

Minnesota's Lead Poisoning Prevention Programs

Biennial Report to the Legislature



February 2011

For more information contact:

**Environmental Health Division
Minnesota Department of Health
P.O. Box 64975
St. Paul, Minnesota 55164-0975**

Phone: 651/201-4620 or 1-800-657-3908

TDD: 651/201-5797 FAX: 651/215-0975

www.health.state.mn.us/lead

As required by Minnesota Statutes, section 144.9509

This report cost approximately \$3,000 to prepare, print, and distribute.

Printed on recycled paper.



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**Minnesota Department of Health - Lead Poisoning Prevention Programs
Biennial Report to the Legislature, February 2011**

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Executive Summary

The State of Minnesota has consistently played a leading role in identifying and addressing public health issues related to lead exposure. The lead program at the Minnesota Department of Health (MDH) is positioned to maintain that leadership role and protect the health and well being of the citizens of Minnesota from the potentially devastating effects of exposure to lead. The current report documents activities conducted by MDH between January 2009 and January 2011. Previous reports were prepared for two year periods from January 2001 to January 2009.

Lead poisoning prevention partners have been actively involved in collaborative lead reduction strategies over the past several years. The latest version of the State of Minnesota Childhood Lead Poisoning Elimination Plan (Elimination Plan, **Appendix A**) is the result of one such effort. The Elimination Plan was developed in 2004 and adopted a goal of creating a lead-safe Minnesota where no child would have elevated blood lead levels (EBLLs) by the year 2010. Elimination of EBLLs was defined as 0 % of at-risk children who are less than 72 months of age with blood lead levels greater than or equal to 10 micrograms of lead per deciliter of whole blood ($\mu\text{g}/\text{dL}$). The Elimination Plan recommends a collaborative, housing-based approach to promote primary prevention of lead exposure. The Elimination Plan is in concert with federal goals of eliminating childhood lead poisoning by 2010, and was updated in 2006, 2008, and 2010. While the threshold of 0% children above 10 $\mu\text{g}/\text{dL}$ was not attained in 2010, the actual percentage of the children tested who were above 10 $\mu\text{g}/\text{dL}$ was 0.2%. This represents a nearly 7-fold decrease since data collection began in 1995.

MDH continued to collect information on all lead tests performed on Minnesota residents. The Blood Lead Information System (BLIS) BLIS is maintained in an Oracle platform, which allows for high data security and compatibility with other current and projected state agency systems. During 2009 and 2010 the number of blood lead tests performed remained at a high level, reflecting an ongoing awareness of the need to check for potential exposure to lead. The number of EBLL cases continued to decrease, which is consistent with national trends. Several key studies were performed using data from BLIS, including an examination of lead testing in refugee children and children enrolled in Medicaid. The state lead guidelines for screening, case management, and clinical treatment were evaluated and updated. An overview of changes to the clinical treatment and case management guidelines was reported to the legislature consistent with MS144.9504 (**Appendix B**). The State Case Monitor continued to guide case management of elevated lead levels by local public health agencies. Collaborative groups were maintained to help foster a cooperative approach to addressing the multi-faceted lead problem.

MDH lead program compliance staff have continued their efforts in compliance assistance, compliance monitoring and enforcement activities. This is accomplished by promoting education and compliance training, licensing, and registering lead professionals and certifying firms performing regulated lead work, approving training courses, and conducting compliance monitoring and enforcement activities.

All members of the lead program staff share responsibility for educating and communicating effectively about the risks posed by lead. They carry out these activities in all areas of the state where cities of the first class have not assumed responsibility for lead inspection and hazard reduction.

Although reported EBLs are declining nationally and in Minnesota, the state needs to continue to effectively reach the remaining at-risk populations. High-risk populations tend to be diverse, under-served, highly mobile, and often face barriers that impede effective communication. In addition, lead programs across the nation are transitioning to include “healthy homes” as a routine part of home assessments. Maintaining current program capacity to address these issues will require continued funding support from the State.

Future activities will focus on maintaining current lead program capacity, incorporating additional housing-based health hazards as part of a healthy homes program, and assuring effective use of available funds. These activities will include:

- Working with the Centers for Disease Control and Prevention (CDC) and other agency partners on targeted efforts to reduce exposure to lead, with a special emphasis on addressing the needs of diverse and currently under-served populations and on implementing primary prevention strategies;
- Continuing examination of trends in lead poisoning in the Minnesota childhood Medicaid population and the development of collaborative efforts to reduce exposure and fully use available resources;
- Continuing to offer outreach and education to general rehabilitation contractors working on residential projects; educate them about the hazards associated with working with lead based paint and recent developments in federal rules and regulations;
- Working with health plans to promote awareness of lead, ensure appropriate delivery of services to at-risk children, and sharing information to accurately identify areas of high risk for lead exposure across the state;
- Working to integrate lead poisoning prevention activities into the developing statewide Healthy Homes program.
- Continuing efforts to maintain the high quality of data in the surveillance database through ongoing review of data entry procedures, targeted studies of reporting from laboratories and clinics, and distribution of data reporting outcomes to partners;
- Increased educational outreach, especially to pregnant women and women of childbearing age and other at-risk populations;
- Continuing to evaluate compliance monitoring and enforcement efforts to ensure that a properly trained and skilled lead workforce exists in Minnesota;
- Continuing to provide education tools and materials to reduce lead poisoning cases among children and adults; and
- Continuing to provide compliance assistance and presentations to the public and the regulated community.

Introduction

This biennial report addressing state lead poisoning prevention activities is required by Minnesota Statutes, section 144.9509, subdivision 3, which states:

The commissioner shall examine compliance with Minnesota's existing lead standards and rules and report to the legislature biennially, beginning February 15, 1997, including an evaluation of current lead program activities by the state and boards of health, the need for any additional enforcement procedures, recommendations on developing a method to enforce compliance with lead standards, and cost estimates of any proposed enforcement procedure. The report shall also include a geographic analysis of all blood lead assays showing incidence data and environmental analyses reported or collected by the commissioner.

A comprehensive overview of the Minnesota Department of Health (MDH) Lead Program was presented in the report prepared for the Legislature dated February 2001. Update reports were prepared in January 2003 for the period of January 2001 to January 2003, January 2005 for the period of January 2003 to January 2005, January 2007 for the period of January 2005 to January 2007, and January 2009 for the period of January 2007 to January 2009. Rather than duplicate the information in those documents, the current report will only present information and updates on activities occurring during January 2009 to January 2011. Due to the time lag involved in collecting, analyzing, and reporting data, some information prior to 2009 may also be presented. Another complete report will be prepared in 2013, and will report on the progress of the Childhood Lead Poisoning Elimination Plan (described below) and on the status of the integration of healthy homes into lead program capacity.

This report cost \$3,000 to prepare, including staff time, printing, and distribution costs. Information used to compile this report was obtained from MDH files, including both public and private data sources. The complete 2011 report, along with all previous reports, may be found at the MDH website at: www.health.state.mn.us/divs/eh/lead under the "Publications and Reports" subheading in the "Educational Materials" area, and is available upon request.

Current State Lead Programs

Lead poisoning prevention activities at MDH are housed within the Division of Environmental Health. The Environmental Impacts Analysis Unit, in the Environmental Surveillance and Assessment Section, is responsible for lead-related surveillance activities and implements the Centers for Disease Control and Prevention (CDC)-funded Childhood Lead Poisoning Prevention program (CLPPP). The Asbestos/Lead Compliance Unit, in the Indoor Environments and Radiation Section, is responsible for assuring compliance with state rules and statutes dealing with lead hazards. Other state agencies dealing with lead or blood lead testing include the Pollution Control Agency, Department of Agriculture, Occupational Safety and Health Administration, Department of Natural Resources, Housing Finance Agency, Department of Human Services, and Department of Employment and Economic Development. Cities of the first class and counties also have duties with respect to lead risk assessment and case management.

MDH strives to provide the best possible service to Minnesota families whose children have possible lead-related health problems. MDH also provides needed information about lead issues to county-level health officials, physicians, organized health care providers, and other professionals responsible for preventing and managing lead risks in the most effective and efficient manner possible.

I. Surveillance Activities

MDH maintains a blood lead surveillance system for the purpose of monitoring trends in blood lead levels in adults and children in Minnesota. Whenever Minnesota residents are tested for blood lead, analyzing laboratories submit the results to the MDH lead program, as mandated by Minnesota Statutes, 144.9502. The results are entered either manually or electronically into the Blood Lead Information System (BLIS) database. BLIS is maintained in an Oracle platform, which allows for high data security, and is compatible with other current and projected state agency systems for data transfer.

As of January 31, 2011 the blood lead database contained 1,328,255 records of blood lead test results from 870,563 individual Minnesota residents dating back to 1992. Blood lead data are used to help identify populations at risk for elevated blood lead levels (EBLLs), to help ensure that screening services are provided to groups identified as having the highest risk of lead poisoning and to ensure that environmental and medical follow up are provided to children with EBLLs. In 2009 the Lead Program began planning for the process of migrating BLIS from its Oracle platform to the web-based Minnesota Electronic Disease Surveillance System (MEDSS). Using MEDSS will allow the Lead Program to participate in MDH efforts to modernize disease surveillance in Minnesota and allow for one integrated comprehensive database rather than individual systems for each disease group. MEDSS will allow for easy tracking, electronic reporting and sending data to the CDC. Other benefits include electronic exchange of health information, secure networks, reports to track cases, less duplication, and one shared system.

Specific conclusions based upon the data in BLIS cannot be drawn regarding the actual rates of lead poisoning in Minnesota. Without universal testing or population-based testing of children across the state, the tests reported to BLIS are not representative of the entire Minnesota population. A direct comparison of numbers of children with EBLLs between Minnesota counties is also not appropriate because the counties have different rates of testing. However, the data may be used to identify trends in screening practices from year to year, compare the total number of EBLLs reported to MDH over time, and characterize the population currently being screened.

Presented below are data on lead poisoning in children less than six years old and adults, an overview of projects targeted to at-risk populations, and MDH statewide lead guidance. Further surveillance data are available in the 2009 Surveillance Report (**Appendix C**). The 2010 Surveillance Report will not be available until June 2011 due to the time lag in reporting of blood lead tests for 2010.

