

# **Childhood Lead Poisoning in Chemung County: Building Local Capacity and Coalitions**

## **Final Report**

Prepared by:

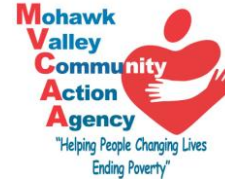
Katrina Smith Korfmacher, PhD and Valerie George  
University of Rochester, Environmental Health Sciences Center  
601 Elmwood Avenue, Box EHSC  
Rochester, NY 14642

January 31, 2009

This project was supported by New York State Health Foundation grant number SOG1-1935251



Cornell University  
Cooperative Extension  
Cayuga County



This work was assembled by the University of Rochester Environmental Health Sciences Center with help from our community partners: Rochester Coalition to Prevent Lead Poisoning, Catholic Charities of Chemung County, Cayuga County Cornell Cooperative Extension and Mohawk Valley Community Action Agency (Oneida County).



Support for this work was provided by the New York State Health Foundation (NYSHealth). The mission of NYSEHealth is to expand health insurance coverage, increase access to high-quality health care services, and improve public and community health. The views presented here are those of the authors and not necessarily those of the New York State Health Foundation or its directors, officers, or staff.

## EXECUTIVE SUMMARY

Lead poisoning is one of the most significant environmental threats to children's health in upstate New York. Even at low levels, lead poisoning can make it difficult for children to learn, contribute to behavioral problems, and cause medical problems later in life. While there are many possible sources of lead exposure, the most common problem for children is being exposed to dust, soil, or paint containing lead in older housing (pre-1978).

This report is the final step in a year-long project to support community participation in and development of local coalitions to prevent childhood lead poisoning in Cayuga, Chemung, and Oneida Counties. The project was sponsored by the New York State Health Foundation and coordinated by the University of Rochester with local partners in the three counties. These partners were the Rochester Coalition to Prevent Lead Poisoning (CPLP), the University of Rochester's Environmental Health Sciences Center (EHSC), Catholic Charities of Chemung County (CCC), Mohawk Valley Community Action Agency (MVCAA), and the Cayuga County Cornell Cooperative Extension. This report provides a summary of data on childhood lead poisoning in Chemung County, description of the coalition building and directed action conducted as part of this project, and recommendations for next steps.

The goal of the project was to create a statewide model of lead coalition building. The objective was to use the lessons learned by the Rochester-based Coalition to Prevent Lead Poisoning (CPLP) over the past eight years to support Catholic Charities' efforts in Chemung County. The CPLP has worked with community, government, and academic partners to promote lead poisoning prevention through a variety of educational, direct action, financial, and policy strategies.

This report is based on publicly available screening and elevated blood lead level data from the New York State Department of Health. 2000 Census data was used to highlight areas of high lead poisoning risks. Catholic Charities and Chemung County Health Department staff helped provide an overview of existing efforts to prevent childhood lead poisoning in Chemung County. The local partners' coalition-building activities are summarized in this report. Recommendations for next steps, also summarized, were developed through discussions between University of Rochester staff and local partners.

State Health Department data show that in 2005, 1.89% of the children screened for lead in Chemung County were newly identified with elevated blood lead levels (EBL). This is above the state incidence of 1.18%. There are also local areas with higher rates, including zip code 14901, which has the 65<sup>th</sup> highest incidence rate of all zip codes in the state. Chemung County has a historically weak record of screening children for lead poisoning, but it has improved recently. The county had the second lowest statewide testing rate of children under age six in 2003. However in 2005, Chemung County had the 7<sup>th</sup> highest rate of screening at least twice by the age of 36 months for children born in 2002.

Through this project, Catholic Charities of Chemung County worked to provide education and outreach related to primary prevention of and blood screening for childhood lead poisoning. Catholic Charities convened a new lead coalition including over 25 city and county government staff, religious organizations, community groups, educators, and health care providers. Catholic Charities convened this coalition five times throughout the year to learn about, coordinate and promote lead poisoning prevention efforts in the county. In addition, Catholic Charities staff did direct outreach including distribution of lead information through coalition partners and at community events, door-to-door outreach in target areas, outreach to landlords, and active support for improved statewide lead poisoning prevention policies. Catholic Charities intends to continue this work over the next year as resources allow.

This report documents the current status of efforts to reduce childhood lead poisoning in Chemung County. It is intended to provide a foundation for future projects, planning, and education by local partners or interested others.

