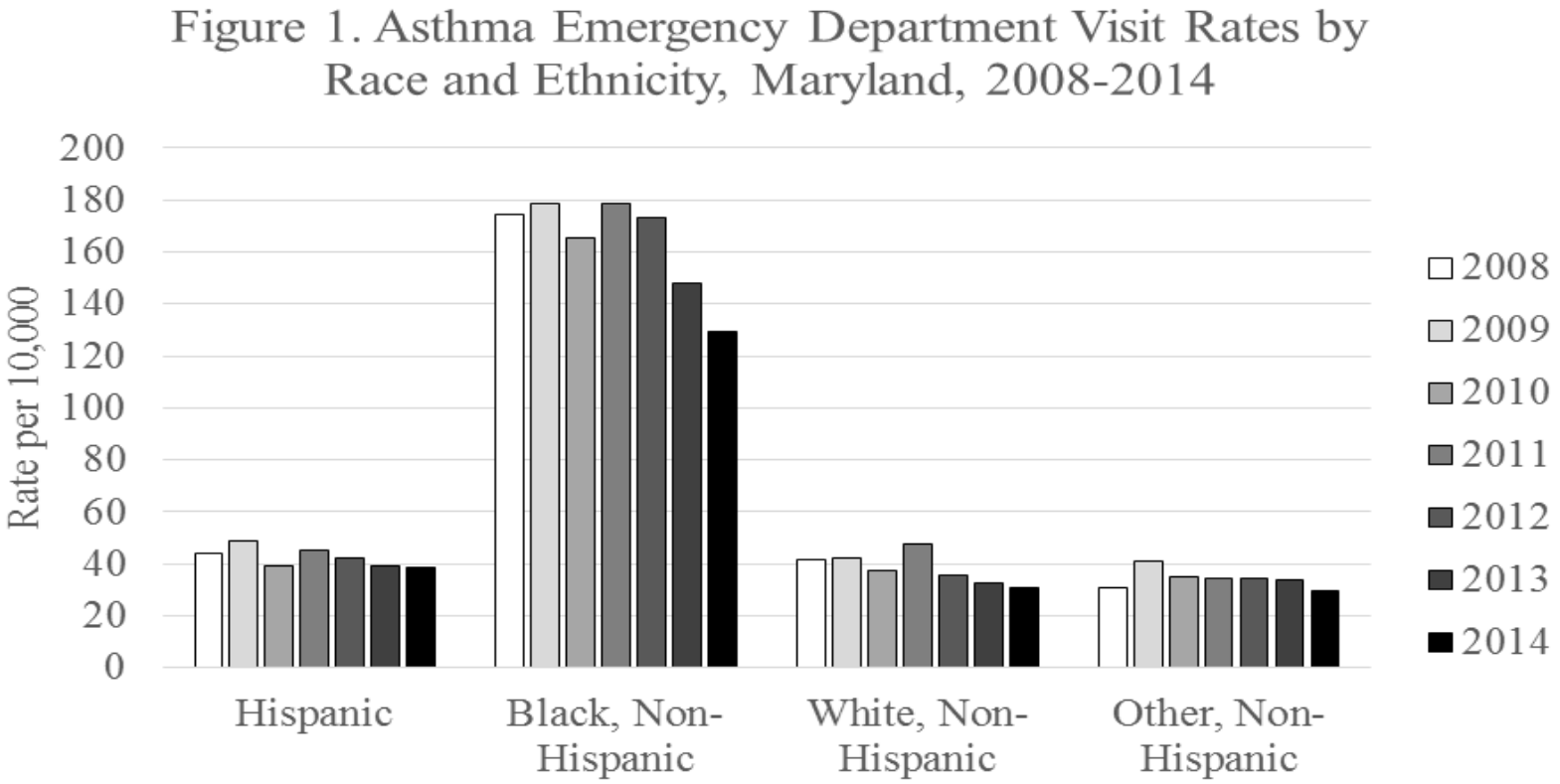
Epidemiology and Risk Factors

- Asthma prevalence rate among Maryland children (9.7%) not statistically different from the asthma prevalence rate among all children living in the United States (9.2%).
- Billed charges for hospitalizations due to asthma totaled $42.1 million; billed charges for emergency department visits due to asthma totaled an additional $93.3 million