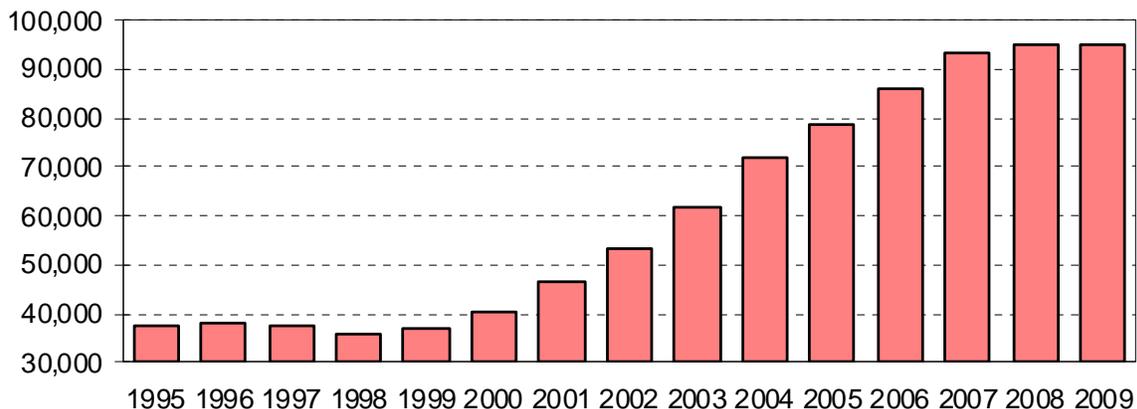
A. Elevated Blood Lead Levels (EBLLs) in Minnesota

Blood Lead Levels in Children

The fewest number of blood lead tests reported statewide was in 1998 and has been increasing since that year (**Figure 1**). Since not all Minnesota children are at risk for lead exposure, targeted testing, rather than universal testing, is currently recommended for most areas of the state. The goal is to test all children at risk for exposure to lead. Therefore, because not all Minnesota children are exposed to lead risk factors, the optimal level of testing will be less than 100%.

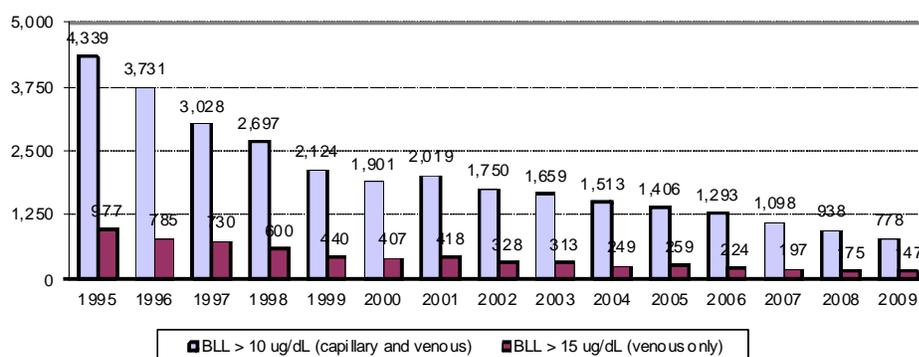
Two types of blood specimens are used for childhood blood lead testing, capillary and venous. Capillary specimens are drawn from a finger or heel stick. Blood is pooled on the skin and either drawn into a glass capillary tube or dropped onto lead-free filter paper for collection. Capillary specimens are considered screening tests because they are prone to falsely high results due to surface contamination when the patient's hands are not properly washed with soap and water. Venous specimens are considered diagnostic tests because they are drawn directly from a vein into a collection device, thereby avoiding skin surface contamination.

Figure 1. Number of Children Tested



The trends in the number of EBLL cases (e.g., tests greater than or equal to 10 µg/dL) in Minnesota children may be compared across years (**Figure 2**). The general downward trend shown in Figure 2 is consistent with national trends. Numbers are also shown for venous blood lead levels greater than or equal to 15 µg/dL, the level at which an environmental assessment is required to identify and mitigate lead exposure. Approximately 65% of the reports above 15 µg/dL in Minnesota come from Minneapolis and St. Paul, indicating that in specific areas of the state lead poisoning continues to be a public health problem. For this reason, the MDH Childhood Blood Lead Screening Guidelines recommend universal testing in the cities of Minneapolis and St. Paul.

Figure 2. Number of Children with Reported Elevated Blood Lead Levels



While the rate of lead testing increased during the 1999 - 2009 period, the number of EBLL cases has slowly declined since 1995. Although these data are difficult to interpret due to many confounding factors, the downward trend for EBLLs suggests that the amount of lead exposure is declining in Minnesota.

Rate of follow-up testing for children with EBLLs

MDH guidelines recommend follow-up blood lead tests for children with elevated blood lead levels. The period of time recommended for re-testing varies according to the initial blood level, but the maximum time is 90 days for any child with a blood lead level of 10 $\mu\text{g}/\text{dL}$ or greater (e.g., an EBLL). Of the 778 Minnesota children identified with EBLLs in 2009, 473 (61%) received a follow-up test. Of these, 376 (48% of the total children with EBLLs) were retested within 90 days of their initial EBLL. While the number of EBLLs in Minnesota has been steadily declining for the past 15 years, rates for the total number of follow-up tests and those done within 90 days have remained relatively consistent, at about 60% and 50%, respectively over the past six years. Increasing the follow-up rate and reducing the time between tests will take the combined efforts of providers, case managers, families, and the MDH Lead Program.

Blood Lead Levels in Adults

CDC recommends a level of concern for adult exposure to lead of 25 $\mu\text{g}/\text{dL}$ and the Occupational Safety and Health Administration (OSHA) requires action in exposed workers at a level of 40 $\mu\text{g}/\text{dL}$. Minnesota's Adult Blood Lead Epidemiology and Surveillance (ABLES) program began identifying eligible adults on January 1, 1998. The total number of tests reported in 2009 for adults in Minnesota is presented in Table 1. The threshold for being considered an "adult" in ABLES assessments was recently changed from 18 to 16 years old.

Table 1: Minnesota residents 16 years or older with a reported blood lead test in 2008-9

# of reports	# of individuals	Range of reported results
20,609	18,375	0.0 to 75.0 µg/dL

In 2008 there were 413 adults with BLLs of 10 to 24 µg/dL, 96 adults with BLLs of 25 to 39 µg/dL (down from 156 adults in 2007), and 15 adults with reported levels of 40 µg/dL or greater. In 2009 there were 411 adults with BLLs of 10 to 24 µg/dL, 105 adults with BLLs of 25 to 39 µg/dL, and 6 adults with reported levels of 40 µg/dL or greater.

Through clinic contacts and laboratory reports, information on occupation was obtained for most of these patients. Occupations and hobbies contributing to lead exposure are listed in Table 2. Adult blood lead data for 2010 will be analyzed in spring of 2011.

Table 2: Minnesota Adults with Elevated Blood Lead Levels in 2008-9 by Exposure Category

Occupation/Exposure	Adults with Levels of 25+ µg/dL	Adults with Levels of 40+ µg/dL
Painting and/or Wall Covering	18	1
Construction and Demolition	4	0
Fishing Tackle Manufacturing	11	0
Lead Smelting	48	1
Stained Glass	9	0
Stone Product Manufacturing	1	0
Non-Ferrous Cast Production	1	0
Ammunition Manufacturing	1	0
Weapons Manufacturing	1	0
Intentional Ingestion	0	1
Retained Bullet from Gunshot	1	0
Reloading Shotgun Shells (Hobby)	0	2
Unknown	10	1*
Total	105	6

* numerous unsuccessful attempts were made to locate patient and source of lead exposure

B. Studies and Projects in At-Risk Populations

1. Lead in Children Enrolled in Medicaid

National studies (Pirkle et al. 1998, *Env. Health Persp.* 106:745-750) have shown that Medicaid-enrolled children are three times more likely to have EBLs than non-enrolled children (9% compared to 3%). Medicaid’s Early and Periodic Screening Diagnosis and Treatment (EPSDT) program requires that well-child visits include blood lead testing at both 12 and 24 months. In

Minnesota, testing of children enrolled in Minnesota Health Care Programs (MHCP), including Medicaid, is under the jurisdiction of the Minnesota Department of Human Services (DHS).

Analysis of 1999-2003 data for Minnesota children enrolled in Medicaid funded programs provided good news about testing in the Medicaid-enrolled population. The rate of blood lead testing in the total population of 9- to 30-month-old children enrolled in MHCP increased from 17% to 29% between 1999 and 2003. When combined with data from the reports described above, the data for 2004 through 2009 also show a continuing trend toward higher rates of testing in MHCP-enrolled children (**Figure 3**), along with declining rates of EBLs in both MHCP-enrolled and non-enrolled children (**Figure 4**).

To help sustain these gains, DHS continues to include provisions in their managed care contracts which encourage blood lead testing. A \$30 incentive is provided for every child above the previous year's level of testing. DHS also includes blood lead screening among the performance goals that must be met for health plans to receive the 5% of their contract amount that is withheld at the beginning of each contract year.

Figure 3. Children Enrolled in MHCP Tested for Blood Lead

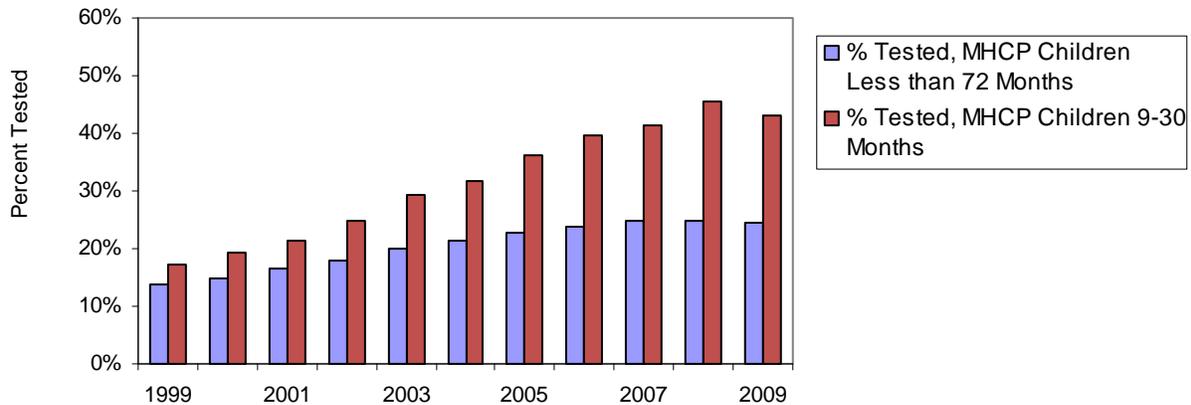
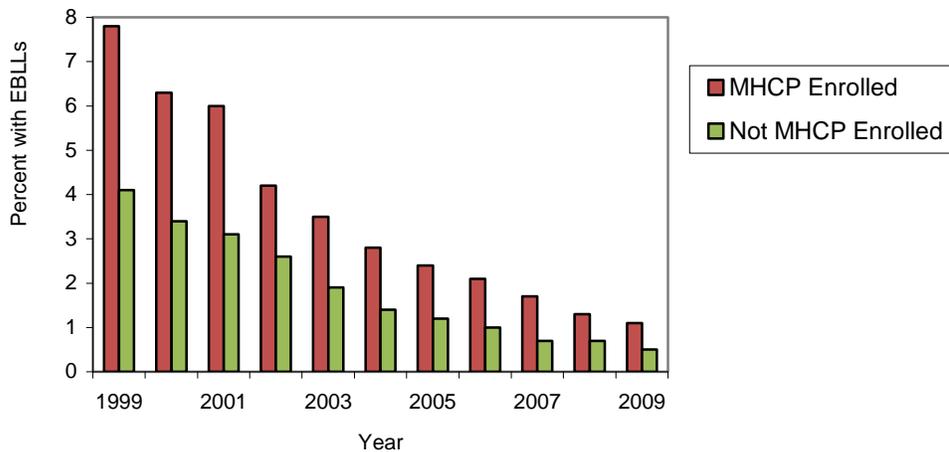


Figure 4. Percentage of Tested Children Less than 72 Months Old with EBLs



2. Lead in Minnesota Venison

Many states have programs in which hunters may donate venison to food shelves or pantries by bringing their field-dressed deer to meat processors, who provide the processed venison to food charities. In March 2008 a physician in North Dakota performed radiographic analysis on venison packages donated from food shelves in that state from 2007. A high percentage of the packages showed visible metal fragments on the X-ray images. In the fall of 2008 Minnesota Department of Agriculture (MDA) staff obtained packages from Minnesota food shelves and performed similar analyses. The results were similar to North Dakota, with approximately 25% of packages showing fragments. Chemical analysis detected the presence of significant quantities of lead in the packages. As a result of this discovery MDA suspended venison distribution from food shelves in Minnesota in the Spring of 2008.