## ACKNOWLEDGEMENTS AND COMMENTS

We would like to thank the individuals and organizations that provided data for and feedback on earlier drafts of this report. In particular, the authors would like to thank the following individuals and organizations for their assistance in preparing this report:

- Catholic Charities of Chemung County
- Chemung County Department of Public Health

Although we received input from many individuals, statements made in this report are solely those of the authors.

We welcome comments on this report, which may be sent by email to: [Katrina\\_korfmacher@urmc.rochester.edu](mailto:Katrina_korfmacher@urmc.rochester.edu) (University of Rochester) or to Marilyn Terkoski at Catholic Charities of Chemung County ([MTerkoski@dor.org](mailto:MTerkoski@dor.org))

Or by mail to:

Katrina Smith Korfmacher, PhD/ Valerie George  
University of Rochester, Environmental Health Sciences Center  
601 Elmwood Avenue, Box EHSC  
Rochester, NY 14642

Marilyn Terkoski  
Catholic Charities of Chemung County  
Suite 100  
215 East Church Street  
Elmira, NY 14901

## INTRODUCTION

Lead poisoning is the most significant children’s environmental health threat in New York State. Despite nation-wide decreases in lead poisoning rates, rates remain high in upstate New York, particularly among low-income children living in older housing.

This report summarizes existing data related to lead poisoning in Chemung County in order to characterize the nature of the problem. It provides an overview of existing policies, programs, and organizations working to prevent lead poisoning in Chemung County. Third, it identifies approaches and strategies that might be effective in preventing lead poisoning in the future. This report concludes with recommendations for next steps for lead poisoning prevention efforts in Chemung County.

## THE PROBLEM OF CHILDHOOD LEAD POISONING

While lead was identified as a health hazard decades ago, our understanding of the extent of harm it causes, even at low levels, has continued to grow. Below, we provide a brief summary of the effects of lead, sources of exposure to lead, the extent of the problem, and approaches to preventing lead poisoning. This report provides only a brief introduction to these issues; Table 1 provides a list of several New York State and national sources of additional information about lead.

**Table 1: Sources of lead information**

Sources of Lead Information
• New York State Department of Health, <a href="http://www.health.state.ny.us/">www.health.state.ny.us/</a> , 518-474-2011
• U.S. Environmental Protection Agency, <a href="http://www.epa.gov/lead/">www.epa.gov/lead/</a> , 1-800-424-LEAD
• U.S. Department of Housing and Urban Development, <a href="http://www.huduser.org/picture2000/">www.huduser.org/picture2000/</a> , 1-800-245-2691
• Centers for Disease Control, <a href="http://www.cdc.gov/nceh/lead/">www.cdc.gov/nceh/lead/</a> , 1-800-CDC-INFO
• National Center for Healthy Housing, <a href="http://www.nchh.org">www.nchh.org</a> , 410.992.0712
• Alliance for Healthy Homes, <a href="http://www.afhh.org">www.afhh.org</a> , 202- 739-0882

### Medical effects

Lead is a toxin that affects the brain, heart, bones, and kidneys. Lead poisoning occurs when lead enters the body, usually through swallowing paint, dust, or soil that contains lead. The effects of lead poisoning are irreversible. Although lead poisoning cannot be treated, it can be prevented by reducing exposure to lead.

Lead has a larger impact on children than adults because their brains and bodies are actively growing. Even low amounts of lead in children’s bodies can cause learning and behavioral problems, often with no physical symptoms. Lead poisoning may result in a lower IQ, difficulty paying attention, and delinquent behavior. Public health guidelines state that the “level of concern” for blood lead levels (BLL) is 10 mcg/dL (micrograms per deciliter, also written µg/dL). However, medical research has shown that lower levels of lead in the blood can also be harmful (Canfield, 2003).

Although lead poisoning in children is of greatest concern, lead has negative effects on adults as well. Because lead affects all organ systems and is stored in the bones, adults may be affected by past lead exposure or by ongoing exposure, usually from workplaces or hobbies. It is important to note that pregnant mothers can pass lead to their babies.

## **Societal costs**

Lead poisoning can cause serious problems for the exposed individual and their family. In addition, because of lead's wide ranging impacts on the human body, lead exposure poses significant costs to all of society. Children who are lead poisoned are more likely to need medical care, special education, and early intervention services than other children – all of these services are subsidized by taxpayer dollars. In addition, as adults they are more likely to have health problems and engage in criminal behavior. Lead is thought to decrease IQ, and lower IQ is correlated with a lower earning potential later in life. Thus, lead can cause lead poisoned children to need more support and earn less throughout their lives.

