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
Lead Testing Initiative in Maryland
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
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.

Percentage Change from Average Testing Rate, 2010 - 2015.

- <= 5.0%
- > 5.0 - 10.0%
- > 10.0 - 25.0%
- > 25.0 - 50.0%
- > 50.0%

Numbers in each county are the average testing rate for the years 2010 - 2015.

Source: Maryland Childhood Lead Registry
Maryland Lead Testing Initiative 2016

- Average Percent Children Tested, 2010-2015
- Change, 2016 Compared with 2010 - 2015
Asthma in Maryland
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

Figure 1. Asthma Emergency Department Visit Rates by Race and Ethnicity, Maryland, 2008-2014
Geographic Variability in Asthma

Maryland Asthma - ED 2013

Legend
- No Data
- 0.000001 - 29.99999
- 29.990001 - 45.480000
- 45.480001 - 214.650000
- 214.650001 - 363.890000
- 363.890001 - 915.470000

Sources: ESRI, GDEO, NOAA, National Geographic
New State Medicaid Initiative
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.
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)
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 $\geq 5\mu g/dL$. 
Program 1: Enrollment

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

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

**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
Program 1: Enrollment - Referrals from Other Agencies

Referrals from other sources

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

Primary Care Providers
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.
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.
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.
Program 2: Overview

When names of child(ren) with elevated BLL or asthmatic concerns are referred to LHD, LHD staff will check the Medicaid enrollment status of the child. If child is not enrolled in Medicaid, LHD staff will assist with application and ...

LHD will verify if the child needs help due to:
1. Asthma
2. Elevated lead levels
3. Both

LHD staff will refer to Environmental Case Manager and CHW to conduct home visit(s);
Team will take durables and train parents/guardians to ensure environmental hazards are reduced in the home.

For child with elevated BLL, team will conduct home visits etc., but also refer to DHCD to abate the home and enroll child into Program #1.
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\(^\text{\textcopyright}\) AND / OR a BLL of \(\geq 5\mu g/dL;\)

*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.

\(^\text{\textcopyright}\) Utilizes standard clinical definitions of moderate to severe asthma by age group.
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\textsuperscript{\textregistered} AND / OR a BLL of $\geq 5\mu g/dL$;

\textsuperscript{\textregistered} 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

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Intermittent</th>
<th>Persistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 0-4 years</td>
<td>&lt;2 days/week</td>
<td>Mild</td>
</tr>
<tr>
<td>Ages 5-11 years</td>
<td>&lt;2 days/week</td>
<td>Moderate</td>
</tr>
<tr>
<td>Ages 12 years</td>
<td>&lt;2 days/week</td>
<td>Severe</td>
</tr>
</tbody>
</table>

### Impairment

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Intermittent</th>
<th>Persistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 0-4 years</td>
<td>0</td>
<td>Daily</td>
</tr>
<tr>
<td>Ages 5-11 years</td>
<td>1-2/month</td>
<td>Daily</td>
</tr>
<tr>
<td>Ages 12 years</td>
<td>3-4/month</td>
<td>Daily</td>
</tr>
</tbody>
</table>

### Risk

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Intermittent</th>
<th>Persistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 0-4 years</td>
<td>0/year</td>
<td>Daily</td>
</tr>
<tr>
<td>Ages 5-11 years</td>
<td>2/year</td>
<td>Daily</td>
</tr>
<tr>
<td>Ages 12 years</td>
<td>2/year</td>
<td>Daily</td>
</tr>
</tbody>
</table>

### Consider severity and onset since last asthma exacerbations. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV1.*

### Recommended Step for Initiating Therapy

**Step 1:** Begin treatment based on the severity of symptoms and functional limitations.

**Step 2:** Adjust treatment based on the risk of exacerbations.

**Step 3:** Consider short course of oral systemic corticosteroids.

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* Abbreviations: BID, twice-a-day; BID, every other day; FEF20%, forced expiratory volume in 2 seconds; FVC, forced vital capacity; IC, inhaled corticosteroids; MM, short acting beta agonist.

**Note:** For children 0-4 years, if no clear benefit is observed in 4-6 weeks, consider other treatment options.

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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)
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

<table>
<thead>
<tr>
<th>Home Visit 1 Personnel</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Health Worker</td>
<td>6.5 hours</td>
</tr>
<tr>
<td>- Field work to complete HV1: In-home interview, environmental assessment, education</td>
<td>3</td>
</tr>
<tr>
<td>- Office work to complete documentation, encounter form, care coordination</td>
<td>2</td>
</tr>
<tr>
<td>- Transportation time for visit (round trip)</td>
<td>2.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Home Visit 1 Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Mattress and pillow encasements</td>
</tr>
<tr>
<td>- Spacer</td>
</tr>
<tr>
<td>- Educational binder</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Home Visit 2 Personnel</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Health Worker</td>
<td>4.5 hours</td>
</tr>
<tr>
<td>- Field work to complete HV2: In-home interview, environmental assessment, education</td>
<td>1.5</td>
</tr>
<tr>
<td>- Office work to complete documentation, encounter form, care coordination</td>
<td>1.5</td>
</tr>
<tr>
<td>- Transportation time for visit (round trip)</td>
<td>2.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Home Visit 2 Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Green Cleaning Kit (bucket, mop, spray bottle, baking soda, vinegar, GreenWorks)</td>
</tr>
<tr>
<td>- Integrated Pest Management supplies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Home Visit 3 Personnel</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Health Worker</td>
<td>4 hours</td>
</tr>
<tr>
<td>- Field work to complete HV3: In-home interview, environmental assessment, education</td>
<td>1</td>
</tr>
<tr>
<td>- Office work to complete documentation, encounter form, care coordination</td>
<td>1.5</td>
</tr>
<tr>
<td>- Transportation time for visit (round trip)</td>
<td>2.0</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Home Visit 3 Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Doormat</td>
</tr>
<tr>
<td>- HEPA vacuum (10% of clients)</td>
</tr>
</tbody>
</table>
### Required Durables for Home Visits

<table>
<thead>
<tr>
<th>Asthma Durables</th>
<th>Lead Durables</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEPA Vacuum</td>
<td>HEPA Vacuum</td>
</tr>
<tr>
<td>Bucket</td>
<td>Bucket</td>
</tr>
<tr>
<td>Mop</td>
<td>Mop</td>
</tr>
<tr>
<td>Sponges</td>
<td>Sponges</td>
</tr>
<tr>
<td>Mouse traps</td>
<td>Micro-fiber cleaning cloths</td>
</tr>
<tr>
<td>Cockroach traps / baits</td>
<td>Soap</td>
</tr>
<tr>
<td>Dust mite covers for mattress</td>
<td></td>
</tr>
<tr>
<td>Medication storage containers</td>
<td></td>
</tr>
<tr>
<td>Spacers (for inhalers)</td>
<td></td>
</tr>
<tr>
<td>Caulk</td>
<td></td>
</tr>
<tr>
<td>Copper Mesh</td>
<td></td>
</tr>
<tr>
<td>Sticky Traps</td>
<td></td>
</tr>
<tr>
<td>Soap</td>
<td></td>
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</tbody>
</table>
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
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
A Community Centered Medical Home

- Managed Care Entities
- Local Health Department
- State Health Department
- Primary Care Provider
- Pharmacy
- School Health/Childcare

Families
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](https://phpa.health.maryland.gov/OEHFP/EH/Pages/CHIPEnvCaseMgmt.aspx)