MDH, MDA and the Department of Natural Resources (DNR) have worked together to implement changes to the donation program and have worked to provide guidance for hunters and their families about consumption of venison, whether it is processed at home or by a commercial processor. For example, there are mandatory training sessions for participating processors, prohibitions against ground venison and bans on venison from animals with extensive damage from ammunition. In 2009 all donated venison packages of venison were screened by X-ray. Only the packages without lead were released to food shelves. More information is available on the MDH Lead Program Web site at www.health.state.mn.us/divs/eh/lead/leadinvenison.pdf, on the DNR Web site at www.dnr.state.mn.us/hunting/lead/index.html, and on the MDA Web site at www.mda.state.mn.us/en/news/government/~media/Files/news/govrelations/leadcontamvenison.ashx.

Results from a survey conducted by the MDA examining trends from 2007 – 2009 are presented in the table below. There has been a significant decrease in the amount of lead found in venison since 2007, especially in the ground product. However, there also has been a decrease in the number of participating processors and pounds of venison donated. All agencies involved are working to continue this important program which seeks to provide needy families with access to a high-quality protein while assisting the State in managing deer populations.

Table 3: Minnesota’s Hunter Harvested Venison Donation Program Summary Statistics

	<u>2007</u>	<u>2008</u>	<u>2009</u>
Number of deer donated	1996	650	541
Number of pounds processed/donated	78,500 lbs	18,900 lbs	17,650 lbs
Number of registered processors	72	34	35
Percent of product with lead	22%	6%	6%
Ground	26%	Not allowed	6%
Not Ground	2%	6%	2%
Pounds of product discarded	16,000 lbs	1,500 lbs	1,000 lbs

3. Lead in Refugees

The Division of Infectious Disease Epidemiology, Prevention, and Control at MDH collects demographic data on all refugees entering the state who receive an initial health screening. The 2007 refugee data were linked with the blood lead test results from BLIS to describe lead testing and EBLL rates in refugees. Refugee children in Minnesota comprise a wide range of ethnic origins, as shown in Table 4. Of the children seen for an initial health screen in 2009, 88% were tested for blood lead. Additional information is available in the 2009 Surveillance Report (Appendix B).

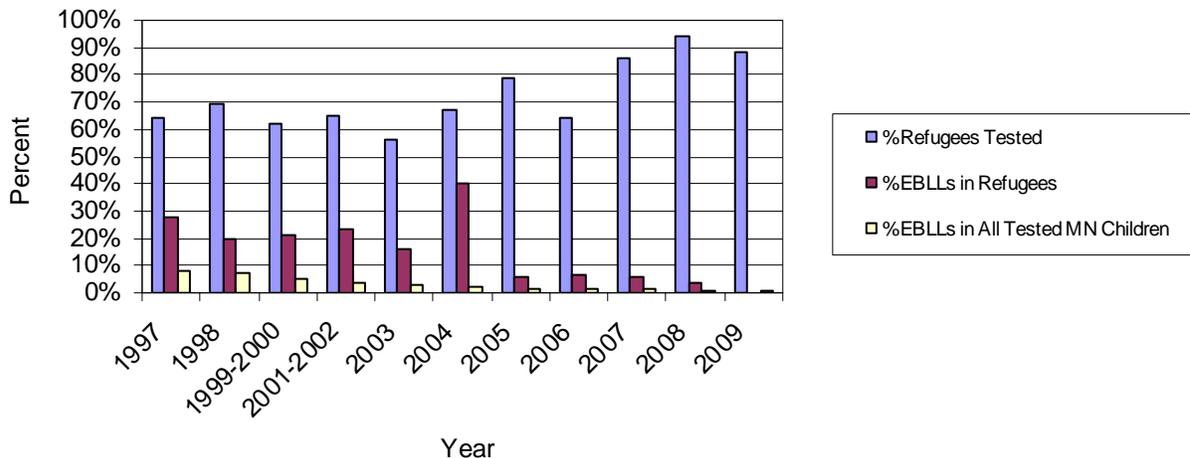
Table 4. Number and Percent of Refugee Children (0-72 Months) Tested and with Elevated Blood Lead Levels in 2009 by Country of Origin

Ethnicity/ Region of Origin	# of Refugee Children*	# of Children Tested for Lead	Of Children Tested for Lead, # Tested Within Three Months of Arrival	Children w/Elevated Level (10 µg/dL)
Bhutan	12	12	100%	0
Burma	85	79	93%	0
Former USSR	11	8	73%	0
Iraq	25	22	88%	0
Somalia	63	54	86%	0
Other Africa	12	8	67%	0
Other	1	1	100%	0
Total	209	184	88%	0

*Data obtained from MDH Infectious Disease Epidemiology, Prevention and Control Division

Blood lead tests were also matched to refugee information in past years (Fig. 5). The rate of EBLs for refugees has dropped in the past several years while the number of refugees being tested has remained strong. In 2009, no refugees had blood lead levels of 10 ug/dL or greater.

Figure 5. Lead Testing and EBLs in Refugee Children



The CLPPP has collaborated with the MDH Refugee Health Program on a national study to assess lead exposure and lead poisoning risk for new refugees in the U.S. The study is directed by Dr. Paul Geltman of the Massachusetts Department of Health and began in Spring 2007. Minnesota is serving as one of the study areas in which families of 30 refugee children will answer a lead risk survey and have a home lead hazard assessment performed. Minnesota data will be combined with data from other states to assess the risk of lead poisoning faced by refugees across the nation.

C. Screening and Case Management

1. Blood Lead Guidelines

MDH has developed a set of four guidelines for lead: Blood Lead Screening, Childhood Blood Lead Case Management, Childhood Blood Lead Clinical Treatment, and Blood Lead Screening for Pregnant Women. These guidelines were developed by collaborative workgroups and have been endorsed by a range of professional health organizations. All four guidelines may be found at the MDH Web site at www.health.state.mn.us/divs/eh/lead.

Children participating in the Supplemental Food Program for Women, Infants, and Children (WIC) have traditionally been considered to be at risk for exposure to lead. In 2005-2006, MDH funded studies of blood lead levels in WIC recipients in Hennepin and Ramsey Counties, counties with the highest proportion of EBLLs among children less than 6 years in the state. Results showed the proportion of EBLLs and the average BLL among WIC children were below corresponding figures in the general population, based on BLIS data. Additional data was collected from four counties (Blue Earth, St. Louis, Stearns, and Winona) and showed similar results. Therefore, participation in WIC in Minnesota does not appear to indicate an additional risk to lead exposure and the WIC population was not included in the current definition of high risk. Detailed reports of these studies are available on the MDH website. All MDH lead guidelines will be revised to remove WIC as an exposure risk factor. See Section D for additional changes to the MDH lead guidelines.

Childhood Blood Lead Screening Guidelines

The MDH Blood Lead Screening Guidelines recommend that physicians order blood lead tests for 1) children residing in specific geographic areas that have a high rate of cases of elevated blood lead and 2) children matching specific demographic groups that have a high rate of elevated blood lead. Universal screening is recommended for children residing in Minneapolis and St. Paul and those recently arriving from other major metropolitan areas or other countries. Testing is also required for children receiving Medicaid. The test is typically performed when the child is one and two years old, but may be done at any time if the parent is concerned or if a high-risk activity (e.g., remodeling a home built before 1950) has recently occurred.

Childhood Blood Lead Case Management Guidelines

The MDH Childhood Blood Lead Case Management Guidelines are intended to serve as minimum case management guidelines for providing services to children with EBLLs. They were developed to establish standardized minimum levels of care. The guidelines help ensure that a qualified case manager is available to oversee the treatment and recovery of each child, and to ensure that steps are taken to prevent further exposure of the child to potential sources of lead. The case management guidelines work in concert with the MDH Blood Lead Screening Guidelines for Minnesota to identify and manage lead exposure in children. Appropriate steps are presented for both capillary and venous test results. Information on revisions to these guidelines is in Section D under “Legislative Activities.”

Childhood Blood Lead Clinical Treatment Guidelines

The Childhood Blood Lead Clinical Treatment Guidelines were designed for physicians to assist them in treating a patient with an EBLL, thus ensuring that all EBLL cases in Minnesota receive a consistent level of care. Although the current “actionable” level for lead case management and clinical treatment activities in Minnesota is 10 µg/dL, the CLPPP strongly believes that families with documented lead exposures below this threshold should receive guidance from public health and medical professionals. Information on revisions to these guidelines is in Section D under “Legislative Activities.”

Blood Lead Screening Guidelines for Pregnant Women in Minnesota

In June 2004, MDH developed Blood Lead Screening Guidelines for Pregnant Women in Minnesota. They are designed for Ob/Gyn physicians, nurse practitioners, and midwives to assist them in screening and treating pregnant women for elevated blood lead levels, thus ensuring that both the women and their children receive appropriate intervention to reduce their lead exposure. Prenatal lead exposure is of concern because it may have an effect on intellectual development (Schnaas et al. 2006, *Env. Health Persp.* 114:791-797). In addition to fetal risk, lead may be a risk to the mother; it has been shown to be related to cardiovascular disease (Menke et al., *Circulation*, Sept. 2006). The CDC and MDH consider 10 µg/dL and above to be an elevated blood lead level for pregnant women as well as children.

Not every woman is at risk for lead exposure, so a risk screening questionnaire should be used to decide when to test a pregnant, or potentially pregnant, woman for lead.

2. Case Management

The MDH State Case Monitor provides technical assistance to all local public health agencies in the state of Minnesota to ensure case management services for children with elevated blood lead. Specifically, the state case monitor’s duties include:

- Assuring case management activities and follow-up testing, for children and pregnant women are performed consistent with MDH guidelines;
- Communicating regularly with the Asbestos and Lead Compliance Unit to assess

progress on open lead cases and facilitate communication between the Asbestos and Lead Compliance Unit and local lead case managers; and

- Holding educational workshops to educate medical professionals about the Minnesota guidelines for Screening, Treatment, and Case Management. A new round of outreach efforts will be conducted in 2011 to raise awareness of new/revised recommendations in the MDH guidelines.