It is difficult to estimate these costs because many of them are intangible, indirect, or difficult to measure. One approach to estimating social costs that considered only the cost of lowered IQ calculated that lead reduced each birth cohort of U.S. children's lifetime earning potential by 43.3 billion dollars (Landrigan et al. 2002). By another estimate, lead reduced the lifetime earning potential of children born in one year (2002) in New York by close to \$3 billion in current dollars (Landrigan, 2002). Using the same method, the lost future income by the 1,091 children born in Chemung County in 2001 was over 12 million dollars.

Because the costs of controlling lead hazards (discussed below) are immediate and concrete, they are more frequently cited than are the less visible costs of lead poisoning to society.

## **Sources of lead hazards**

Homes built before 1978 may contain hazardous levels of lead in dust, paint, and soil. While lead was banned in paint in 1978, the majority of all lead paint is in units built before 1960; those built before 1950 have the highest risks.

Lead may be released into the environment from deteriorated leaded paint, friction or impact, or unsafe home renovations. Even if older leaded paint is covered by non-leaded paint, friction (from windows and doors opening and closing) and repeated impacts (such as walking on painted floors or stairs) may create leaded paint chips or dust. If "lead safe work practices" (LSWP) are not used when disturbing leaded paint (for example, during home renovations), leaded dust can be released into the home environment, potentially creating a severe hazard. Lead can also be found in some jewelry, toys, home remedies, ceramics, candy, or water pipes, but these are not significant sources of lead exposure for children in New York State. Most EBL children in New York have been exposed to lead in older housing.

## **Lead hazard assessment and control**

Years of research and experience have contributed to standardized approaches to cost-effectively controlling lead hazards. The costs of these control methods can vary from minimal (such as wet scraping and painting) to more expensive (window replacement). The perceived costs of lead hazard control are one of the main barriers to addressing lead hazards in most areas; however, depending on the nature and extent of hazards control costs may be quite affordable. Also, it is essential that lead hazard controls be done by properly trained workers using appropriate lead safe work practices. This section summarizes the various approaches and costs involved.

In a case of unlimited resources, it would be ideal to have a complete lead paint inspection to inventory all the surfaces in each home that contain lead, and a risk assessment to guide treatment of these hazards. However, given the expense of lead paint inspections and risk assessments, this is often not feasible. Below, we summarize the most common approaches to finding, fixing, and maintaining controls on lead hazards.

## Finding lead hazards

One of the challenges in controlling lead hazards is that it may be difficult and/or expensive to document lead hazards. It is impossible to tell from looking at paint, dust, or soil whether or not it contains lead, and whether or not this poses a hazard. The federal government has developed a variety of protocols, tools, and techniques for documenting lead risks in housing:

*Risk assessment:* A risk assessment identifies lead based paint hazards (for example, deteriorated lead based paint, lead in dust, or contaminated bare soil) and provides a range of options for safely addressing these hazards using appropriate treatments. This must be done by an EPA-certified Risk Assessor using an XRF (x-ray fluorescence) analyzer, dust wipes and soil samples, and costs around \$400.

*Visual assessment:* A visual inspection is a thorough examination of all interior and exterior paint for deterioration and its causes and bare soil. HUD provides an on-line visual assessment training curriculum that takes around an hour to complete. Visual assessment alone is not sufficient to determine lead safety, however, since invisible leaded dust may be present.

*Clearance testing:* Clearance testing is conducted AFTER lead hazard control work has been completed. Clearance can be conducted by a Risk Assessor or Lead Sampling Technician under supervision of a Risk Assessor. A clearance test includes a visual inspection to make sure all work was completed properly. Then, if the unit passes the visual inspection, a minimum of 8 dust wipe samples are completed. A standard clearance test generally costs between \$150 to \$250 (including lab fees and time).

Thus, there are several established methods for documenting lead hazards. However, there are no programs or generally available resources for subsidizing such assessments. Although a risk assessment is the most thorough way to identify lead hazards, its expense may be excessive for many families. It is generally safest to assume that pre-1978 housing does contain lead hazards and conduct renovations and repairs accordingly (i.e. using lead safe work practices and standard treatments, see below).

