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Annual Report

Progress in Achieving Universal Blood Lead Screening in Designated High Risk Areas of Childhood Lead Poisoning

**Prepared in Response to the Maine State Legislature
Resolve 2007 Chapter 186**

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Introduction

The 123rd Maine Legislature enacted Resolve, Chapter 186, “To Achieve Universal Blood Lead Level Screening in Maine Children”. The Resolve directed the Department of Health and Human Services, Maine Center for Disease Control and Prevention to report annually to the Joint Standing Committee Health and Human Services. The report is to include information on the identification of areas of the State of high-risk for childhood lead poisoning, progress made in achieving universal blood lead screening in designated high-risk areas, and lessons learned in attempting to achieve universal blood lead testing. The first report is due in January 2009.

This document presents the first such report. In this report we will present the results from efforts to date to identify high-risk areas of childhood lead poisoning, provide baseline data on blood lead screening rates for these areas that can be used for tracking progress in future years, and describe new initiatives that should help increase screening rates.

Identification of High-Density Areas of Childhood Lead Poisoning

The Environmental Occupational Health Programs (EOHPs)¹ have recently completed a major 2-year effort to compile, clean, and geocode childhood blood lead surveillance data for the years 2003 through 2007. These data have been analyzed and mapped to identify areas of the state that have “high-counts” of cases of newly identified children with an elevated blood lead level. Counts of children with elevated blood lead level (i.e., a confirmed blood lead level equal to or above 10 micrograms lead per deciliter blood, or 10 ug/dL) for the years 2003 - 2007 have been mapped to the town level (see Figure 1). This mapping exercise has identified five (5) areas of the state that collectively represent forty (40%) of all identified cases of children with an elevated blood lead level (eBLL). These five areas are: Sanford, Biddeford-Saco, Portland/S.Portland² /Westbrook, Lewiston/Auburn, and Bangor. It is noteworthy that within these five areas, roughly 80% of cases of children with an eBLL were living in rental housing.

Higher counts are to be expected for towns with high populations. To determine whether the five communities represent areas of “high risk” of children with eBLLs, we have computed the percent of children with an eBLL relative to the total number of children screened for blood lead. Using this “rate” measure, we can compare rates for these five areas with high counts to the statewide rate to see if areas represent a higher risk (see Table 1).

¹ The Environmental and Occupational Health Programs is a collection of four programs within the Maine Center for Disease Control and Prevention (ME-CDC) Division of Environmental Health. These four programs are the Maine Childhood Lead Poisoning Prevention Program, the Environmental Public Health Tracking Program, the Occupational Disease Reporting System Program, and the Environmental Toxicology Program. These four programs are grouped into a single administrative unit to promote efficient use and sharing of resources in recognition of their overlapping missions.

² South Portland was recently added to the Portland/Westbrook high risk area, though surveillance data have yet to be reanalyzed to include data for this population.

