



Protecting, maintaining and improving the health of all Minnesotans

April 18, 2014

Dr. Brenda Cassellius
Education Commissioner
Minnesota Department of Education
1500 Highway 36 West
Roseville, MN 55113

"Alone we can do so little. Together we can do so much."

Helen Keller

Dear Dr. Cassellius:

I would like to inform you of an important change in the definition of an elevated blood lead level. The effects of exposure to lead, including IQ deficits and attention-related behaviors, continue to affect the educational achievement of Minnesota children.

I recently issued a finding that modified the definition of an elevated blood lead level in Minnesota Statutes, section 144.9501, subdivision 9, from 10 micrograms of lead per deciliter of whole blood ($\mu\text{g}/\text{dL}$) to 5 $\mu\text{g}/\text{dL}$ of whole blood. The new definition gives MDH and local public health agencies the authority to ensure that lead hazards are addressed for more families that are affected by lead. This change was based on new scientific evidence demonstrating adverse cognitive and physiological outcomes associated with blood lead concentrations less than 10 $\mu\text{g}/\text{dL}$; we now know that no measurable level of blood lead is without negative effects.

Thanks to a multilateral effort, the number of children with blood lead levels above 5 $\mu\text{g}/\text{dL}$ has decreased more than 70% in the past decade. However, thousands of Minnesota families are still impacted by lead every year.

Together, we can improve the health and educational outcomes for children by preventing lead exposure and addressing the needs of children who have been exposed to lead. If you have any questions, please feel free to contact Stephanie Yendell at 651-201-4894 or stephanie.yendell@state.mn.us. Thank you for the work of your department to address the educational needs of children affected by lead in Minnesota.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward P. Ehlinger", is written over a white background.

Edward P. Ehlinger, MD, MSPH
Commissioner
P.O. Box 64975
St. Paul, MN 55164-0975

Enclosure: Finding of the Commissioner of Health

**In Re: Definition of Elevated Blood Lead Level
Under Minnesota Statutes, Section 144.9501,
subdivision 9**

**FINDING OF THE
COMMISSIONER OF HEALTH**

FINDINGS

1. Exposure to lead has long been associated with IQ deficits, attention-related behaviors, and decreased academic achievement among children. Cardiovascular, immunological, and endocrine effects have also been reported.
2. Children less than six years old are most vulnerable to lead's toxicity due to their growing bodies, nutritional needs, normal mouthing behavior, and routinely spending time on the floor. Pregnant women and the developing fetus are also at risk because lead easily passes through the placenta to the fetus. Certain populations, including children enrolled in medical assistance programs, refugees, and immigrants, are at increased risk of lead poisoning.
3. There are many sources of lead, such as soil contaminated from years of leaded gasoline, lead dust accidentally brought home from parents' workplaces and hobby areas, and some imported products and traditional remedies. However, dust from deteriorated lead paint in homes is the main source of lead exposure for Minnesota children today.
4. The Minnesota Department of Health (MDH) collaborates with other agencies and groups to respond to elevated blood lead levels and support primary prevention of lead poisoning. These partnerships include local public health agencies, the medical community, and community organizations that receive Swab Team Services Grants, which are authorized under Minnesota Statutes, section 144.9512.
5. Minnesota Statutes, section 144.9501, subdivision 9, defines an "elevated blood lead level" as a diagnostic blood lead test with a result that is equal to or greater than ten micrograms of lead per deciliter of whole blood in any person, *unless the commissioner finds that a lower concentration is necessary to protect public health* [emphasis added].
6. Through a coordinated, multilateral public health effort, the number of children under six years of age with measured blood lead concentrations of at least ten micrograms per deciliter has decreased more than 80%, from 4,339 in 1995 to 527 in 2012. However, these numbers underestimate the thousands of Minnesota families that are still impacted by lead every year.
7. New scientific evidence has demonstrated adverse cognitive and physiological outcomes associated with blood lead concentrations less than ten micrograms per deciliter.

8. The Centers for Disease Control and Prevention (CDC) has acknowledged that no measureable level of blood lead is known to be without deleterious effects, and the effects of lead appear to be irreversible in the absence of any other interventions.
9. CDC currently recommends the use of a reference value for prioritizing the distribution of public health resources to respond to lead exposure, where a reference value is the 97.5th percentile of blood lead concentrations in the population.
10. Based on the National Health and Nutrition Examination Survey (NHANES), the current blood lead concentration reference value for children less than six years of age in the United States is five micrograms per deciliter.
11. MDH has a public health interest in preventing lead poisoning. Decreasing the threshold for blood lead concentrations that are considered elevated will give MDH and local public health agencies the authority to provide additional services to families that are affected by exposure to lead, but do not meet the current definition of an elevated blood lead level.
12. A change in the threshold for blood lead concentrations that are considered elevated will not alter Minnesota Statutes, section 144.9504, subdivision 2, which identifies the conditions under which an assessing agency shall conduct a lead risk assessment. Assessing agencies may still conduct lead risk assessments for children with any elevated blood lead level, within the limits of available local, state, and federal appropriations.
13. MDH guidelines for preventing childhood lead poisoning, which are assessed and updated regularly in collaboration with a range of partners to ensure consistency with recent scientific literature, indicate a number of steps for finding and responding to blood lead test results less than ten micrograms per deciliter.
14. The elimination of elevated blood lead in children is a goal at both the state and federal levels, through the State of Minnesota Childhood Lead Poisoning Elimination Plan and Healthy People 2020, respectively.

CONCLUSION

The threshold for an “elevated blood lead level”, as defined in Minnesota Statutes, section 144.9501, subdivision 9, of a diagnostic blood lead test with a result that is equal to or greater than ten micrograms of lead per deciliter of whole blood in any person is insufficient to protect public health and is not consistent with current best practices.

FINDING

I FIND THAT in order to protect public health, the definition of an “elevated blood lead level”, as defined in Minnesota Statutes, section 144.9501, subdivision 9, shall be modified to be a diagnostic blood lead test with a result that is equal to or greater than five micrograms of lead per deciliter of whole blood in any person.

Dated: 4/16, 2014
Saint Paul, Minnesota



Edward P. Ehlinger, M.D., M.S.P.H.
Commissioner of Health
State of Minnesota

REFERENCES

Information in this declaration is based on comprehensive reviews of the literature written by the CDC Agency for Toxic Substances and Disease Registry and CDC Advisory Committee on Childhood Lead Poisoning Prevention. State-specific information was derived from the MDH 2011–2012 Blood Lead Surveillance Report.

1. Agency for Toxic Substances and Disease Registry. Toxicological profile for lead. Atlanta, GA: US Department of Health and Human Services, CDC, Agency for Toxic Substances and Disease Registry; 2007. Available at <http://www.atsdr.cdc.gov/toxprofiles/tp13.pdf>.
2. CDC Advisory Committee on Childhood Lead Poisoning Prevention. Low level lead exposure harms children: a renewed call for primary prevention. Atlanta, GA: US Department of Health and Human Services, CDC; 2012. Available at http://www.cdc.gov/nceh/lead/acclpp/final_document_030712.pdf.
3. MDH Childhood Lead Poisoning Prevention Program. 2011–2012 Blood Lead Surveillance Report. St. Paul, MN: MDH; 2013.
4. MDH Childhood Lead Poisoning Prevention Program. State of Minnesota Childhood Lead Poisoning Elimination Plan. St. Paul, MN: MDH; 2010.
5. U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. Washington, DC. Available at <http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicId=12>.