## Fixing lead hazards

Once a home has been identified as having lead hazards, it is important that these hazards be properly addressed. This involves three elements:

- 1) Occupant protection (making sure that residents and their belongings are protected from any lead-containing dust or paint chips)
- 2) Lead safe work practices (using methods to reduce generation of and contain lead dust or chips to protect workers and residents and reduce the need for decontamination clean-up)
- 3) Appropriate treatments (using methods of lead hazard control that have been found to be effective over time)

Property owners must be given clear guidance on how to remove lead hazards (lead safe work practices and occupant protection) and what to do (appropriate treatment options). Otherwise, they may create worse hazards while doing the work and use techniques (such as painting friction surfaces) that do not fix the lead hazard.

Decades of research have established that it is not necessary to remove all leaded paint from a building in order to make it lead safe for children. On the other hand, simply painting over lead hazards may not effectively address lead hazards, especially on friction and impact surfaces. For example, painting a window with a friction hazard does not effectively solve the problem because dust is created when the window is opened or closed, and this can wear down to the leaded paint. The federal government has established standards for appropriate lead hazard control strategies based on past research. There are three types of treatments usually described:

*Abatement (permanent controls):* Abatement means any set of measures designed to permanently eliminate lead-based paint or lead-based paint hazards. Abatement includes: (1) The removal of lead-based paint and dust-lead hazards, the permanent enclosure or encapsulation of lead-based paint, the replacement of components or fixtures painted with lead-based paint, and the removal or permanent covering of soil-lead hazards; and (2) All preparation, cleanup, disposal, and post abatement clearance testing activities associated with such measures.

*Interim controls:* Interim controls means a set of measures designed to temporarily reduce exposure to lead-based paint hazards. HUD recommends reevaluating interim controls every two years. Interim controls tend to be cheaper than abatement. They are described in 24 CFR part 35.1330.

*Standard treatments:* Standard treatments means a series of hazard reduction measures designed to reduce all lead-based paint hazards in a dwelling unit without the benefit of a risk assessment or other evaluation. Standard treatments include a mix of interim and permanent controls, based on the component to be addressed. A description of these methods may be found at:

<http://www.hud.gov/offices/cpd/affordablehousing/training/web/leadsafe/keyrequirements/reduction.cfm>.

### Maintaining lead hazard controls

As noted above, it is important that any work that disturbs lead paint be followed by a clearance test (visual inspection plus dust wipes) to make sure that cleanup was properly done and no hazardous leaded dust remains. After the property passes a clearance test, proper ongoing maintenance and monitoring is required, especially if a large number of interim controls are used. HUD guidelines recommend testing two years after interim controls are put in place.

### Costs of lead hazard controls

One of the most commonly cited barriers to removing lead hazards is the cost of lead hazard control. It is important to be clear how these costs are estimated. For example, interim controls are generally less costly than full abatement; however, they may require maintenance that adds costs over time. In some situations, lead hazards arise from paint that is peeling as a result of recurrent roof leaks. In this case, a new roof might be considered by some to be a lead hazard control cost, and by others to be a necessary cost incurred because of deferred maintenance.

The Center for Governmental Research's Needs Assessment for Monroe County (2002) cited a range of costs to address lead hazards between \$7,557 and \$70,000 per unit, depending on the assumptions made. The report projected additional costs of up to \$7,000 per unit for relocation of residents. However, subsequent experience by the Monroe County Department of Public Health's HUD grant program yielded an average cost to make a unit lead safe of \$3,253



per unit for interim controls only (\$5,598 interim controls with window replacement). At the same time, the Get the Lead Out program contracted with a risk assessor who calculated repair costs in high-risk units in Rochester to cost an average of \$3,366 to address all lead hazards using HUD standard treatments. More recently, a survey of landlords on the costs of complying with the lead safety standards of the Rochester local lead law found that a third of the respondents had no costs associated with compliance. Those who did spend money to comply reported an average cost of \$2,618 per unit (CGR, 2007). It is important to remember that, while the Rochester law does require LSWP, it does not mandate HUD's standard treatments of lead hazards. Thus, the standards applied, methods used, and range of repairs attributed to lead hazard controls can drastically affect estimated costs.