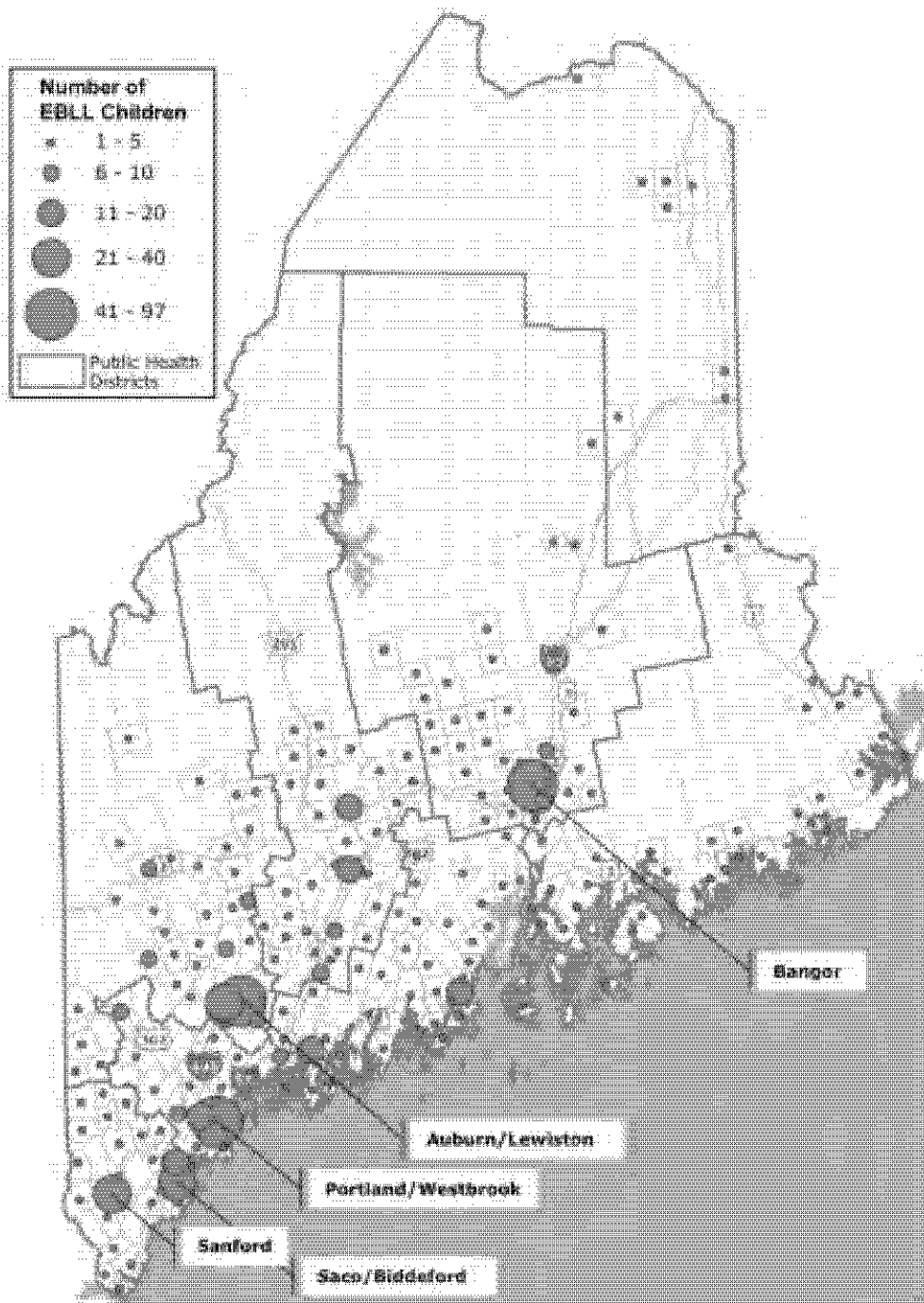


FIGURE 1. Number of newly identified children under 6 years of age with an elevated blood lead level, by town for the years 2003- 2007.

Table 1. Percent of newly identified children under 6 years of age with an elevated blood lead level for identified “high-risk” communities.

Selected Area	Number Screened	Number EBLL	Percent	95% CI
Bangor	2,096	41	2.0	(1.4 – 2.6)
Biddeford/Saco	2,229	44	2.0	(1.4 – 2.6)
Lewiston/Auburn	4,162	119	2.9	(2.4 – 3.4)
Portland/Westbrook	5,146	110	2.1	(1.7 – 2.5)
Sanford	1,660	34	2.0	(1.3 – 2.7)
Statewide*	69,715	913	1.3	(1.2 – 1.4)

All five of the identified areas with the highest counts of children with an eBLL, also have a higher percentage of children with an eBLL among their screened population, when compared to the statewide average. Thus, for the purposes of this report and new initiatives being launched with support from the Lead Poisoning Prevention Fund (LPPF)³, these five communities have been designated as “high-risk” or more appropriately, “high-density” areas for having newly identified children with an eBLL.