Asthma in Maryland has Significant Disparities



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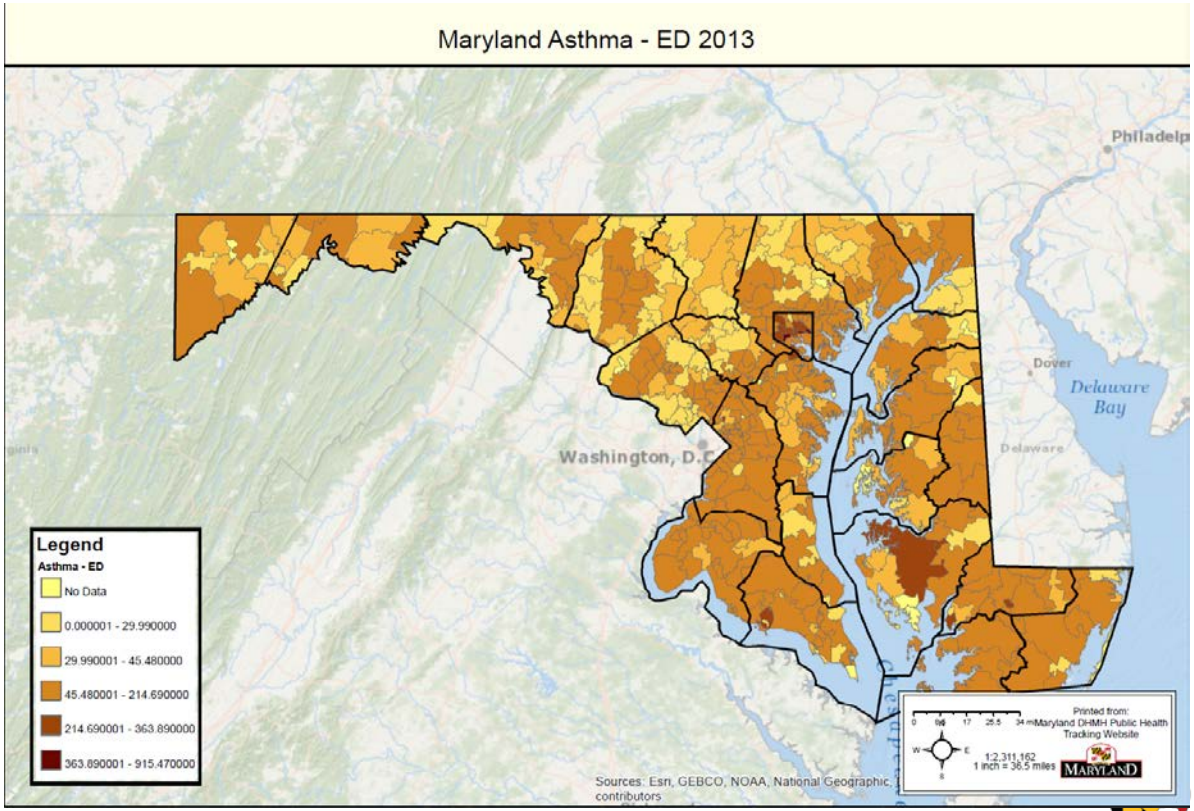
Geographic Variability in Asthma



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New State Medicaid Initiative

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Overview: Maryland Children's Health Insurance Program (CHIP) Health Services Initiative (HSI) State Plan Amendment (SPA)

- Maryland Medicaid, in collaboration with Environmental Health Bureau (EHB) and the Department of Housing and Community Development (DHCD), worked to secure CHIP administrative funds from Centers for Medicare and Medicaid Services (CMS) to support two new initiatives:
  - Healthy Homes for Healthy Kids
  - Childhood Lead Poisoning Prevention and Environmental Case Management
- In January 2017, Medicaid submitted the Health Services Initiative State Plan Amendment (HSI SPA) to CMS to leverage CHIP funds.
- The HSI SPA was approved in June 2017.

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Program 1: Healthy Homes for Healthy Kids

- Expansion of lead identification and abatement programs for low-income children through programs delivered by the Maryland Department of Housing and Community Development (DHCD)

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Program 1: Eligible Children

Children (0-18 yrs) who are:

(1) Enrolled in or eligible for Medicaid or CHIP

AND

(2) Have a BLL of ≥ 5µg/dL.