## **MAGNITUDE OF PROBLEM**

Childhood lead poisoning rates have decreased in the past several decades, but New York State's rates remain among the highest in the country, particularly among low-income children living in older housing. According to the CDC, in 2001 New York had the second highest number of children with confirmed elevated blood lead levels in the country, and the highest number of high-risk (pre-1950) housing units (Meyer, et al. 2003). In 2001, 9,917 New York State children were found to have blood lead levels over 10  $\mu\text{g}/\text{dL}$ , the level at which recent research showed children have already lost around 7 IQ points (Canfield et al 2003). Research has found no 'safe' level of lead in children. Nationally, the percentage of children under 6 years of age with confirmed elevated blood lead levels dropped from 7.5% in 1997 to 1.21% in 2006; over the same period of time, New York's rates (excluding New York City) dropped from 6.31% to 1.56% (CDC, 2008). Although New York State has a universal screening law that requires screening at ages one and two, not all children are screened for lead. Based on NYSDOH data, Chemung County has a historically low screening rate, with the state's second lowest rate for children born in 1998. This low screening rate makes it unlikely that data on elevated blood lead levels accurately depicts the extent of lead poisoning in the county. Recently, however, Chemung County's screening rates have improved. In 2005, Chemung had the 21<sup>st</sup> highest rate of children screened at least once by 18 months, and 7<sup>th</sup> highest rate of children screened at least twice by 36 months (NYSDOH, 2008).

Prior to 2003, state reports summarize screening data by the number of children screened at least once by age 6; results therefore reflect testing of children born at least 6 years prior to the report. Table 2 shows the percent of children who are tested at least once before they turn 6; data includes children born before 1998.

**Table 2: Total Percent of children screened (through 72 months of age)\***

		1994	1996	1998	1998 County Rank****
<b>New York State</b>	%	87.9	91.8	92.2	
	# **	148,618	140,661	137,865	
<b>Chemung County</b>	%	54.8	60.5	64.4***	56
	# **	1,156	1,078	1,030	32

\* Source: Data from NYSDOH (2003): A Report of Lead Exposure Status among New York Children; statewide data exclude New York City

\*\*Number of births recorded in that year

\*\*\*Children who change county of residence could be in screening data in multiple counties, but in birth cohort data in only one county; this could cause screening rates in some counties to exceed 100%.

\*\*\*\*Rank among 57 counties outside New York City, in which a rank of 1 is the county with the highest screening rate/lowest number of births, respectively.

NYSDOH changed its summary tables in the 2004-2005 NYSDOH (2008) report to the number of children screened at least once by the age of 36 months. The NYSDOH (2008) report provides cohort information for children born in 2001 and 2002, shown in Table 3. Because of this change in reporting, we cannot compare screening rates over time. However, in 2005 Chemung County ranked as having the 7<sup>th</sup> highest screening rate (% of children screened at least twice by the age of 36 months) in New York, excluding New York City. Future data analyses should track these trends to record successes or shortfalls in screening rates.

**Table 3: Percent of children screened by age for 2001 and 2002 Cohorts\***

		2001 Cohort Screened at 0 - <9 months	2001 Cohort Screened at 9 - <18 months	2001 Cohort Screened at 18 - <36 months	2002 Cohort Screened at 0 - <9 months	2002 Cohort Screened at 9 - <18 months	2002 Cohort Screened at 18 - <36 months	2005 Rank***
<b>New York State</b>	%	3.3	54.7	40.3	2.9	53.1	45.2	
	***	134,112	134,112	134,112	132,867	132,867	132,867	
<b>Chemung County</b>	%	1.0	39.6	44.3	0.6	40.5	44.6	7
	***	1,091	1,091	1,091	1,068	1,068	1,068	32

\*Source: NYSDOH (2008) Eliminating Childhood Lead Poisoning in New York State: 2004-2005 Surveillance Report

\*\*Number of children born during the specified year

\*\*\*Screening rate's rank among 57 counties outside New York City (1=highest screening rate by age 36 months/lowest number of births for 2002 cohort)

The New York State Department of Health collects information on children who are screened and found to have elevated levels of lead in their blood. Countywide, Chemung's *prevalence rate* (the number of children who have a confirmed elevated blood lead level (in a specified age range and geographic area) during a given time period divided by the number of children tested in that year) remained about 2 percentage points above the statewide average between 2000 and 2003. In 2003, Chemung had the 8<sup>th</sup> highest prevalence rate among the 57 counties outside New York City and the 19<sup>th</sup> highest number of children with elevated blood lead levels (Table 4) (NYSDOH, 2003).

