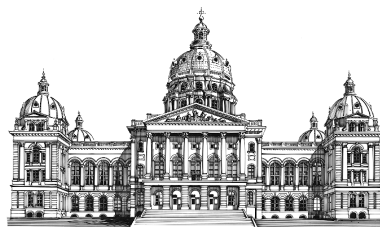

Iowa Legislative Fiscal Bureau

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Childhood Lead Poisoning and Prevention

ISSUE

This *Issue Review* examines the rate of lead poisoning in Iowa's children and includes fiscal details of statewide prevention efforts.

AFFECTED AGENCIES

Iowa Department of Public Health

CODE AUTHORITY

135.101 Code of Iowa

BACKGROUND

Definitions

Micrograms – equivalent to one millionth of a gram

Deciliter – equivalent to one tenth of a liter

10 micrograms per deciliter – This refers to 10 micrograms of lead per deciliter of blood. A child with this blood lead level is considered to be lead poisoned.

Venous – This refers to blood taken from a vein.

According to the Federal Centers for Disease Control and Prevention, "Lead Poisoning is one of the most common and preventable pediatric health problems today." A child is considered to be lead poisoned when the venous blood lead level measures 10 micrograms of lead per deciliter of blood. While there is no threshold for the adverse health effects of lead, 10 micrograms per deciliter was chosen by the Federal Centers for Disease Control and Prevention since at that level, health effects can start to become significant and it is recommended that action be taken to keep the blood lead level from increasing.

The most common source of lead poisoning for children is lead-based paint. Lead-based paint is typically found in older homes, most often in homes built prior to 1960. Lead-based paint becomes a hazard if it is on an accessible, friction, or impact surface, or if it is on any

surface where the paint is loose, chipping, cracking, peeling, flaking, chalking or otherwise deteriorating.

Children are most often the victims of lead poisoning as a result of lead-based paint since they tend to explore their environment with their hands and their mouths. This can lead to the child coming into contact with the lead-based paint and thus becoming poisoned. Lead has adverse health effects on nearly all organs in the body. It is especially harmful to the developing brain and nervous system of children under the age of 6 years. While adverse health effects and even death can result from lead poisoning, most lead-poisoned children demonstrate no visible symptoms. This places an importance on prevention efforts.

Three of the most common prevention efforts include:

- Screening children.
- Removal or repair of lead-based paint.
- Education for parents about lead poisoning and prevention.

The Federal Centers for Disease Control and Prevention have recommended that:

- Children be screened with a blood test.
- Risk of lead poisoning be assessed through a questionnaire.
- High-risk and low-risk children be screened starting at the age of 12 months.
- High-risk children be tested frequently up to the age of six.

Lead poisoning in Iowa first became a significant issue in the 1970's. In the middle to late 1970's, the United States Public Health Service conducted limited screening surveys to look for childhood lead poisoning problems in Sioux City and Cedar Rapids. In Sioux City in 1979, 85 children were tested and 22 (26.0%) had blood lead levels greater than or equal to 10 micrograms per deciliter. In Cedar Rapids, 148 children were tested in 1978 and 19 of these children (13.0%) had elevated blood lead levels.

As a result of these screening surveys, the cities of Burlington, Des Moines, and Ottumwa, and Linn and Scott counties received funding from the Centers for Disease Control and Prevention from approximately 1979 through 1983 to establish childhood lead poisoning prevention programs. Approximately 30,000 children were tested for lead poisoning by these programs. Federal funding for this program ended in 1983.

In 1985, the Iowa Department of Public Health screened 2,143 two-year-old children enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) to determine the extent of childhood lead poisoning statewide. At that time, a less accurate method of testing was used. However, 118 of these children (5.5%) had blood lead levels greater than or equal to 10 micrograms per deciliter. The children with elevated blood lead levels resided in both small and large communities across the State of Iowa. When homes of these children were inspected, deteriorated lead-based paint was found to be the major source of lead poisoning. As a result of this survey, the Iowa Legislature established the Lead Abatement Program in 1986 within the Iowa Department of Public Health. The name of the Program has since been changed to the Childhood Lead Poisoning Prevention Program. The intent of the Program was to provide matching funds to local county or city boards of health for the purpose of developing local lead poisoning prevention programs. Prior to 1992, funds were used to start programs in Black Hawk County, Polk County, and the city of Council Bluffs.

In 1990, the Centers for Disease Control and Prevention again provided federal funding for childhood lead poisoning prevention programs and funding was made available primarily to states rather than to cities or counties. The Iowa Department of Public Health applied unsuccessfully for

these funds in 1990 and 1991. However, in 1992, the Department applied for and received \$310,000 in federal funding. This marked the first year of statewide prevention efforts.