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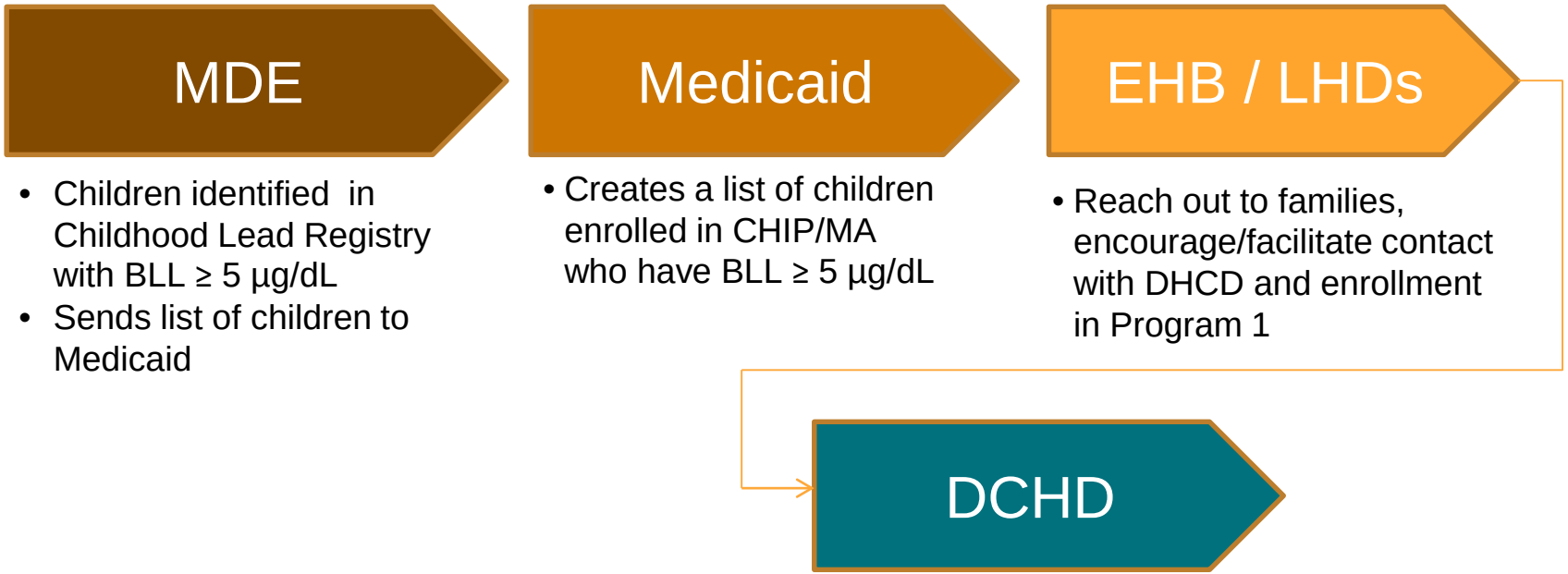
Program 1: Enrollment



- Children identified in Childhood Lead Registry with BLL ≥ 5 µg/dL
- Sends list of children to Medicaid

- Creates a list of children enrolled in CHIP/MA who have BLL ≥ 5 µg/dL

- Reach out to families, encourage/facilitate contact with DHCD and enrollment in Program 1

- Enroll children/ family in Program 1, perform abatement on property

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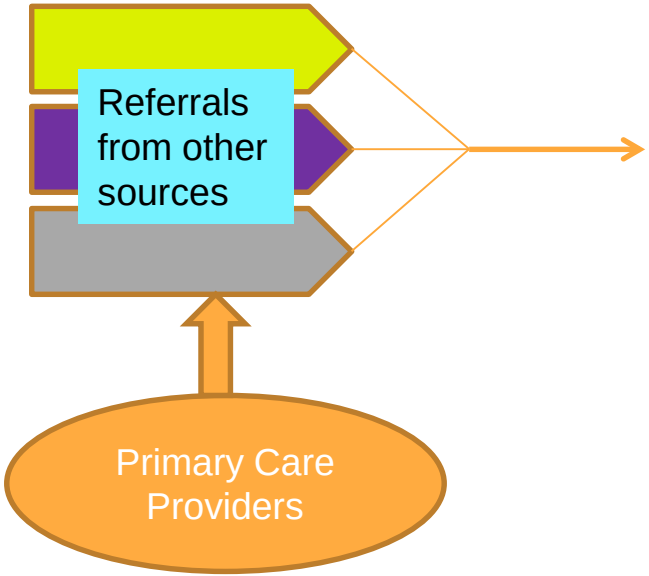
Program 1: Enrollment - Referrals from Other Agencies