Blood Lead Screening Rates for Designated High-Density Areas

The Resolve directed the ME-CDC to attempt to achieve universal blood lead level screening in the high-risk areas, for: 1) children 12 to 24 months of age, and 2) children 25 – 72 months of age who have not previously been tested or who have had a change in risk of exposure to lead.

There are several measures that can be used to evaluate progress toward achieving these age-specific blood lead screening milestones. Screening levels for children age 12 to 24 months, and 25 to 36 months are tracked by the Maine Childhood Lead Poisoning Prevention Program (ME-CLPPP) as part of their ongoing surveillance activities. These measures are used to evaluate progress toward meeting state and federal requirements for testing children in both ages groups (22 MRSA § 1317-D.3 & .4).⁴ Table 2 summarizes screening data for the 12 – 24 month age group and Table 3 for the 24-36 month old group for the latest year data are available (2007).

³ The Lead Poisoning Prevention Fund was established in 2005 (22 MRSA §1322-E) and is supported by a \$0.25 fee assessed to manufactures and/or brand name or private label owners of paint sold in the state of Maine. The statute establishing the fund specifies the purposes for which funds may be allocated to support efforts to eliminate childhood lead poisoning.

⁴ 22 MRSA §1317-D requires the testing of blood lead levels of all children covered by the MaineCare program at one year of age and 2 years of age. Testing is also required of all children not covered by the MaineCare program at one year of age and 2 years of age unless, in the professional judgment of the provider of primary health care the child's level of risk does not warrant a blood lead level test.

There are several observations from the data presented in Tables 2 and 3. First, screening rates for children age 12 – 23 months appear quite variable among the five identified high-risk areas, with a range of 44% to 77%. Second, screening rates for children 24-35 months of age are substantially lower than for children age 12 – 23 months. In some areas, notably Sanford and Portland/Westbrook, screening rates are already quite high.

Table 2. Number and percent of children age 12 to 23 months screened for blood lead levels in 2007 for the five identified high-density areas for children with elevated blood lead levels.

Selected Area	Population	Number Screened	Percent	95%CI
Bangor	341	230	67.4	(62.4- 72.4)
Biddeford/Saco	441	216	49.0	(44.3- 53.7)
Lewiston/Auburn	693	303	43.7	(40.0- 47.4)
Portland/Westbrook	788	568	72.1	(69.0- 75.2)
Sanford	238	185	77.7	(72.4- 83.0)
Maine	14,140	6,784	48.0	(47.2- 48.8)

Table 3. Number and percent of children age 24 to 35 months screened for blood lead levels in 2007 for the five identified high-density areas for children with elevated blood lead levels.

Selected Area	Population	Number Screened	Percent	95%CI
Bangor	358	106	29.6	(24.9- 34.3)
Biddeford/Saco	449	90	20.0	(16.3- 23.7)
Lewiston/Auburn	673	216	32.1	(28.6- 35.6)
Portland/Westbrook	805	190	23.6	(20.7- 26.5)
Sanford	227	73	32.2	(26.1- 38.3)
Maine	14,235	3,310	23.3	(22.6- 24.0)

It is important to note that MaineCare allows the required test for one year olds to be performed between 9 and 17 months of age, and the required test for two year olds between 18 and 35 months. Children screened for blood lead with an age less than 12 months would not be represented in a measure restricted to children age 12 – 23 months. It is thus of interest to also examine screening rates measured as the percent of children born in a given year who have had at least one blood lead test by either age 24 months or age 36 months. Table 4 presents the percent of children born in the calendar year 2004 and had at least one blood lead test by 24

months of age.⁵ Table 5 presents the percent of children born in calendar year 2004 and had at least one blood lead test by 36 months of age.

Table 4. Percent of children age 0 to 24 months tested at least once for blood lead levels for the five identified high-density areas for children with elevated blood lead levels.