CURRENT SITUATION

According to the 1990 United States Census, there are approximately 231,000 children under six years old in Iowa. Each year, approximately 25,000 (10.8%) children under age six are screened for childhood lead poisoning. These screenings have identified at least 12.0% to 14.0% of the children tested as being lead poisoned. The latest data shows the incidence of lead poisoning among Iowa's children is three times the national average (**Attachment A**).

One of the main factors behind Iowa's high incidence of lead poisoning in children is that Iowa contains a large percentage of older housing. When compared to the nation, Iowa ranks 6th in the number of pre-1960, pre-1950, and pre-1940 housing. In Iowa, 56.0% of the housing in the State was built before 1960, 43.0% of the housing was built before 1950, and 35.0% was built prior to 1940.

The main functions of local prevention programs include:

- Assuring that children are tested for lead poisoning
- Providing blood testing for children when funding is available
- Environmental and medical case management of lead-poisoned children
- Education and outreach regarding childhood lead poisoning
- Management of blood lead testing data and data regarding case management activities

Attachment A shows the counties that currently have local prevention programs and the percentage of children by county, born between 1992 and 1996 that were tested and identified as being lead poisoned.

Children are screened for lead poisoning through a blood test. The blood lead level reading helps determine the appropriate course of action to prevent further poisoning. Preventative measures may include:

- Screening the child on a regular basis
- Providing education to parents
- Requiring a complete medical examination of the child
- Performing an environmental investigation to determine the source of lead poisoning and efforts to ameliorate the problem
- Undergoing chelation therapy, a process that extracts lead from the blood

Problems to strengthening prevention may include:

- Lack of funding to expand and maintain local prevention programs in all counties
- Lack of education and understanding of lead poisoning
- No statewide requirements that hazards be repaired or repainted when a child is lead poisoned
- No statewide program or resources to make home repairs to prevent childhood lead poisoning

BUDGET IMPACT

Table 1 below provides a five-year history of the federal and State funding for the Childhood Lead Poisoning Prevention Program in the Department of Public Health and the general expenditures of the Program. Since FY 1997, the number of counties with local lead poisoning prevention programs has increased by 13 counties (22.4%) while State and federal funding to the Iowa Department of Public Health Childhood Lead Poisoning Prevention Program has decreased \$38,000 (3.6%). In FY 2001, the Program will receive a \$77,000 grant from the Wellmark Foundation. This funding will help allow the Childhood Lead Poisoning Prevention Program to start local programs in Henry, Lyons, Mills, O'Brien, Osceola, Sioux, and Taylor counties.

**Table 1
Funding for Childhood Lead Poisoning Prevention Program**

Fiscal Year	Federal Funds	State Funds	Number of counties funded	Dollars Contracted	IDPH Direct Services	Administration & Support
1997	\$802,799	\$75,000	46 Old 12 New	\$436,940 to counties	\$340,859	\$100,000
1998	\$738,315	\$39,547	58 Old 3 New	\$374,542 to counties \$89,889 lab services	\$213,431	\$100,000
1999	\$800,000	\$39,547	61 Old 3 New	\$587,662 to counties \$103,345 lab services	\$74,225	\$74,225
2000	\$750,000	\$39,547	64 Old 0 New	\$544,725 to counties \$75,000 lab services	\$84,911	\$84,911
2001*	\$800,000	\$39,547	64 Old 7 New	\$617,000 to counties \$100,000 lab services	\$99,774	\$99,774

*Expenditures reflect an additional \$77,000 received from Wellmark Foundation.

The goal of the Childhood Lead Poisoning Prevention Program is to expand local prevention programs to all of Iowa's 99 counties. Currently, there are 28 counties in Iowa that do not have local lead poisoning prevention programs. The Department of Public Health estimates that it will cost an average of \$17,000 per county to start a new local prevention program. However, since new programs require a significant amount of technical support from the Department, the Department recommends that 9 new programs be started per year. This would make the start up cost for 9 counties approximately \$153,000 per year. The cost to maintain the new programs will vary from an average of \$8,000 for a county with a small population to \$13,000 for a county with a large population. The seven new programs already started in FY 2001 are in counties with small populations. It will cost a total of \$56,000 to maintain these programs. The 28 counties without local programs have large populations and will require an average of \$13,000 per county to maintain. **Table 2** below provides the Department of Public Health estimate of the cost to expand the Program as recommended by the Department.