**Table 4: Prevalence Rate of Confirmed Elevated Blood Lead Levels (Number of Tests  $\geq 10 \mu\text{g/dL}$  per 100 children screened)\***

		2000	2001	2002	2003	2003 County Rank***
<b>New York State</b>	% EBL**	3.31	2.73	2.61	2.48	
	# EBL**	6,385	5,258	5,090	4,553	
	# tested	192,616	192,286	195,147	183,093	
<b>Chemung County</b>	% EBL**	5.43	5.35	3.2	4.4	50
	# EBL**	58	59	36	54	39
	# tested	1,068	1,102	1,123	1,223	29

\* Source: Data from NYSDOH (2003) A Report of Lead Exposure Status among New York Children, 2002-2003 Supplement to 2000-2001 Report; statewide data exclude New York City; prevalence data by county is unavailable for 2004-2005

\*\*%/# EBL = total percent/number of children tested with blood lead levels  $\geq 10 \mu\text{g/dL}$

\*\*\*Rank among 57 counties outside New York City, in which 1 is the lowest prevalence (% or #)/highest number tested, respectively

From 2001-2005, Chemung's *incidence* or "new case" rate (the number of children identified for the first time with a confirmed elevated blood lead level (in a specified age range and geographic area) divided by the number of children that had a screening test in that given year) rose from 1.70% to 1.89%, which is about 60% higher than the statewide average (1.18%) and the 15<sup>th</sup> highest countywide rate in the state, excluding New York City (Table 5). There are areas of particularly high risk within the county, including zip code 14901, which is ranked as having the 65<sup>th</sup> highest incidence rate of all New York State zip codes (excluding New York City). The 2005 rank for zip code 14901 has improved since 2003, when it had the 36<sup>th</sup> highest rate of EBLs of all zip codes in the state, despite the fact that the county's overall incident rate increased. The maps provided in Appendix A underscore the fact that lead poisoning risks are geographically concentrated, particularly within the City of Elmira. It is also important to remember that these numbers may not be representative of the true number of lead poisoned children, due to historically low testing rates in Chemung County. There were 21 new cases of EBL identified in 2002 (4 over  $20 \mu\text{g/dL}$ ), 32 in 2003 (2 over  $20 \mu\text{g/dL}$ ), and 34 in 2004 (2 over  $20 \mu\text{g/dL}$ ). In 2005, there were 20 new cases of EBL identified (2 over  $20 \mu\text{g/dL}$ ), making Chemung County the 22<sup>nd</sup> highest county for the *number* of new incidences (NYSDOH, 2003 and 2005). The health department investigated 2 homes in connection with children with elevated blood lead levels in 2002, 8 homes in 2003, 11 homes in 2004 and 4 homes in 2005 (NYSDOH, 2003 and 2005).

**Table 5: Incidence Rate (New Cases >10 µg/dL /100 Screened)\***

		2000	2001	2002	2003	2004	2005	2005 County Rank***
<b>New York State</b>	% EBL**	1.98	1.7	1.67	1.57	1.33	1.18	
	# EBL**	3,672	3,178	3,175	2,805	2,594	2,283	
	# screened	185,442	186,581	189,991	178,205	194,839	193,239	
<b>Chemung County</b>	% EBL**	3.67	2.98	2.3	2.9	2.99	1.89	43
	# EBL**	37	31	25	34	34	20	36
	# screened	1,007	1,041	1,067	1,164	1,136	1,060	29

\*Source: NYSDOH (2001): Promoting Lead Free Children in New York State: A Report of Lead Exposure Status Among New York Children, 2000-2001, NYSDOH (2003): A Report of Lead Exposure Status among New York Children Supplement to 2000-2001 Report and NYSDOH (2008) Eliminating Childhood Lead Poisoning in New York State: 2004-2005 Surveillance Report

*Incidence Rate (new case rate):* The number of children identified for the first time with a confirmed elevated blood lead level (in a specified age range and geographic area) divided by the number of children that had a screening test in that given year. Only children who did not previously have a confirmed elevated blood lead level are included.

\*\*EBL = total number/percent of children screened with their first blood lead levels  $\geq$  10 µg/dL

\*\*\*Rank among 57 counties outside New York City (1 = lowest incidence/EBL or highest number screened)

## **LEAD POISONING PREVENTION EFFORTS – NATIONAL, STATE, AND LOCAL**

Many programs and policies exist to address the problem of childhood lead poisoning. Approaches are generally classified as primary or secondary prevention. Primary prevention approaches aim to eliminate exposure to lead hazards before a child is poisoned. Secondary prevention efforts focus on testing children’s blood lead levels to determine whether they have an EBL. If a child has an EBL, the next step is to find and eliminate lead hazards in their environment.