Selected Area	Number of Births in 2004	Number Screened by 24 months	Percent	95% CI
Bangor	358	201	56.7	(50.8 – 61.4)
Biddeford/Saco	504	293	58.1	(53.7 – 62.5)
Lewiston/Auburn	754	448	59.4	(55.8 – 63.0)
Portland/Westbrook	976	555	56.9	(53.7 – 60.0)
Sanford	285	206	72.3	(66.7 – 77.4)
Statewide*	11061	6491	58.7	(57.8 – 59.6)

* excluding the high-risk areas

Table 5. Percent of children age 0 to 36 months tested at least once for blood lead levels for the five identified high-density areas for children with elevated blood lead levels.

Selected Area	Number of Births in 2004	Number Screened by 36 months	Percent	95% CI
Bangor	358	240	67.0	(61.9 – 71.9)
Biddeford/Saco	504	322	64.9	(59.5 - 68.8)
Lewiston/Auburn	754	527	69.9	(66.5 - 73.2)
Portland/Westbrook	976	633	64.9	(61.8 - 67.9)
Sanford	285	222	77.9	(72.6 – 82.6)
Statewide*	11061	7172	64.8	(63.9 – 65.7)

* excluding the high-risk areas

The percentages in Table 4 are not directly comparable to those in Table 2, because they represent different time periods and different base populations (i.e., Table 2 estimates population of 1-year olds based on U.S. Census data, Table 4 estimates the birth cohort population from Maine’s birth certificate registry).

⁵ This birth year measure requires surveillance data for the birth year and subsequent years over which the child could have been tested. Thus, to compute the percent of children born in 2004 who had at least one test by 24 months of age requires the use of surveillance data on blood lead testing for the years 2004 through 2006. Surveillance data for the years 2004 through 2007 would be required to compute the corresponding measure for at least one test by 36 months of age.

Taken together, these four measures provide a means for tracking improvements in screening rates for these high-risk areas in future years. They also indicate that by age 36 months, two-thirds or more of children living in these high-risk areas have had at least one test for blood lead. However, less than a third of children have had tests at both 1 and 2 years of age.

New Efforts to Increase Screening Rates

Using funds from the Lead Poisoning Prevention Fund, ME-CDC is close to initiating a targeted mailing campaign that will deliver a newly developed brochure to families with a child age 8 to 36 months living in the high risk areas. This new brochure was developed with assistance from the University of New England Health Literacy Institute. Interviews were conducted with Maine professionals working in lead poisoning prevention as well as parents who had had a lead poisoned child. With this formative research we developed a mailing for parents of 1 and 2 year olds (the highest risk ages of lead exposure). The mailer was focus group tested across Maine with both rural and urban young families. This initial round of testing identified a number of key issues for our target population, and identified significant preconceptions about lead poisoning, particularly the sources and pathways of exposure most likely to cause poisoning. In response, the mailer was redesigned to more clearly identify for Maine parents their child's potential susceptibility to lead poisoning. The material also included or provided direction to the tools and resources they need to assess their child's risk for lead poisoning (including blood lead testing) and protect their child. Overall our goal in the mailer became to provide immediately actionable steps and to drive traffic to the Childhood Lead Poisoning Prevention website. During a second round of focus group testing the new mailer was an overwhelming success. Test parents understood the key messages, trusted the information and felt the material would inspire them to act and provided the level of information and methods of contact for them to be successful. This mailer will be target the high-risk areas and families with children between 8 and 36 months of age using addresses obtained from Maine's electronic birth registry. A copy of the brochure is attached to this document.

Funds from the Lead Poisoning Prevention Fund are also be used to provide contracts to community coalitions in the five high-risk areas to promote identification of lead hazards, as well as landlord and tenant education and outreach. Approximately \$31,000 is being allocated to each high-risk area. The minimum requirements for these community contracts are:

1. Create a system for educating property owners on how to identify and manage lead hazards in rental property.
2. Identify, with assistance of MECDC the geographic or other targeting mechanism to identify the rental properties at highest risk of poisoning children. Focus activities in this defined area.
3. Develop system for identifying and working with owners of rental properties within target areas to take precautionary action to prevent lead exposure.