Case monitor activities have helped clinicians improve their adherence to Minnesota Guideline procedures. A reporting and tracking form and case monitoring database were developed in collaboration with local agencies, including an automated process for sending notice letters to local agencies when an EBLL case occurs in their jurisdiction. This allows for complete records on all medical cases and facilitates communication.

D. Legislative Activities

There is growing evidence that exposure to lead at low levels (<10 µg/dL) may also have a negative effect on cognitive functioning in children. In response to concerns over the effects of low-level lead exposure in children, the 2009-2010 Legislature directed MDH to revise clinical and case management guidelines to include recommendations for protective health actions and follow-up services when a child's blood lead level (BLL) exceeds 5 µg/dL. To assist in the revisions, MDH recruited an expert panel consisting of highly knowledgeable and experienced individuals in the areas of lead testing in children, management of lead poisoning cases, and lead hazard reduction. The expert panel included representatives from public health agencies, health plans, and a nonprofit organization specializing in lead abatement, a physician representing the Minnesota Medical Association, and key MDH staff. Recommended changes included adding new guidelines for BLLs between 5 and 9.9 µg/dL, and shifting some of the guidelines previously listed for all BLLs < 10 µg/dL to a new category of all BLLs < 5 µg/dL. In addition, for the 5-9.9 µg/dL range, a recommendation was added for a confirmatory venous test within 3 months to ensure that medical management is targeted only to those cases with confirmed lead exposure above 5µg/dL. The full report to the legislature is included in **Appendix B** and is posted on the MDH website at: www.health.state.mn.us/divs/eh/lead/reports/index.html .

In addition to the specific legislative report described above, lead program staff members are regularly called upon to provide data, background, and technical perspective on bills addressing lead poisoning.

II. Compliance Activities

The 2000 U.S. Census estimates that Minnesota has just over 2 million housing units, with over 560,000 of those units built before 1950. Homes built prior to 1950 are the most likely to contain the highest levels of leaded paint. The MDH Lead Compliance Unit ensures the public receives safe and proper lead hazard reduction, evaluation, and analytical services by requiring those services to be conducted according to state regulations, and by trained and licensed personnel, and certified firms. The Lead Compliance Unit was authorized by the U.S. Environmental

Protection Agency (EPA) in September 1999 to administer and enforce the lead accreditation and compliance program in Minnesota. The Unit licenses lead risk assessors, lead inspectors, lead workers, lead supervisors, lead project designers, and certifies firms who conduct regulated lead work. In addition, the Lead Compliance Unit approves initial and refresher lead training courses for these disciplines and registers lead sampling technicians.

The goal of regulation and enforcement in the MDH lead program is to limit lead exposure for children with EBLs and their families, and increase their understanding of lead-related health hazards. This regulatory role contributes to the core public health function of assurance - that is, the process of assuring that populations are having their basic health needs met.

The number of licensed individuals and certified lead firms all increased during the FY2010 reporting period in comparison to FY 2009. The increase is the result of HUD lead hazard reduction grant funding that continues to be allocated to Minnesota. Many HUD administrators in Minnesota require contractors conducting renovation activities in residences to be certified lead firms and employ individuals licensed as lead workers and supervisors. MDH has also received calls from EPA certified lead renovator firms who are requesting how they can get on MDH's list of lead certified abatement firms. Some firms are willing to pay the \$100 fee to be listed.

A. Compliance Monitoring

MDH is the primary agency for lead control and for regulating lead-related activities in Minnesota. MDH provides leadership on lead control program issues and works closely with federal, state, and local agencies, and other interested parties. Compliance monitoring involves efforts by the lead program to monitor and evaluate individuals and companies as they perform regulated lead work.

A key objective of lead compliance is to make sure that potential environmental sources of lead exposure for persons with lead poisoning are properly addressed. The medical needs of the lead poisoned person are addressed through the collaborative efforts of surveillance staff, health care providers and case managers. Compliance monitoring involves efforts by the lead program to identify actual and potential environmental sources of lead exposure for persons with EBLs. The MDH Lead Compliance Unit is responsible for performing environmental interventions in areas not covered by another assessing agency.

Currently, Minnesota has 232 certified lead firms. The total number of firms includes 31 firms that conduct lead inspections, risk assessments and project design. The other 194 firms conduct actual lead reduction services. Seven firms are related to in-house activities conducted by housing rehab programs and property management firms. Of the 232 certified lead firms, 54 % of the certified firms in the state are located in greater Minnesota. The number of certified firms has increased by 86 within the state since 2008. This increase is likely partially due to recent awards of Department of Housing and Urban Development (HUD) funding for lead hazard reduction projects in the Twin Cities and the greater Minnesota area and the EPA RRP regulation that became effective April 22, 2010.

Table 5 reflects the current number of lead licensed individuals as of January 2011. The table also includes the number of registered lead sampling technicians. These licenses are renewed annually if the individuals want to continue conducting regulated lead work.

Table 5: Total Number of Licenses Issued Across Minnesota as of January 2011

License issued	Total in MN
Inspector	5
Project Designer	8
Risk Assessor	198
Supervisor	320
Worker	247
Lead Sampling Technicians	57

The number of lead workers, lead supervisors, and lead project designers has increased by 114, 22, and 4, respectively, when compared with the December 2008 data available in the 2009 legislative report. The number of lead sampling technicians, lead inspectors and lead risk assessors increased by 19, 4, and 32, respectively. Most individuals choose to become licensed as risk assessors rather than inspectors because of the limited services the inspector category can provide. The increase of the number of licensed or registered individuals is reflective of increased HUD funding in geographic areas of the state and the EPA RRP regulation.

B. Special Projects

MDH is continuing its efforts in providing lead safe work practices information and brochures to licensed residential contractors in the state, including information at the department’s website (<http://www.health.state.mn.us/divs/eh/lead>). EPA’s Renovate Right brochure has been available since December 2008 and was modified in June 2010 with new graphics and updated information. Residential contractors and other related construction trades are required to provide the new brochure in response to the EPA RRP regulation that was implemented on April 22, 2010.

MDH has continued to collaborate with the rehabilitation industry in Minnesota, including the Builders Association of Minnesota (BAM) and its fourteen affiliations located throughout Minnesota. Educational events continue to be held for interested general contractors and the construction trades regarding the EPA RRP regulation. MDH is currently in the process of working towards development of an RRP regulatory program consistent with the federal regulation.

C. Training Courses

For an individual to be licensed in Minnesota, they must successfully complete a training course provided by an approved training course provider. Currently five providers offer Lead Hazard Reduction training in Minnesota (www.health.state.mn.us/divs/eh/lead/training/index.cfm). Providers must furnish documentation that they employ a training manager and a principal instructor for each of the courses they offer. Both the training manager and principal instructor must meet experience, training and education requirements established in Minnesota Rules

(4761.2000-4761.2700). The MDH lead compliance staff regularly review the training course content and ensure that it contains all the required topics.

D. Legislative Activities

The MDH Lead Compliance Unit routinely assists in preparing responses to legislative inquiries on lead hazard reduction, intervention levels, and enforcement. This includes preparing fiscal notes, bill summaries, and required reports.

In the 2009 legislative session, MDH was authorized in Minnesota Statutes, section 144.9508, subdivision 2, items K and L, to adopt rules consistent with sections 402(c)(3), 406(a) and 406(b) of the Toxic Substance Act. In the effort to become an EPA authorized state for the Pre-Renovation Education (PRE) and Renovation, Repair and Painting (RRP) regulations, MDH has commenced its rulemaking process. On November 9, 2009, MDH published in the State of Minnesota State Register the Request for Comments on Possible Amendment to Rules Governing Lead Poisoning Prevention. The comment period ended on March 31, 2010. No comments were received.

MDH convened the lead advisory committee in July and August. The committee met four times and the training provider subcommittee met once. MDH is redrafting the rules after considering the advisory committee's comments. MDH will reconvene the advisory committee prior to publishing the Intent to Adopt Rules in the Minnesota State Register in January 2011.

During the 2010 legislative session a bill supported by Sustainable Resources Center (SRC) was introduced to amend Minnesota Statutes regarding remodeling contractor requirements. The amended sections, 326B.106 and 326B.805, authorize the Minnesota Department of Labor and Industry (DOLI) to require contractors to provide proof of their firm certification if conducting remodeling activities in pre-1978 residences or child-occupied facilities. The new law is complimentary to MDH and EPA efforts to ensure compliance with the RRP regulation at the local municipality level and it goes into effect on August 1, 2011.

E. MDH Compliance Inspections

MDH monitors firms and individuals performing regulated lead work. This is done by verifying that certified firms are employing MDH-licensed individuals to perform regulated lead work in affected property (e.g., single-family residences, multi-family properties, or child-occupied facilities). The monitoring includes both notices and inspections. Non-compliance is managed according to the Health Enforcement Consolidation Act (Minnesota Statutes, sections 144.989 to 144.993). MDH also provides technical assistance to the regulated community through information on lead hazard reduction and compliance issues observed during inspections.

Table 5 reflects the number of lead abatement notices submitted to MDH, the number of inspections conducted by MDH and the number of project sites where enforcement actions were taken against certified lead firms and licensed individuals. Lead abatement notices are required when the "intent" of the work is lead abatement. MDH conducts inspections of lead abatement projects based on the notices submitted by certified lead firms. The numbers reflected in this

table are based on the EPA’s fiscal cycle years 2009 and 2010. A cycle year runs from October to September. Therefore, 2009 cycle year is for October 2008 to September 2009, and 2010 cycle year is for October 2009 to September 2010.

Table 5: Number of Lead Notices and Compliance Activities for Fiscal Cycle 2009 and 2010

Item	2009	2010
Number of Lead Notices	266	308
Number of MDH Inspections	31	36
Number of MDH Audits	32	32
Number of Enforcement Cases	21	31

The number of lead notices submitted to MDH increased by 14% from FFY2009 to FFY2010. This is due in part to HUD lead hazard reduction grants awarded to the City of Minneapolis, City of St. Paul/Ramsey County, Hennepin County, MDH, and the City of Duluth. The grants require contractors to notify MDH when the primary intent is to perform lead hazard reduction in affected properties.

The number of MDH inspections is based on benchmarks defined in a work plan submitted and approved by EPA on an annual basis. The benchmark for both fiscal cycles was 30 inspections.

MDH also conducts audits of licensed risk assessors’ risk assessment reports and licensed supervisors’ lead hazard reduction reports. In fiscal years 2009 and 2010, 27 cases had enforcement issued for failing to complete the reports in accordance to the Minnesota rule requirements. The remaining enforcement cases during the same time period were based on lead hazard reduction project site inspections or complaints received by MDH.

III. Health Education and Outreach

The MDH Lead Program currently performs outreach and education activities for health care providers and the public through a variety of activities. A strong network has been forged through collaborative approaches to dealing with lead issues. Educational outreach has been conducted for numerous segments of professional and public groups through many types of meetings and presentations. Public awareness of lead issues is further raised through National/Statewide events such as Lead Poisoning Awareness Week and federal requirements for home sellers to disclose information about lead hazards.