EHB / LHDs

- Reach out to families, encourage/facilitate contact with DHCD and enrollment in Program 1

DCHD

- Enroll children/ family in Program 1, perform abatement on property

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Program 1: Eligible Properties

Residential properties where an eligible child resides at least 10 hours a week and are:

- Owner-occupied;
- Occupied by a family member of the owner;
- Occupied by a tenant; or
- Properties in the process of becoming licensed for, or currently maintaining a license for the provision of childcare services.
- HSI funds will not be used for commercial, non-residential properties.

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Program 1: Services

- When lead is detected in the residential property occupied by the eligible child, DHCD will provide lead abatement services to eligible properties reducing the overall risk of lead poisoning among low-income children in Maryland.
- If the lead abatement work requires families to vacate the premises following HUD guidelines, DHCD will provide relocation support for families.

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Program 2: Childhood Lead Poisoning Prevention and Environmental Case Management

- Expansion of county level programs to provide environmental case management and in-home education programs with the aim of reducing the impact of lead poisoning and asthma on low-income children.
- The program will be conducted by environmental case managers and community health workers seated in Local Health Departments (LHDs) and conducted in nine counties.

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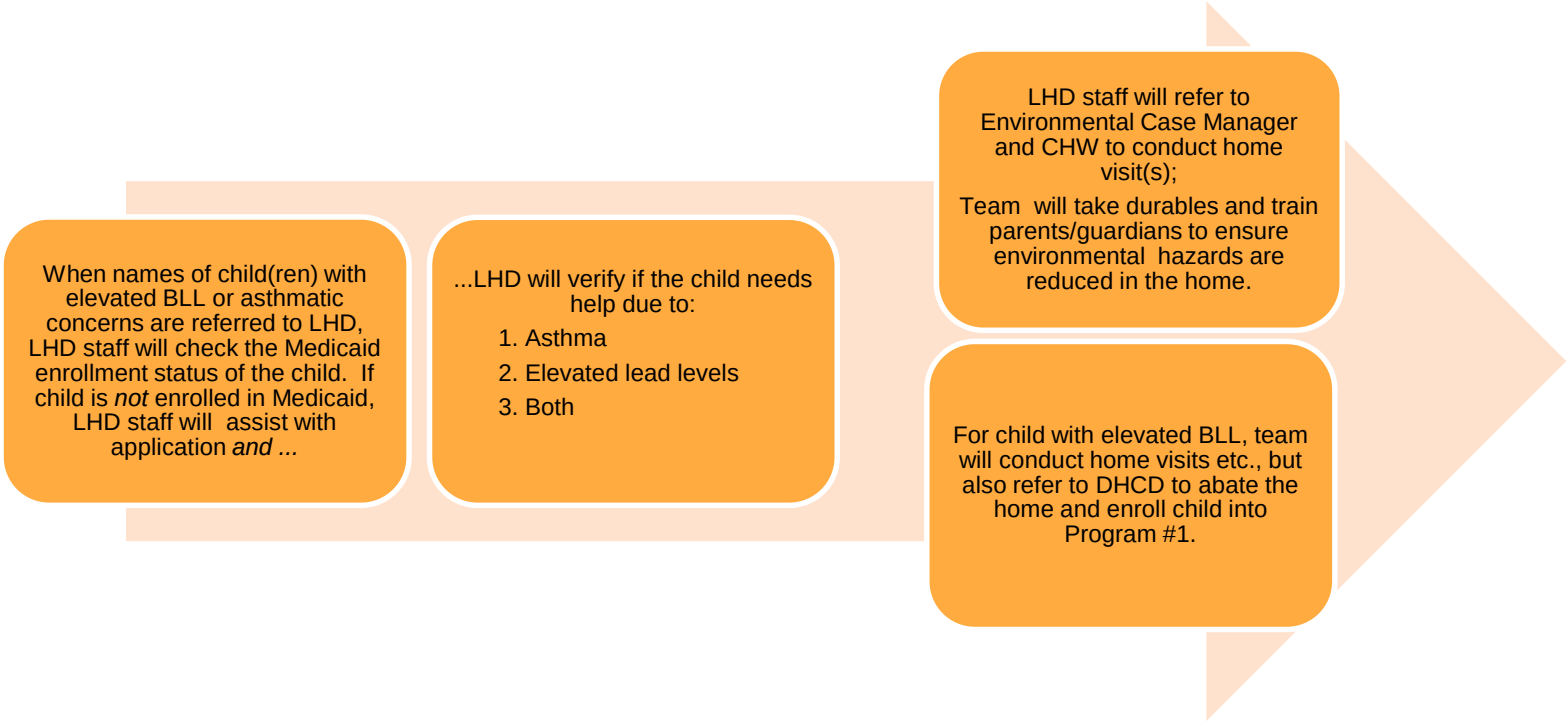
Program 2: Overview