### **National Actions**

The federal government has adopted the goal of ending childhood lead poisoning by 2010. HUD and EPA jointly promulgated the federal Lead-based Paint Disclosure Rule (Disclosure Rule), and each has independent authority to enforce it (although they may coordinate efforts). The Disclosure Rule requires that owners and landlords of pre-1978 housing disclose known lead hazards and other information to prospective tenants and purchasers.

U.S. Department of Housing and Urban Development (HUD): HUD’s goal is to promote safe and affordable housing. The Office of Healthy Homes and Lead Hazard Control conducts research on lead hazards, enforces the Disclosure Rule, and operates a grant program for state and local governments to address lead hazards in housing. HUD regulations also guide the training and certification of professionals who assess lead hazards or perform lead hazard abatement. HUD regulations set standards for lead safety in federally subsidized housing. For more information see: <http://www.hud.gov/offices/lead/>

U.S. Environmental Protection Agency (EPA): EPA's mission is to protect the environment. EPA administers and enforces the Toxic Substances Control Act (TSCA), which regulates lead-based paint and other toxic chemicals. The Office of Enforcement and Compliance Assurance enforces the Disclosure Rule, and EPA's other lead-based paint regulations which govern abatement and require pre-renovation education. This office also provides grants to States and Tribes to implement and enforce authorized abatement and pre-renovation education programs. EPA also was responsible for implementing the phase-out of lead in gasoline (1976-1996) <http://www.epa.gov/lead/>

Centers for Disease Control and Prevention (CDC): the CDC has set the "level of concern" for public health action on lead levels in blood at 10 µg/dL. The CDC oversees state lead poisoning prevention programs and collects and analyzes national data on elevated blood lead levels from the states <http://www.cdc.org/>

An overview of the federal agencies and programs related to healthy homes in general and lead poisoning specifically may be found on the website of the Alliance for Healthy Homes ([http://www.afhh.org/aa/aa\\_federal\\_agencies\\_guide.htm](http://www.afhh.org/aa/aa_federal_agencies_guide.htm)) or the National Center for Healthy Housing (<http://www.nchh.org/html/regs.htm>). These two non-governmental organizations have a wealth of resources available on their respective web sites.

## **State Actions**

The primary state agency involved in childhood lead poisoning is the New York State Department of Health (NYSDOH). NYSDOH implements the state's universal screening policy, which requires that all children be tested for lead at 12 and 24 months of age. When children are found to have elevated blood lead levels, the health department provides education (generally if the child's lead level is over 10 µg/dL) and conducts an environmental investigation of the home environments (generally if the lead level is over 20 µg/dL, but in some counties at 15 µg/dL). In most counties, implementation of the NYSDOH lead program is carried out by the County Health Department with support from regional NYSDOH staff.

The health department may require that lead hazards be controlled as a result of an environmental investigation for a child with an elevated blood lead level. However, it is important to note that the NYSDOH, as a health agency, has limited power to require lead safety in housing as a preventive strategy. Public Health Law Section 1370 does give the NYS Health Department or its designee the authority to designate a building, or a neighborhood, or other area an "Area of High Risk" based on "a condition conducive to lead poisoning."

The New York State Coalition to End Lead Poisoning (NYSCELP) is the primary statewide non-governmental effort focused on lead poisoning prevention. NYSCLEP is a coalition of housing, health policy and public interest organizations coordinated by the New York Public Interest Research Group (NYPIRG). NYSCLEP's primary goal is to promote primary prevention policies at the state level.

A recent settlement with Kennedy Valve negotiated by the NYS Attorney General's office is described below under "local actions."

## **Local Actions**

In Chemung County, the NYSDOH childhood lead poisoning prevention program is implemented by the county health department, which manages data on blood lead screens conducted by providers, provides public education about lead, and conducts case management of children with elevated blood lead levels. According to NYSDOH's 2005 County Data profile, there were 17 pediatricians, 11 family practitioners, and 12 obstetricians in the county.