A. Collaborative Workgroups

The development and implementation of effective lead poisoning prevention strategies is a collaborative activity. Success requires strong partnerships between public health agencies, health care providers, housing agencies, non-profit organizations, and individual citizens. As part of a general effort to forge those partnerships, all lead program staff at MDH have assumed some degree of responsibility for education and outreach activities as part of their regular job duties.

The Minnesota Collaborative Lead Education and Assessment Network (MCLEAN) continued to meet two times per year, bringing together statewide lead partners to facilitate information sharing, provide program updates, and promote joint projects. For example, contacts fostered at MCLEAN meetings led to several federal lead grant applications for lead hazard reduction, lead education, healthy homes, and other issues. The MCLEAN met on April 29, 2009, September 28, 2009, April 6, 2010, and October 5, 2010.

Several staff from MDH assisted the City of Minneapolis and Hennepin County in the creation of their joint Minneapolis/Hennepin County Childhood Lead Poisoning Prevention Work Group. Although the workgroup was started in 1999, efforts continue to this day through collaboration and routine meetings. The goal of the task force is to have lead-safe children throughout Hennepin County and Minneapolis by increasing the availability of lead-safe housing.

The MDH Lead Program also participated in Lead Testing Task Force. The Lead Testing Task Force is chaired by the Minneapolis Department of Health and Family Support and brings together public health, community health, and managed care organizations, to discuss and plan blood lead testing intervention strategies.

B. Outreach

MDH conducts outreach to both professional and public organizations. Young medical students and practicing physicians are exposed to lead issues and implications through grand rounds presentations, continuing medical education presentations, scientific conferences, and workshops on lead. The MDH lead program also works in collaboration with other MDH environmental health programs to offer educational programs and exhibits in a variety of venues, including home and garden shows, home improvement fairs, the Minnesota State Fair, and conferences dealing with children's health and education, housing and redevelopment issues, and other relevant issues and concerns.

MDH was contacted by the press for information on lead hazards from various sources including artificial turf, children's Halloween makeup, children's jewelry, holiday decorations, imported candy, and venison. These requests were handled in addition to many blood lead testing data requests. All information requests were dealt with in a manner consistent with MDH guidelines.

One of the major partners of the MDH Lead Program is the Minneapolis-based Sustainable Resources Center (SRC). SRC is currently contracted to do outreach services to rural areas and the Somali population and to perform targeted home cleaning and education services in coordination with local assessing agencies across the state. SRC provides state-funded swab team services along with family education as a short-term primary prevention step to reduce lead exposure. Swab teams use intensive cleaning methods to temporarily reduce hazards from lead dust, and are normally performed as an interim measure until full lead hazard reduction activities are available. Rural outreach on lead education utilizes SRC relationships with Early Childhood Family Education (ECFE), daycares, and other groups that work with families with young children. Somali outreach includes raising awareness of lead issues and capacity building for lead education and remediation. In order to reach at-risk children who are not seen for routine

screening, SRC performs lead testing at neighborhood events using the “Leadie Eddie” van. The MDH Lead Program works closely with SRC by providing educational material in appropriate languages, assisting with referrals of EBLL cases for interim lead control, and providing guidance on special projects.

C. Internet Resources

The Lead Program maintains a web page through the MDH Internet site that provides a number of lead education materials for providers, regulated parties, and the general public (www.health.state.mn.us/divs/eh/lead). The site contains information on hot topics (including current data, projects and requirements), numerous fact sheets, a list of “frequently asked questions” and responses, all publications and reports (including guidelines for screening, case management, and clinical treatment in children, and screening of pregnant women), a downloadable version of a lead education workshop, and links to many external lead resources. The Lead Program web site offers several lead fact sheets and pamphlets in Spanish, Somali, Karin (Burmese), and Hmong.

The site was significantly reformatted in 2010 to be consistent with new MDH policies and make information more readily available to customers including families, contractors, and health care providers. Major additions included an interactive map of the state to assist in finding a qualified lead contractor or consultant, a list of accredited analytical labs, additional links to related issues within MDH (e.g., early childhood services, healthy homes, children’s environmental health) and an expanded list of external sites with helpful information.

D. Promoting Lead Awareness

Efforts to raise awareness of lead poisoning have included national “Lead Poisoning Prevention Week,” which was held October 18 – 24, 2009 and October 24 - 30, 2010 and a Governor’s Proclamation declaring October 3 – 9, 2010 to be Childhood Lead Poisoning Prevention Week in Minnesota (**Appendix D**). To support national lead week in 2009, the MDH lead program prepared press releases describing lead poisoning prevention activities occurring in Minnesota.

To acknowledge the year 2010 (which had been the federal target year for eliminating childhood lead poisoning) MDH sponsored events in Minneapolis and St. Paul to raise awareness of lead poisoning prevention efforts. The events were held at the following locations:

Wednesday, Oct 6th 4:30 pm – 6:30 pm
Harrison Community Center, 503 Irving Ave N., Minneapolis

Thursday, Oct 7th 4:30 pm – 6:30 pm
Greater Frogtown Community Development Corp, 533 North Dale St., Saint Paul

The primary themes of each event were:

1. There has been tremendous progress in reducing exposure to lead in the environment over the past decades.

2. Lead is very toxic and is still a public health threat for certain high-risk populations.
3. Lead programs are in the process of transitioning to a “healthy homes” approach that addresses several built-environment hazards.

The annual surveillance report for 2009 for all local public health agencies was released on June 30, 2010 (**Appendix C**). The annual report is purposely prepared at the end of the fiscal year to include the most current data in the year-end analyses. The report included county-specific analyses of rates of screening and EBLs, along with testing rates and rates of EBLs in Minnesota’s high-risk populations, including refugee children, children enrolled in Minnesota Health Care Programs, and occupationally exposed adults. The Web site link to the full report is emailed to all local public health agencies and other lead stakeholders in Minnesota each year.

Policy Planning and Program Evaluation

The MDH Lead Program currently addresses all elements of a comprehensive state lead program. In addition to having sufficient legislative authority and staffing capacity to undertake current program activities, staff meet at regular intervals to assess service gaps and plan for ongoing activities. The capacity to address multiple aspects of lead poisoning prevention in Minnesota will contribute to the overall federal effort to eliminate childhood lead poisoning and statewide efforts at providing healthy homes.

A. Data Quality Evaluation

Quality control procedures have reduced errors and increased completeness in the reporting of testing data. Missing information such as the patient's date of birth, address, and the type of test used are obtained for all reported tests when available from testing clinics and providers. After initial entry into BLIS, each record is reviewed for accuracy by a different member of the program staff. The completeness of the reporting data and the timeliness with which it is entered in the database are reviewed annually. Results of this review process are shared with the reporting laboratories, and have contributed significantly to improvements in the quality of data submitted by the laboratories.

B. Childhood Lead Poisoning Elimination Plan

In 2004 MDH collaborated with a planning advisory work group to develop a strategic plan to end childhood lead poisoning in Minnesota by 2010. This plan, which was endorsed by the Governor, has been known as the Minnesota Childhood Lead Poisoning Elimination Plan (Elimination Plan; **Appendix A**).

The Elimination Plan is evaluated every year and re-issued in even-numbered years. The most recent evaluation and assessment of progress on individual tasks in the 2008 version of the Elimination Plan was conducted in 2009. A report summarizing the results of the 2009 evaluation is posted at: www.health.state.mn.us/divs/eh/lead/reports/2010planupdate2009.pdf . The most recent version of the Elimination Plan was released in 2010. The Elimination Plan was reviewed and discussed at every meeting of the MDH-sponsored MCLEAN.

The Elimination Plan released in 2010 contained amendments based on the 2009 evaluation, recommendations presented at MCLEAN meetings, and additional feedback from partners outside of MDH. While individual tasks in the Elimination Plan were changed to meet evolving conditions in lead poisoning prevention, the five goals that were found in the 2008 version of the Plan remained valid and unchanged. The overarching goals are:

- I. Developing strategies for lead education and training.
- II. Developing strategies for identifying at-risk properties and children.
- III. Developing strategies to better incorporate lead paint assessment and control into housing activities and infrastructure.
- IV. Developing strategies to identify resources to increase the supply of lead-safe housing.
- V. Emerging strategies based upon new research, legislation, trends, population conditions and other developments.

Over the past two years there has been substantial progress in achieving the tasks laid out in the original Elimination Plan and in incorporating new ideas into the current Elimination Plan. The 2010 version of the Elimination Plan differs from the 2008 version of the Elimination Plan in several respects:

- While the primary focus of the Plan remains housing-based lead, objectives and tasks in Goal V were amended to better address the impending transition of lead programs to a “healthy homes” approach. The 2010 version of the Plan includes 14 brand new healthy homes tasks under four new objectives in Goal V.
- The Advisory Members once again requested removal of several tasks that were completed or deemed infeasible to implement. Therefore the number of individual tasks was again reduced, from 106 to 97.
- Lead poisoning prevention activities continue to be incorporated in to routine program activity at the state and local level, as reflected in the increasing number of tasks that are “ongoing” (green). In the 2010 version of the Plan, 67 % of the tasks are green status, while an additional 25% are yellow status (in planning or implementation). Only 8 % of tasks are rated as red status (later fiscal years). This compares to 44 %, 37 %, and 19 % green, yellow, and red status, respectively in the 2006 version of the Plan (the 2004 version was not color coded).

The 2010 version of the Elimination Plan was placed on the MDH Web site (see: <http://www.health.state.mn.us/divs/eh/lead/reports/2010planfinal.pdf>) and was distributed electronically to participants in MCLEAN.

C. Healthy Homes

Low-income and minority individuals and families are disproportionately affected by a number of housing-related health hazards in addition to lead. Occupants of substandard housing units are at increased risk for fire, electrical injuries, falls, rodent bites, and other illnesses and injuries. Indoor environmental quality issues of concern include exposure to pesticide residues, indoor toxicants (asbestos, radon, VOCs), tobacco smoke, and combustion gases. According to research at the Mount Sinai Children’s Environmental Health Center, annual costs for environmentally

attributable childhood diseases in the US total an estimated \$54.9 billion (approximately 3% of total health care costs nationally).

The CDC estimates that providing healthy housing to American families will help prevent 20 million asthma cases, 240,000 incidents of elevated blood lead levels in young children, 14,000 burn injuries, and 21,000 radon-associated lung cancer deaths nationally. Work done by the HUD over the past 10 years (as presented in the 2008 HUD Healthy Homes Strategic Plan) shows that:

- Unintentional injuries can be prevented by modifying the home environment and educating residents about risks. Some structural adjustments to the home, such as installing railings and hand-holds, smoke alarms, fencing around pools, and water heaters with pre-set safe temperatures are effective injury prevention interventions.
- Corrective measures including paint stabilization, moisture control, treatment of friction surfaces, and enclosure and removal of certain building components coated with lead paint, cleanup, and “clearance testing,” have been shown to be effective in reducing dust-lead levels over an extended period.
- Interventions to reduce allergens (and therefore asthma) in the home have proven to be effective and are ready for implementation. These include the installation of impervious pillow and mattress covers, use of HEPA vacuums and air filters, specialized cleaning, and Integrated Pest Management (IPM).
- For radon gas, research indicates that active systems placed in homes in high-risk areas post-construction have effectively lowered radon levels.