4. Create a system for educating tenants, within the target area, on how to identify lead hazards, how to identify lead safe housing and how to ensure their children are safe from lead hazards.

5. Develop and implement an evaluation plan, which allows you to report on the success of your outreach campaign. The local evaluation should allow you to track and report the following outcomes:

- number of units which have been identified as at risk,
- number of units identified with lead hazards which have been made lead safe,
- number of landlords (and their agents) educated to identify lead hazards and engage in lead hazard reduction activities,
- number of families assisted in identifying and living in a lead safe unit.

It only takes a very small amount of dust from lead paint—about as much as a few grains of sand—to have a very serious effect on your child's growth and development.

Send me a free lead dust test kit for my home.

I am also interested in *(please check all that apply):*

- Testing my child for lead.
- Having my home inspected for lead.
- Learning about lead-safe home renovation or repair.
- Learning about other sources of lead such as soil, toys and old painted furniture.
- Learning how to protect my family from lead because my job involves painting or house repair.

Your Name: _____

Mailing Address: _____

This information will be used to help prevent childhood lead poisoning in Maine, and only for that purpose.

Please tear off this card and drop it in the nearest mailbox. Thank you!

www.maine.gov/healthyhomes 1-866-292-3474



In accordance with Federal laws, the Maine Department of Health and Human Services does not discriminate on the basis of sex, age, color, national origin, or disability in admission or access to or treatment or employment in its programs and activities. The Department's Affirmative Action Coordinator has been designated to coordinate our efforts to comply with and implement these Federal laws and can be contacted for further information at: 221 State Street, Augusta, Maine 04333. (207) 287-2567, or Hearing Impaired call 1-800-457-1220.

Each year, nearly 200 of Maine's children are poisoned by lead.



RESIDENT
30 SOME RD.
ANYTOWN ME XXXXX



Environmental and Occupational Health Program
Maine CDC
11 State House Station
Augusta ME 04333

Your **home** could be putting your child at risk for
Lead Poisoning



Caring..Responsive..Well-Managed
We are DHHS.





The most common cause of childhood lead poisoning in Maine is dust from lead paint.

Lead dust collects on floors and other surfaces where children put their hands and play with toys. Children, especially those under 3, often put their hands and toys into their mouths. This makes it very easy for lead dust to get into, and damage, their growing bodies.

Lead can cause:

- Learning disabilities
- Behavior problems
- Hearing damage
- Language or speech delays
- Lower intelligence

While lead paint can be found in houses and buildings built before 1978, most lead paint is found in homes built before 1950. **Is your home putting your child at risk?**



"I wish I had known how easy it is for a child to get poisoned before we started fixing up our home. I felt so guilty when my daughter's blood test showed that she had been poisoned by lead dust. I now worry that she might have problems learning in school."

– Leslie, Portland

To keep your child safe from lead at home:

- ✓ Regularly clean floors, windowsills and tabletops with a wet mop or cloth.
- ✓ Always wash your child's hands after play, before meals, and before naps and bedtime.
- ✓ Frequently wipe down toys, clean stuffed animals, and wash bottles and pacifiers.
- ✓ Routinely check painted windows, doors and floors for peeling or chipping paint.
- ✓ Ask your child's doctor about a blood lead test.

If you are renovating or repairing your home:

- ✓ Learn how to control and contain lead dust before you begin working.
- ✓ Keep children, pregnant women and pets away from work areas.
- ✓ Take a shower and change your work clothes before playing with, or handling, your child.
- ✓ Wash work clothes separately from family laundry

To learn more about what you can do to keep your child safe from lead, call the **Maine Childhood Lead Poisoning Prevention Program** at 1-866-292-3474 or visit us online at www.maine.gov/healthyhomes. If you think your home could have lead dust, ask for a free lead dust test kit.



Help ME keep kids lead-free!

Environmental and Occupational Health Program
 Maine CDC
 11 State House Station
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