**Table 2
FY 2002 Funding Estimates to Expand/Maintain Local Programs**

Restores funding for original 64 counties*	\$ 100,000
Maintenance funding for 7 new counties created in FY 2001	56,000
Start up funding for 9 new counties in FY 2002	153,000

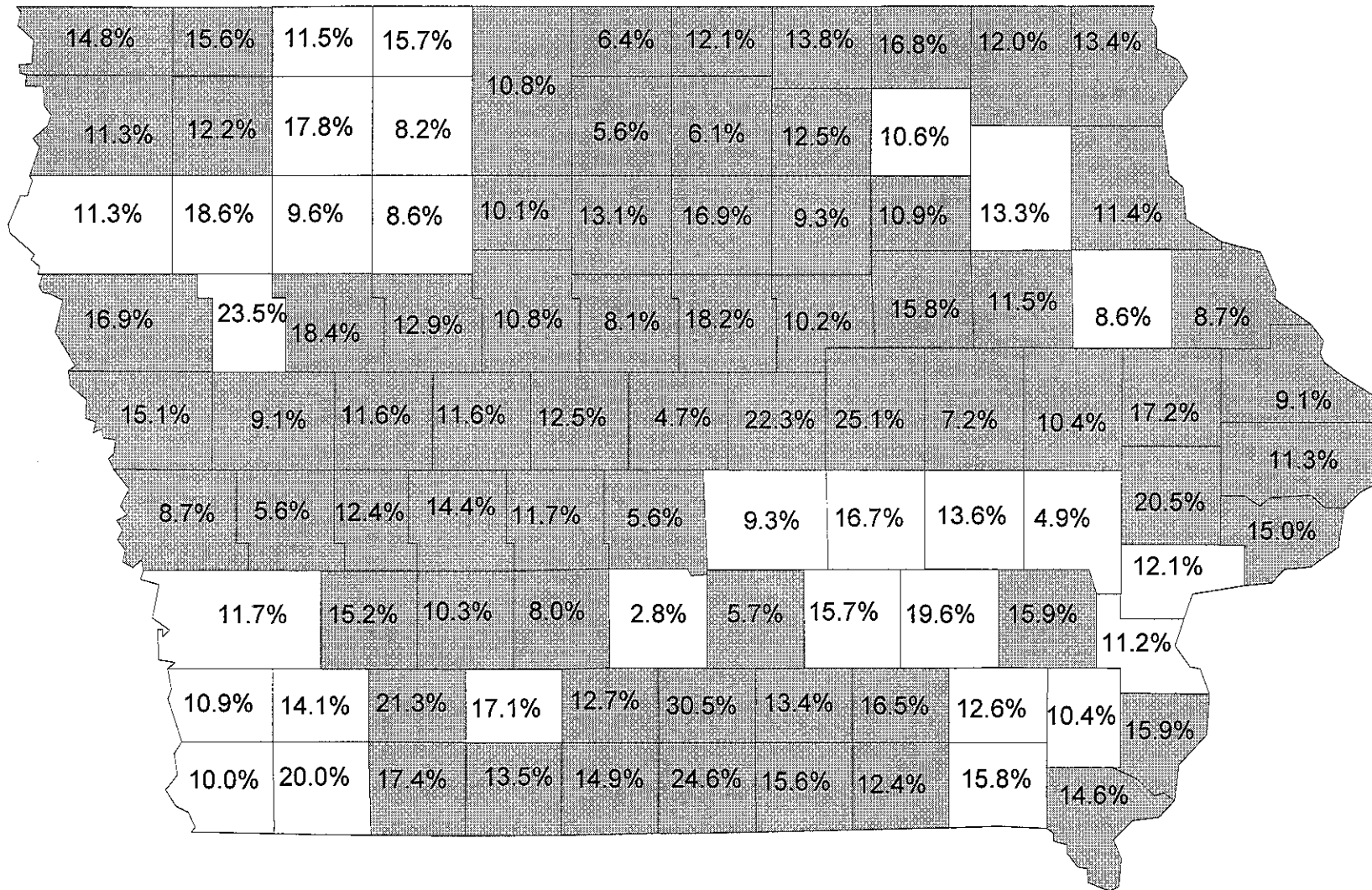
Current State annual appropriation	39,000
Total State funding FY 2002	\$ 348,000

* Funding to these counties was reduced to start new programs.

Total State funding required for FY 2003, FY 2004, and FY 2005 would be \$465,000, \$599,000 and \$559,000 respectively. After FY 2005, all counties would have local lead poisoning prevention programs. In FY 2006 and subsequent fiscal years, a General Fund appropriation of \$559,000 would be needed to maintain all the local programs.

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Percentage of Iowa Children Born 1/1/92 - 12/31/96 Tested and Identified As Lead Poisoned



The National average was 4.4%. The State average was 12.6%. The National average is from Phase II of the National Health and Nutrition Examination Survey gathered in 1991-1992. The local lead prevention programs exist in the shaded counties.