The MDH lead program is currently collaborating with other areas in the Environmental Health Division and across MDH to implement a “Healthy Homes, Healthy Places” planning effort. The goal of the effort is to examine methods to address multiple housing-based environmental health risks using “healthy homes” concepts. Ensuring that homes are dry, clean, well ventilated, pest-free, contaminant-free, safe, and maintained will help make indoor environments healthier. Efforts to make indoor environments healthier are expected to:

- improve health, productivity, and quality of life of residents,
- reduce health care costs from common housing-related illnesses and injuries, and
- help diminish health disparities for at-risk populations

Addressing the broad range of housing deficiencies and hazards associated with unhealthy and unsafe homes will require a comprehensive coalition of public health professionals and targeted training. Successful methods and policies for Healthy Homes, Healthy Places may be more easily established using expertise gained from ongoing lead poisoning prevention efforts.

MDH has a potential role of training, educating and providing scientifically based primary preventive practices and procedures that can make homes and other indoor places safer healthier environments. The Healthy Homes, Healthy Places planning effort will complement the Statewide Health Improvement Plan by focusing on the environmental risk factors for both chronic and acute illnesses, helping to reduce health disparities, and implementing primary prevention strategies for homes, schools and work places.

Funding Status

State general funds are an important part of a larger public health effort to address lead poisoning in Minnesota. Overall program support sources are diverse but rely heavily on base state funding to help maintain capacity, both within MDH and with other partners in lead. The state's general fund allocates about \$200,000 annually to the MDH program. These funds are used to help meet MDH statutory obligations and are a critical source of matching funds for federal grant applications. Assessment, assurance, and policy/planning are the three core functions of public health authorities. The environmental health trends identified by assessment (e.g., lead surveillance and compliance activities) will require a strong response with respect to assurance (e.g., compliance monitoring, case management) and policy/planning (e.g., primary prevention, provider/physician education). This will, in turn, require ongoing commitment from state general funds for these activities.

The bulk of funding for the MDH lead program comes from federal sources via grants and cooperative agreements. The lead program has received funds for the last fifteen years from CDC to maintain a CLPPP program, including \$570,825 in Federal FY09 and \$533,490 in Federal FY10. The fourteenth application will be submitted in March 2011. Although Minnesota has a very good reputation with federal funding agencies, this revenue stream must be revised annually to ensure alignment with federal priorities and must be regained every five years via a competitive grant application.

MDH has received Lead Cooperative Agreement and Enforcement grants from EPA since 1994. The funding amount has averaged about \$240,000 for each of the past two years. This funding has provided ongoing development and support for the infrastructure of the lead compliance program. As the program has developed, the requirements of the grant have shifted from program development to compliance assistance, compliance monitoring and enforcement. EPA cannot guarantee that future funding will remain at current level but continues to work with all the Region V state lead programs to ensure that they are informed of funding changes.

The State Government Special Revenue Fund fee account was appropriated at \$57,000 for SFY 2010 (July 1, 2009 – June 30, 2010). This revenue is generated from license, certification and permit fees. MDH does not charge a fee for the independent lead exams or to register lead sampling technicians. Currently MDH regulates 232 certified firms and 835 licensed individuals. A small number of lead professionals are employed by local government (e.g., assessing agencies) and are exempt from credentialing fees.

During each state fiscal biennium (since 1994), the legislature has made available \$25,000 per fiscal year for lead safe housing to local boards of health. This grant funding is authorized under Minnesota Statutes, section 144.9507, subdivision 3, to provide temporary lead-safe housing and relocation costs for families displaced by LHR being done in their primary residence. This grant is competitive and applicants must be boards of health. Hennepin County, City of Minneapolis and St. Paul-Ramsey County are the three local boards of health awarded funds from the 2008/2009 grant cycle. From October 1, 2008 to June 30, 2009, 47 families were relocated to safe-housing units while lead hazard reduction work was completed in the families' primary residence. The last round of funding for state fiscal years 2010/2011 was awarded in December

2009 to Hennepin County and the City of Minneapolis. However, due to the state budget deficit, the general fund monies that supported this activity were eliminated in SFY10.

For state fiscal years 2009-2010, MDH awarded a Swab Team Services Grant to Sustainable Resources Center (SRC). The grant is authorized under Minnesota Statutes, section 144.9512, subdivision 2, to provide swab team services training to workers and property owners, and provide swab team services on affected properties. Grant funds may also be used to remove and replace building components that are identified by a licensed lead risk assessor as being a deteriorated component that also has deteriorated lead-based paint on it.

SRC is a non-profit community-based organization working in the Twin Cities metro area and greater Minnesota to protect low-income children from lead poisoning. SRC is also a lead certified firm and maintains training permits for lead supervisor and worker training courses. They also provide lead safe work practice training for property owners and other interested parties. The grant started on July 1, 2008 and completed its second year on June 30, 2009 with a total budget of \$967,000.

SRC is required to prepare and submit progress reports and cost reimbursement requests (invoices) to MDH each quarter. SRC completed the following services in individual housing units during this two-year periods:

- 165 inspections/risk assessments
- 11 residences had swab team services conducted
- 804 windows installed with jamb liners or window components were scraped and painted
- 954 windows were replaced
- 365 in-home visits and public events to conduct lead education
- 44 blood lead testing events and tested 1,319 children/pregnant women
- 344 people attended Lead Safe Work training; 18 people attended a Spanish Lead Safe Work training

For state fiscal years 2010-2011, Sustainable Resources Center (SRC) and CLEARCorp USA (CC) were awarded funds from this grant. Both organizations are non-profit community-based organizations working in Minnesota to protect children from lead poisoning. The grant period commenced in November, 2009 and ends on June 30, 2011 with a total grant amount of \$958,000.

SRC conducted the following activities during state fiscal year 2010:

- 179 in-home visits
- 67 blood lead testing and educational events
- SRC has created a partnership with several health plans such as Medica. The health care providers are supplied with flyers to promote blood lead testing events and include a \$50 Target gift card to qualified individuals for participation in blood lead testing.
- 826 individuals tested for blood lead levels
- 22 lead safe work practice training for homeowners and property owners
- 195 homeowners and property owners trained

CC conducted the following activities during state fiscal year 2010:

- 33 blood lead testing and educational events
- 519 individuals tested for blood lead levels
- 12 in-home visits
- CC launched a new calling campaign to target families with children 9 to 30 months who are on medical assistance with Medica. Guardians of children without a current lead test are contacted by telephone and educated about the importance of having a blood lead test performed. Guardians are offered information about where to obtain a test for their children and staff are available to answer any questions regarding the dangers of lead poisoning.

The U.S. National Institutes of Safety and Health (NIOSH) has a purchase order agreement with MDH for approximately \$20,000 per year for semi-annual data related to the Adult Blood Lead Epidemiology Surveillance Program. These funds allow MDH to: (1) put emphasis on collaboration and cooperation on lead surveillance issues, (2) maintain primary prevention activities for adults with EBLs, and (3) prevent “take-home lead” in children.

MDH was awarded a \$1.4 million HUD lead hazard reduction grant that began on November 1, 2007 and will expire on January 31, 2011. The funds were used for the Small Cities Lead Hazard Reduction Program (SCLHRP). SCLHRP has operated as a cooperative venture between MDH and DEED. SCLHRP funds were delivered through the established system of the DEED Small Cities Development Program (SCDP) grantees. The target area included the non-entitlement areas of the state, which excludes the large cities and counties that receive a separate Community Development Block Grant allocation. The grant has provided lead hazard reduction resources statewide. It also assisted affected families with children living in unhealthy housing conditions and integrated lead hazard control public health efforts with current, ongoing housing rehabilitation.

The original goal was to complete 138 lead hazard reduction projects in single family and rental homes (120 non EBL rehab projects and 18 EBL rehab cases). MDH exceeded this goal by completing 141 projects; 18 EBL projects and 123 Non-EBL projects. MDH sponsored outreach and education events to low and moderate income families and agencies on lead hazards and methods/resources available to address the hazards. A total of 24 events reached over an estimated 900 people. Additionally, MDH provided training to rehab contractors to improve skills for those implementing lead hazard reduction programs in areas of the state requiring capacity building. A total of 20 contractors were trained under this grant.

Following on the HUD grant described above, MDH was awarded a new 36-month HUD lead hazard reduction grant that will provide funds through February 2014. Total amount of the SCLHRP grant award is \$1,742,698 to complete 114 non-elevated blood lead levels (EBL) projects and 15 EBL projects. MDH will also sponsor outreach and education events to low and moderate income families and agencies on lead hazards and methods/resources available to address the hazards. The grant will provide 20 educational events reaching approximately 600

people. The SCLHRP grant is again providing training to over 20 contractors to help increase the contractor pool and to equip them to comply with EPA's RRP training requirements. A new building block to the SCLHRP grant is funding for small scale Healthy Homes production projects that will work in tandem with the lead grant. The Healthy Homes production projects will serve 120 of our 129 awarded lead projects addressing fire safety, trips and falls prevention, carbon monoxide detection, and other hazards along with the lead remediation.

Future Directions

Future directions for the Minnesota Department of Health are largely determined by the requirements set by funding providers and the state legislature. CDC, which funds the Minnesota Childhood Lead Poisoning Prevention Program, is in the process of transitioning to a healthy homes approach, which may significantly disrupt MDH Lead Program capacity. Primary prevention will be a key aspect of the ongoing federal strategies for both lead and healthy homes and will need to be emphasized in future Minnesota efforts. The MDH Lead Program will work cooperatively with the developing MDH Healthy Homes program, as described in the Policy Planning and Program Evaluation section above. Lead poisoning prevention activities at MDH will be incorporated into the overall statewide strategy for making homes in Minnesota healthier.

Lead program staff members actively participate in activities to improve the recording and transfer of lead test data. Most large laboratories and clinics currently use some form of electronic data management. It is crucial that MDH continue to develop the capacity to interact with these data streams effectively so that transcription errors are minimized, and time saved. The transition of the current BLIS database to the MDH MEDSS platform will require a major commitment of time and resources over the next several years. Additional data reporting will be required by CDC addressing housing-based hazards and local public health agencies will need to be trained in the use of the web-based MEDSS.

The EPA participates in the federal plan to eliminate childhood lead poisoning by 2010. Increasing education, compliance monitoring and enforcement of lead paint regulations continues to be a priority for the state as part of federal grant funding provided by EPA. Because the asbestos and lead compliance programs operate as a combined regulatory program within MDH, education, compliance monitoring and enforcement are done routinely. This is unique in comparison to other state programs within Region V. MDH's staff is actively involved in public education, outreach, compliance assistance and monitoring, and responding to public inquiry regarding general indoor air, lead and asbestos issues. Compliance and administrative staff have the necessary training and skills to fully implement compliance and enforcement activities.