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Program 2: Eligibility

Children (0-18 years) must be:

(1) Enrolled in Medicaid or CHIP *or* eligible for Medicaid / CHIP but not yet enrolled;

(2) Reside in one of nine specific counties in Maryland*;

(3) Have a diagnosis of moderate to severe asthma⁂ **AND** / **OR** a BLL of ≥ 5µg/dL;

*Participating counties include: Baltimore City, Baltimore County, Charles County, Dorchester County, Frederick County, Harford County, Prince George's County, St. Mary's County, and Wicomico County.

⁂ Utilizes standard clinical definitions of moderate to severe asthma by age group.

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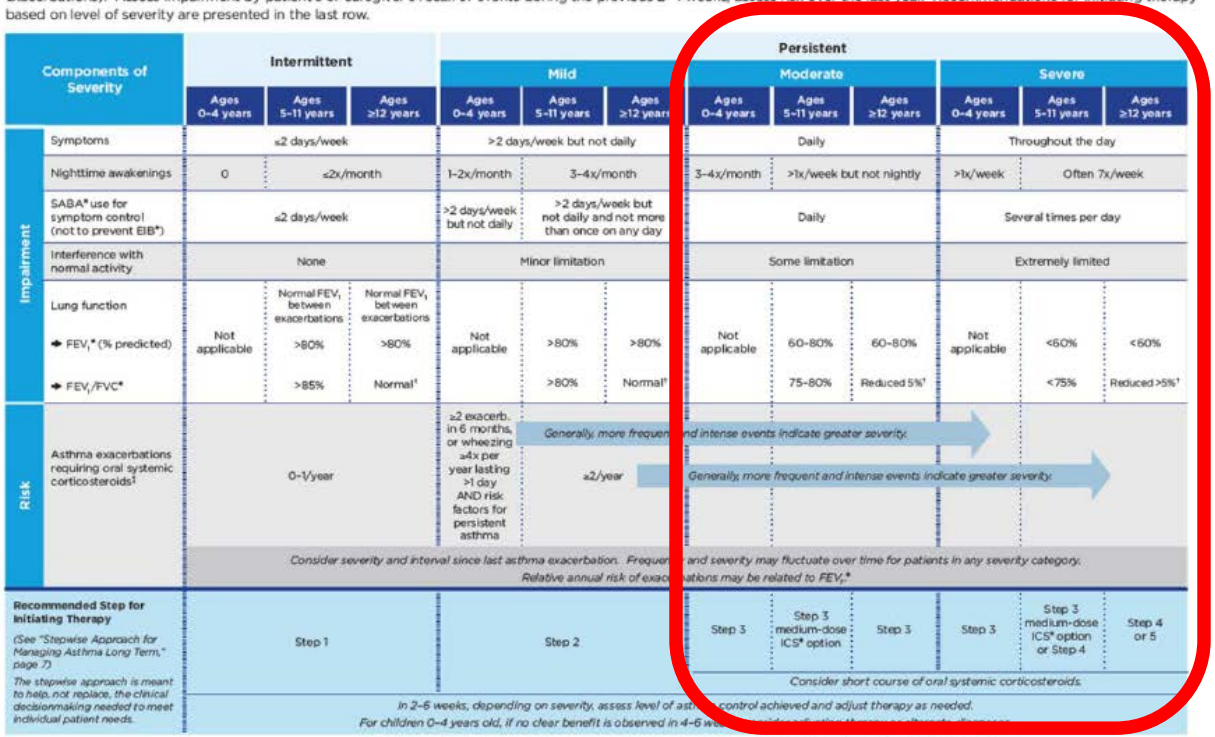
⁂ Utilizes standard clinical definitions of moderate to severe asthma by age group.

Figure 4: Moderate to severe persistent asthma definitions to be utilized by Program #2

Level of severity (Columns 2–5) is determined by events listed in Column 1 for both impairment (frequency and intensity of symptoms and functional limitations) and risk (of exacerbations). Assess impairment by patient's or caregiver's recall of events during the previous 2–4 weeks; assess risk over the last year. Recommendations for initiating therapy based on level of severity are presented in the last row.



Components of Severity		Intermittent			Persistent: Mild			Persistent: Moderate			Persistent: Severe		
		Ages 0–4 years	Ages 5–11 years	Ages ≥12 years	Ages 0–4 years	Ages 5–11 years	Ages ≥12 years	Ages 0–4 years	Ages 5–11 years	Ages ≥12 years	Ages 0–4 years	Ages 5–11 years	Ages ≥12 years
Impairment	Symptoms	≤2 days/week			>2 days/week but not daily			Daily			Throughout the day		
	Nighttime awakenings	0	≤2x/month		1–2x/month	3–4x/month		3–4x/month	>1x/week but not nightly		>1x/week	Often 7x/week	
	SABA* use for symptom control (not to prevent EIB*)	≤2 days/week			>2 days/week but not daily	>2 days/week but not daily and not more than once on any day		Daily			Several times per day		
	Interference with normal activity	None			Minor limitation			Some limitation			Extremely limited		
	Lung function		Normal FEV_1 between exacerbations	Normal FEV_1 between exacerbations									
	➡ FEV_1* (% predicted)	Not applicable	>80%	>80%	Not applicable	>80%	>80%	Not applicable	60–80%	60–80%	Not applicable	<60%	<60%
	➡ FEV_1/FVC*		>85%	Normal†		>80%	Normal†		75–80%	Reduced 5%†		<75%	Reduced >5%†
Risk	Asthma exacerbations requiring oral systemic corticosteroids‡	0–1/year			≥2 exacerb. in 6 months, or wheezing ≥4x per year lasting >1 day AND risk factors for persistent asthma	≥2/year		Generally, more frequent and intense events indicate greater severity.					
		Consider severity and interval since last asthma exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV_1.*											
Recommended Step for Initiating Therapy (See "Stepwise Approach for Managing Asthma Long Term," page 7) The stepwise approach is meant to help, not replace, the clinical decisionmaking needed to meet individual patient needs.		Step 1			Step 2			Step 3	Step 3 medium-dose ICS* option	Step 3	Step 3	Step 3 medium-dose ICS* option or Step 4	Step 4 or 5
								Consider short course of oral systemic corticosteroids.					
		In 2–6 weeks, depending on severity, assess level of asthma control achieved and adjust therapy as needed. For children 0–4 years old, if no clear benefit is observed in 4–6 weeks, consider alternative diagnoses or adjust therapy.											

* **Abbreviations:** EIB, exercise-induced bronchospasm; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; ICS, inhaled corticosteroid; SABA, short-acting $beta_2$-agonist.

† Normal FEV_1/FVC by age: 8–19 years, 85%; 20–39 years, 80%; 40–59 years, 75%; 60–80 years, 70%.