Health education is performed by all staff within the lead program using well established information sources and targeted outreach opportunities. As an interdisciplinary program, MDH lead staff will continue to generate unique and innovative approaches to institutional and scientific problems. Approaches will include forming cooperative workgroups to solicit input prior to generating guidelines, cooperating with other agencies to meet common goals, conducting research to address basic problems, and overseeing lead hazard reduction efforts to ensure complete and timely resolution of lead orders. It will be challenge to incorporate consistent healthy homes messages in the lead program and all of the diverse collaborating

organizations. However, many agencies are very excited about the potential for increased capacity to address a range of housing-based health hazards and are looking forward to new ideas and approaches to promoting public health. This spirit of creativity will continue to be fostered, resulting in a program that is flexible, responsive, and well grounded in the core public health functions of assessment, assurance, and policy/planning.

Conclusions

Lead is a preventable, pediatric environmental health risk. Although lead is found throughout the environment, the major exposure pathway of public health concern for children is through deteriorated lead-based paint.

The MDH blood lead surveillance database collects blood lead reports on all Minnesota residents. State guidelines help standardize screening practices and raise awareness of high-risk populations. The average blood lead level reported to MDH has been gradually declining, consistent with national trends. Diverse populations are targeted to help address public health disparities.

Compliance monitoring ensures that lead hazard reduction is completed consistent with state statutes and best public health practices. This involves working with assessing agencies and licensed lead workers to address exposure issues (e.g., lead paint removal). Training is provided, inspections performed, and assessments audited as needed to ensure that public health concerns are addressed. Health education is performed by all staff within the lead program using well-established information sources and targeted outreach opportunities.

Appendices

Appendix A: Minnesota Childhood Lead Poisoning Elimination Plan

Appendix B: 2009 Blood Lead Surveillance Report

Appendix C: Revision of the MDH Childhood Blood Lead Clinical Treatment and Case Management Guidelines: Report to the Legislature

Appendix D: Lead Week 2010 Materials

Appendix A

Childhood Lead Poisoning Elimination Plan for Minnesota

Full document may be found at:

www.health.state.mn.us/divs/eh/lead/reports/2010planfinal.pdf

Summary

Although lead poisoning is preventable and rates are declining in Minnesota, children living in substandard (as defined by building codes), pre-1950 housing continue to be disproportionately affected by lead. In response, the Minnesota Department of Health (MDH) Childhood Lead Poisoning Prevention Program (CLPPP), in collaboration with a wide range of partners, has coordinated the development of a plan to eliminate statewide childhood lead poisoning. The “State of Minnesota Childhood Lead Poisoning Elimination Plan” (Plan) contributes to meeting the national goal established by the U.S. Centers of Disease Control and Prevention (CDC) of eliminating childhood lead poisoning as a public health problem.

In 2004 a vision statement for the Plan was prepared along with a Minnesota definition of childhood lead poisoning “elimination.” The vision statement and elimination definition remain valid in 2010. The vision statement is:

“To create a lead-safe Minnesota where all children have blood lead levels below 10 micrograms lead per deciliter whole blood ($\mu\text{g}/\text{dL}$) by the year 2010.”

The elimination definition is:

*“Lead poisoning will be considered eliminated when zero percent of at-risk children who are less than 72 months of age have blood lead levels $> 10 \mu\text{g}/\text{dL}$.”***

** The definition of elimination is subject to change due to at least three variables: 1) changes in trends in elevated blood lead levels (EBLLs) determined by ongoing analyses of blood lead surveillance and related data; 2) ongoing childhood lead poisoning prevention activities by governmental and nongovernmental agencies; and 3) changes to federal or state guidelines regarding acceptable levels of childhood blood lead.

As we enter 2010, there has been tremendous progress in lowering exposure to lead, both nationally and in Minnesota (a 65% reduction in EBLLs since 1995). While the CDC has issued the “Healthy People 2020” objective (EH HP2020-13) to “eliminate elevated blood lead levels in children” there is ongoing discussion in the lead community regarding what constitutes “elimination” at the national level. Commentators on the proposed Healthy People 2020 objective noted that the definition of elimination should be qualified by adding “as a public health problem”, which recognizes the impracticality of attaining zero lead exposure. CDC has also discussed (in informal meetings) using the National Health and Nutrition Examination Survey (NHANES) data to establish a national statistical threshold that would constitute no observed cases, or “elimination.”

This Plan contains background on lead exposure in Minnesota, an assessment of risk factors for lead, and an overview of modifications to the Plan proposed by Advisory Members. The 2010 version of the Plan updates the most recent version of the Plan, which was released in September 2008. An evaluation of the 2010 Plan will be prepared and distributed in 2011.

The updated Plan to eliminate childhood lead poisoning that is being released in 2010 contains the following five goals:

- I. Developing strategies for lead education and training.
- II. Developing strategies for identifying at-risk properties and children.
- III. Developing strategies to better incorporate lead paint assessment and control into housing activities and infrastructure.
- IV. Developing strategies to identify resources to increase the supply of lead-safe housing.
- V. Strategies to Develop and Implement a Program to Address Housing-based Health Threats Using Established Lead Program Capacities.

Each of these goals, along with specific objectives, tasks and measures are presented in the Implementation Goals table below. The Plan continues to strongly advocate a collaborative, housing-based approach to primary prevention of childhood lead exposure, while still incorporating ongoing programs that are based on secondary prevention models. This is consistent with the federal elimination strategy to act before children are poisoned (primary prevention), intervene early when children have blood levels less than 10 µg/dL but rising (primary prevention), care for lead-poisoned children (secondary prevention), conduct research, and measure progress to refine lead-poisoning prevention strategies.

Lead poisoning prevention efforts are ongoing throughout the year and are conducted by a wide range of collaborating partners, including federal agencies, public health agencies (both state and local), housing agencies, health plans, health care providers, advocacy organizations, legislators, and concerned citizens. Highlighted activities completed/continued since the 2009 evaluation of the Plan include:

- Minneapolis and SRC provide the EPA “Renovate Right” pamphlet to hardware stores, reuse centers, lumber yards, and community centers.
- Surveillance data was used to target clinic outreach efforts in Minneapolis to encourage screening (MDH Screening Guidelines recommend universal screening for Minneapolis) and awareness of case management practices.
- Coordination meetings included the Lead Testing Task Force, the Minneapolis/Hennepin County Lead Workgroup and regular meetings between MDH and SRC.
- St. Paul/Ramsey County public health completed training for contractors to develop capacity for lead safe work practices.
- SRC and CLEARCorps conducted a wide array of community education and outreach activities targeted to diverse communities. These events frequently offered lead testing, which was coordinated with health plans.
- Minneapolis provided LSWP training to facilitate compliance with a city ordinance addressing chipping and peeling paint.
- MDH worked with the legislature and many partners in the lead compliance community to begin implementation of the EPA RRP rule.
- Minneapolis and SRC instituted a “Lunch and Learn” series (CEUs available) targeting clinics, nurses, physicians, and health plan administrators.

Appendix B

2009 Blood Lead Surveillance Report

Full document may be found at:

www.health.state.mn.us/divs/eh/lead/reports/surveillance/profile2009.pdf

Summary

The 2009 Blood Lead Surveillance Report describes the activities of the Minnesota Department of Health (MDH) Childhood Lead Poisoning Prevention Program (CLPPP) and the data resulting from the MDH Blood Lead Information System (BLIS) for the 2009 calendar year. The report contains a description of the trends in lead testing and elevated blood lead levels in Minnesota, and summarizes activities taking place in Minnesota to prevent childhood lead poisoning. Sections include background on BLIS, annual surveillance data for state-wide and county level assessments, assessments of special populations (Medicaid, Adults, Refugees), the MDH lead guidelines, and overviews of recent projects (St. Paul and Minneapolis contractor training, lead in venison).

The intent of this report is to provide information for lead poisoning prevention stakeholders in Minnesota, document activities of the CLPPP, and assist local efforts to prevent childhood lead poisoning, and is also a companion to the State of Minnesota plan to eliminate childhood lead poisoning.

MDH maintains a blood lead information system (BLIS) for the purpose of monitoring trends in blood lead levels in adults and children in Minnesota. Analyzing laboratories submit results to the MDH lead program, as mandated by Minnesota Statutes, section 144.9502. The data are used to help identify populations at risk for elevated blood lead levels (EBLLs), to help ensure that screening services are provided to groups identified as having the highest risk of lead poisoning and to ensure that environmental and medical follow up are provided to children with EBLLs.

The number of children tested for lead in Minnesota has been generally increasing since 1998, with approximately 95,000 children tested in 2009. The number of EBLL cases has continued to decrease. In 2009 there were 778 Minnesota children with blood lead levels of 10 µg/dL or greater, and 147 children had venous blood lead levels of 15 µg/dL or greater. In 1995 there were 4,339 Minnesota children with blood lead levels of 10 µg/dL or greater, and 977 children had venous blood lead levels of 15 µg/dL or greater.

Since not all Minnesota children have a high risk for lead exposure, targeted screening based on established risk factors is currently recommended for most areas of the state. Universal screening is currently recommended for children at one and two years of age, and children up to six years of age who have not previously been screened, for children living within the city limits of Minneapolis or St. Paul. The goal is to test all children at risk for exposure to lead.

Appendix C

Revision of the MDH Childhood Blood Lead Clinical Treatment and Case Management Guidelines: Report to the Legislature

Full document may be found at:

www.health.state.mn.us/divs/eh/lead/reports/index.html

Summary

Lead exposure at high levels (>10 micrograms of lead per deciliter of whole blood, $\mu\text{g}/\text{dL}$) has been shown to have an adverse effect on cognitive function in children. Mosby's Medical Dictionary defines cognitive function as “an intellectual process by which one becomes aware of, perceives, or comprehends ideas. It involves all aspects of perception, thinking, reasoning, and remembering.” There is growing evidence that exposure to lead at low levels (<10 $\mu\text{g}/\text{dL}$) may also have a negative effect on cognitive functioning in children. In response to concerns over the effects of low-level lead exposure in children, the 2009-2010 Legislature directed the Minnesota Department of Health (MDH) to revise clinical and case management guidelines to include recommendations for protective health actions and follow-up services when a child's blood lead level (BLL) exceeds 5 $\mu\text{g}/\text{dL}$.

Before making any revisions to the current clinical treatment and case management guidelines, MDH recruited an expert panel consisting of highly knowledgeable and experienced individuals in the areas of lead testing in children, management of lead poisoning cases, and lead hazard reduction. The expert panel included representatives from public health agencies, health plans, and a nonprofit organization specializing in lead abatement, a physician representing the Minnesota Medical Association, and key MDH staff.

The lead clinical and case management guideline revision meeting was held on November 10, 2010. All panel members agreed that as the level of lead exposure increases there is an increasingly negative effect on cognitive functioning in children and that there is no “safe” level of lead exposure. In addition, all panel members agreed that primary prevention (e.g., reducing lead hazards based on housing characteristics rather than blood lead testing) must be a priority to help reduce lead exposure in children.

Changes made to both sets of guidelines included adding new guidelines for BLLs between 5 and 9.9 $\mu\text{g}/\text{dL}$, and shifting some of the guidelines previously listed for all BLLs < 10 $\mu\text{g}/\text{dL}$ to a new category of all BLLs < 5 $\mu\text{g}/\text{dL}$. In addition, for the 5-9.9 $\mu\text{g}/\text{dL}$ range, a recommendation was added for a confirmatory venous test within 3 months to ensure that medical management is targeted only to those cases with confirmed lead exposure above 5 $\mu\text{g}/\text{dL}$.

The final format of the guidelines presented in this report is the result of a compromise between concerns over low-level lead exposure and concerns over the best use of limited resources. On balance, the new guidelines reflect, to the best extent possible, the diverse recommendations of the expert panel. The guidelines will be reviewed and endorsed by the Minnesota Medical Association and the Minnesota Nurses Association and then released for use by health care practitioners. While recommendations for test results < 10 $\mu\text{g}/\text{dL}$ are appropriate, it is critical to remember that results > 10 $\mu\text{g}/\text{dL}$ are, and should remain, the highest priority for medical and public health resources.

Appendix D

Lead Week 2010 Materials:

Governor's Proclamation for Lead Week

Poster used to promote St. Paul event

Posters used to promote Minneapolis event



STATE of MINNESOTA

Proclamation

- WHEREAS: Lead poisoning is an environmental health problem faced by children in Minnesota and nationwide; and
- WHEREAS: Even at relatively low levels, lead can slow a child's growth, damage hearing, cause behavior problems, and make it harder to concentrate or do well in school; and
- WHEREAS: The subtle health problems caused by lead poisoning often have no obvious symptoms in individual children and can be irreversible; and
- WHEREAS: The primary source of lead exposure for children continues to be lead-based paint, which is likely to be found in 69 percent of homes built between 1940 and 1960 and in 89 percent of homes built before 1940 in Minnesota; and
- WHEREAS: Minnesota has developed guidelines for screening children and pregnant women, managing lead poisoning cases, and treating lead poisoning; and
- WHEREAS: Minnesota has been a leader in lead hazard reduction, implementing lead safe work practices, raising awareness of the need for lead testing, and helping to work toward the national goal of eliminating childhood lead poisoning by 2010; and
- WHEREAS: The number of children receiving a blood lead test in Minnesota has tripled since 2000. In 2009 blood lead testing discovered 778 Minnesota children under the age of six with elevated blood lead levels; and
- WHEREAS: Increased awareness of childhood lead poisoning is critically important in helping parents, health care providers, housing authorities, building and construction interests, and educators work together to prevent children from being exposed to lead.

NOW, THEREFORE, I, TIM PAWLENTY, Governor of Minnesota, proclaim the week of October 3 - 9, 2010, to be:

CHILDHOOD LEAD POISONING PREVENTION WEEK

in the State of Minnesota.

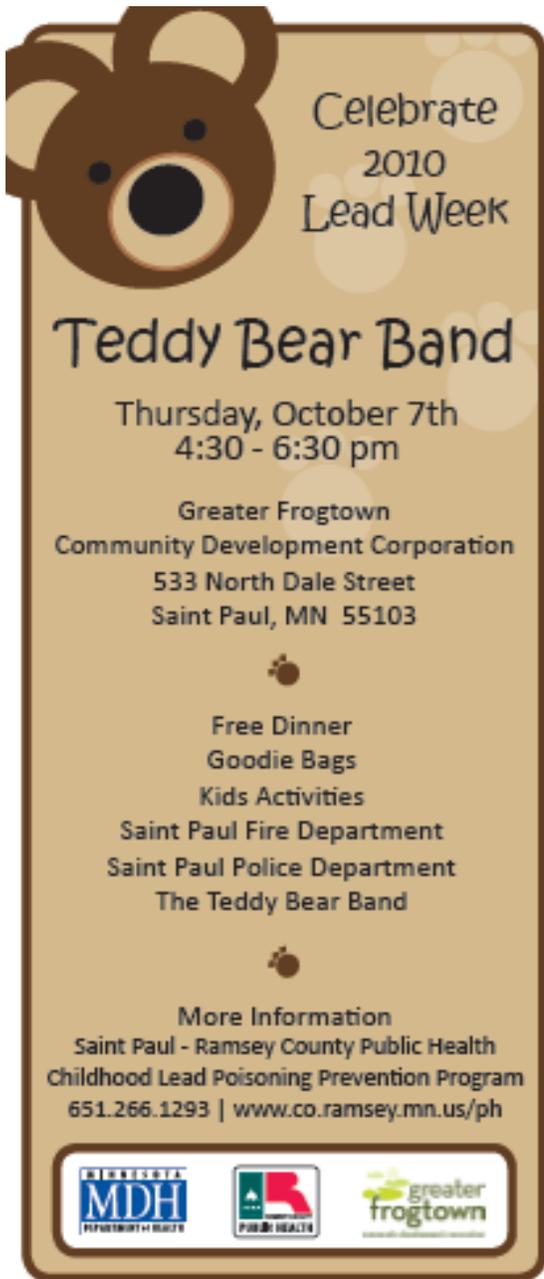


IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Minnesota to be affixed at the State Capitol this fifth day of October in the year two thousand and ten, and of the State the one hundred fifty-second.


GOVERNOR



SECRETARY OF STATE



The flyer to the left was distributed by St. Paul/Ramsey county public health to advertise the Lead Week event.

The event was designed to:

1. Engage with local community partners to stage an event between October 5-8, 2010 that raises awareness of the national goal of eliminating lead poisoning and primary prevention activities using a variety of media;
2. Provide educational material and other health promotion items to encourage parents to take steps to protect their children from exposure to lead;
3. Emphasize the progress made in the past decade in increasing screening rates and reducing elevated blood lead tests being reported to MDH;
4. Introduce the concept of “healthy homes” to residents and policy makers;
5. Recruit highest risk populations (e.g., children less than 72 months old; pregnant women; families on medical assistance or living in homes built before 1978) to attend; and
6. Create a welcoming environment for families and high-risk populations to gather, interact with each other, and learn about lead poisoning prevention and healthy homes strategies.

The flyers on the following pages were distributed by the Minneapolis Department of Health and Family Support. The goals of the event were identical to those listed for St. Paul/Ramsey county above.

Both events were attended by over 100 members of the community and evaluated (by City staff) to be a great success.

Keeping Minneapolis' Children Lead-Free



Lead paint poisoning affects
over one million children today.

If your home was built before 1978, visit leadfreekids.org.



A Celebration of a Decade of Lead Poisoning Prevention Efforts

October 6, 2010

4:30 – 6:30 p.m.

Harrison Community Center

503 Irving Ave. N. • Minneapolis 55405

There will be fun family activities:

live music, blood lead screenings, hands on activities, and much more!!!

Dinner will be provided

Door prizes and raffle prize will be awarded!!

For more information call (612-673-3207) or e-mail angela.hackel@ci.minneapolis.mn.us



Sponsored by: The City of Minneapolis' Department of Health and Family Support and Regulatory Services; Hennepin County Department of Housing; Community, Works, and Transit; Minnesota Department of Health; Environmental Justice Advocates of Minnesota; ClearCorps USA; Southeast Asian Community Council; and Sustainable Resources Center.

If you need this material in an alternative format call 612-673-2162 or email Ahmed.Muhumud@ci.minneapolis.mn.us.

Deaf and hard-of-hearing persons, use a relay service to call 311 at 612-673-3000. TTY call 612-673-2157 or 612-673-2626.

Attention. If you have any questions regarding this material please call 311. **Hmong - Ceeb toom.** Yog koj xav tau kev pab bhrals cov xov no rau koj dawb, hu 612-673-2800. **Spanish - Atención.** Si desea recibir asistencia gratuita para traducir esta información, llame 612-673-2700. **Somali - Ogow.** Haddi aad dooneysa in laga kaalmeyo tarjammada macluumaadkan oo laag la' aan wac 612-673-3600.

Mantener a los niños de Minneapolis Libres de Plomo



Envenenamiento por Pintura con Plomo afecta hasta el día de hoy a mas de un millón de niños.

Si su casa fue construida antes de 1978, visite la página de internet: leadfreekids.org.



La celebración de una década de esfuerzos para la prevención del plomo

6 de Octubre, del 2010

4:30 – 6:30 p.m.

Harrison Community Center

503 Irving Ave. N. • Minneapolis 55405

Habrà actividades de diversión para las familias:

Música en vivo, exámenes para detector si hay plomo en la sangre, actividades, y mucho más!!!

Habra Comida.

Habrà regalos en la entrada y también habrá rifa de premios!!

Para más información llame al (612-673-3207) ó mande un correo electrónico a: angela.hackel@ci.minneapolis.mn.us



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Ka illaalinta carruurta Minneapolis khatarta sunta naxaasta ee dhiiga (lead poisoning)



Carruur ka badan hal milyan ayaa laga helay naxaasta rinjiga (lead poisoning) waqtigan la joogo.

Hadii gurguugu u yahay mid la dhisooy kahor 1978, boqo leadfreekids.org.



Dabaaldega sannadkii tobnaad ee dadaalka ka hortaga sunta naxaasta ee dhiiga oo laqaban doona

Octoobar 6, 2010

4:30 – 6:30 p.m. (Galabniimo)

Xarunta Bulshada ee Harrison

503 Irving Ave. N. • Minneapolis 55405

Dhacdooyin maaweelo u leh qoysaska:

Muusik, baaris sunta naxaasta ee dhiiga, iyo dhacdooyin kale ee badan!!!

Casho ayaa la bixin doona

Abaal-marin iyo raffle (tigidho hal shay lagu helayo oo dad badan laga gado).

Wixii war-bixin dheeraad ah wac (612-673-3207) ama e-mail u dir angela.hackel@ci.minneapolis.mn.us



Sponsored by: The City of Minneapolis' Department of Health and Family Support and Regulatory Services; Hennepin County Department of Housing, Community, Works, and Transit; Minnesota Department of Health; Environmental Justice Advocates of Minnesota; ClearCorps USA; Southeast Asian Community Council; and Sustainable Resources Center.

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Pab Lub Nroog Minneapolis Me Nyuam Kom Tsis Txhob Muaj Hmoov Txhuas



Cov hmoov txhuas uq rau ib lab me nyuam muaj mob.

Yog koj lub vaj tsev lau npoog ua ntej 1978, mus xyuas qhov website ntawm leadfreekids.org



Ua Kev Zoo Siab Vim Tiv Thaiv Hmoov Txhuas Tau Kaum Xyoo

10 hli tim 6, 2010

4:30-6:30 teev tsaus ntuq

Harrison Community Center

503 Irving Ave. N. • Minneapolis 55405

Yuav muaj kev lom zem rau sawv daws

Kev lom zem, kuaj ntshav, khoom ua si thiab ntaus yam ntxiv!!!

Yuav muaj zaub mov rau sawv daws

Yuav muaj khoom plig

Yog xav paub ntiv, hu (612-673-3207) los yog sau email rau: angela.hackel@ci.minneapolis.mn.us



Sponsored by: The City of Minneapolis' Department of Health and Family Support and Regulatory Services; Hennepin County Department of Housing, Community, Works, and Transit; Minnesota Department of Health; Environmental Justice Advocates of Minnesota; ClearCorps USA; Southeast Asian Community Council; and Sustainable Resources Center.

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