‡ Data are insufficient to link frequencies of exacerbations with different levels of asthma severity. Generally, more frequent and intense exacerbations (e.g., requiring urgent care, hospital or intensive care admission, and/or oral corticosteroids) indicate greater underlying disease severity. For treatment purposes, patients with ≥2 exacerbations may be considered to have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

Figure courtesy of the U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute. Asthma Care Quick Reference, Diagnosing and Managing Asthma, Guidelines from the National Asthma Education and Prevention Program, Expert Panel Report 3, 2007. https://www.nhlbi.nih.gov/health-pro/guidelines/current/asthma-guidelines/quick-reference-html

Program #2: Services

- Funding for LHDs to hire and train environmental case managers and CHWs to provide environmental case management, and educational support to the parents and guardians of low-income children with asthma and/or lead poisoning.
- Home visiting program (3-6 visits)

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Home Visits and Case Management

- Initial environmental assessments conducted by CHWs, based on the assessments currently employed by BCHD CAP staff and will
  - Focus on triggers for asthma and risk for lead poisoning
  - Aligned with “healthy homes assessments”
  - Not considered an “in-home assessment” eligible for Medicaid reimbursement

Asthma Home Visits

Home Visit 1 Personnel	
• Community Health Worker	Hours
○ Field work to complete HV1: In-home interview, environmental assessment, education	3
○ Office work to complete documentation, encounter form, care coordination	2
○ Transportation time for visit (round trip)	2.0
Total time	6.5 hours
Home Visit 1 Supplies	
• Mattress and pillow encasements	
• Spacer	
• Educational binder	
Home Visit 2 Personnel	
• Community Health Worker	Hours
○ Field work to complete HV2: In-home interview, environmental assessment, education	1.5
○ Office work to complete documentation, encounter form, care coordination	1.5
○ Transportation time for visit (round trip)	2.0
Total time	4.5 hours
Home Visit 2 Supplies	
• Green Cleaning Kit (bucket, mop, spray bottle, baking soda, vinegar, GreenWorks)	
• Integrated Pest Management supplies	
Home Visit 3 Personnel	
• Community Health Worker	Hours
○ Field work to complete HV3: In-home interview, environmental assessment, education	1
○ Office work to complete documentation, encounter form, care coordination	1.5
○ Transportation time for visit (round trip)	2.0
Total time	4 hours
Home Visit 3 Supplies	
• Doormat	
• HEPA vacuum (10% of clients)	

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Required Durables for Home Visits

Asthma Durables	Lead Durables
HEPA Vacuum	HEPA Vacuum
Bucket	Bucket
Mop	Mop
Sponges	Sponges
Mouse traps	Micro-fiber cleaning cloths
Cockroach traps / baits	Soap
Dust mite covers for mattress	
Medication storage containers	
Spacers (for inhalers)	
Caulk	
Copper Mesh	
Sticky Traps	
Soap	

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Program #2: Referral Sources for Children with Lead Exposures

- Primary care and specialty care providers
- State and county social services agencies
- MDE's Childhood Lead Registry
- Local housing agencies
- Public health agencies (based on either direct inquiries from the public, or from health care providers following up on BLLs ≥5µg/dL)
- MDE, based on public inquiries, regulatory referrals from their enforcement unit, or notices of defect from renters
- Requests from homeowners, rental property owners, or tenants
- School Nurse

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Program #2: Referral Sources for Children with Asthma

- Primary care providers
- Specialty care providers
- Managed care and inpatient care coordinators
- School-based health personnel, social services personnel
- LHDs
- Emergency departments
- Emergency services personnel
- Parents/guardians
- Social service agencies

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A Community Centered Medical Home

Primary Care Provider

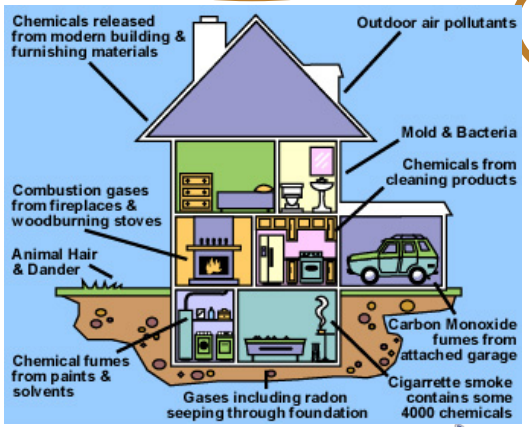
Managed Care Entities

Pharmacy

Local Health Department

School Health/ Childcare

State Health Department



Families

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Resources for Primary Care Physicians

- Local health departments
- MDH – toll-free help line – 1-866-703-3266
- https://phpa.health.maryland.gov/OEHFP/EH/Pages/CHIPEnvCaseMgmt.aspx

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Prevention and Health Promotion Administration

https://phpa.health.maryland.gov

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