The Chemung County Health Department conducts most of the locally targeted education about lead. In addition to promoting screening by health care providers, the health department reaches out directly to parents with brochures and other materials provided by the state health department. Chemung County was awarded \$1.5 million in fall 2007 as part of a settlement between the NYS Attorney General's office and the Kennedy Valve Corporation (Kennedy Valve Lead Fund Grant). This fund is being jointly administered over a three year period by the City of Elmira and the County Health Department. The settlement will be used to fund efforts to reduce childhood lead poisoning, including:

- Laboratory blood testing for children
- Environmental testing of homes and day care centers
- Public Education
- Grants and loans for lead abatement

There have been periodic LSWP training courses offered by Tri-County Housing with HUD funding. Most recently, in February 2008 the City of Elmira and Tri-County Housing (which runs the HUD Section 8 housing program) co-sponsored Lead Safe Work Practices training for 27 individuals representing four contracting companies in anticipation of increased demand as a result of the Kennedy Valve settlement.

The **Chemung County Housing Coalition** is an education and public policy advocacy network of housing providers, faith communities, human service agencies, realtors, and housing advocates. The Coalition, using materials provided by the Chemung County Health Department, organized outreach to educate parents and human service agency staff regarding lead poisoning in 2002. The Housing Coalition also organized a workshop on preventing lead poisoning for home-based child-care providers. The **Every Child Matters Coalition** is a network of Chemung County child-care providers, human service agency staffs, health and mental health professionals, educators, faith communities, civic/service organizations and others committed to the well-being of children and working together to ensure that children's needs remain a priority for government at all levels. The Coalition's 2007 and 2008 Breakfast Briefings on the State of the Child in Chemung County included information on childhood lead poisoning (presented by Dr. Ralph Moore, retired pediatrician).

Lead poisoning is an important aspect of the **First Time Homebuyer Program of Catholic Charities of Chemung County**. During the initial one-on-one conversation with prospective homebuyers, staff members explain the concerns about lead in homes offered for sale. During the mandatory pre-purchase homeownership workshops, staff devotes extensive time discussing lead hazards and reviews the Handbook from the City of Elmira which contains three pages of information on lead hazards, lead inspections, stabilization etc. The City of Elmira building inspector inspects homes for lead prior to clients making a purchase offer and the owner must stabilize the home before a purchase offer is made. Post-purchase education for First Time Homebuyers includes periodic presentations on lead paint hazards and safe work practices. Catholic Charities makes a HEPA vacuum available where appropriate during remodeling. Homeowners are trained on the proper use of the vacuum and given a HUD lead safety booklet.

There are no local laws that specifically address lead poisoning prevention in Chemung County. Rochester and New York City are the only municipalities in New York State that require any form of housing inspections for lead hazards unless a child has been found to have an elevated blood lead level, although the City of Buffalo makes Lead-paint hazards a separate violation as part of its local code. The statewide "Property Maintenance Code of New York State" (PMCNYS) is in effect in all municipalities in New York State, except for New York City. That code applies unless a more restrictive standard has been adopted locally and approved by the state. The PMCNYS is enforced by the local municipality's regular code enforcement office,

and enforcement of the state code is supervised by the NYS Department of State, Office of Code Enforcement and Administration. Although the PMCNYS does not currently contain any specific requirements regarding lead paint, it does address deteriorated paint conditions in general terms. The PMCNYS includes exterior and interior paint standards at Sections 303.2 and 304.3 respectively. The exterior paint provision requires that: "Peeling, flaking and chipped paint shall be eliminated and surfaces repainted." The interior paint provision requires that "Peeling, chipping, flaking or abraded paint shall be repaired, removed, or covered. Cracked or loose plaster, decayed wood, and other defective surface conditions shall be corrected." There is no requirement in the state code itself that lead safe work practices be used.

There have not been any HUD or other grant programs directly addressing lead hazard reduction in Chemung County. Tri-County Housing Council operates the HUD Section 8 housing program. Additional information on public housing in Chemung County affected by HUD's lead safety standards is provided below.

## **Summary**

Many laws, agencies, grant programs, and non-governmental organizations address lead poisoning at the local through national levels. Nonetheless, significant gaps remain. These include:

- While New York State requires universal blood lead testing of children at ages 1 and 2 (and older if they are at risk), this requirement is difficult to enforce, resulting in variable testing rates.
- Federal disclosure laws require new owners and renters to be informed of any known lead hazards. However, since there is no requirement to test for lead hazards, few owners have knowledge of lead hazards to share.
- There is no law requiring lead safety in housing, except that which is supported by federal housing aid programs.
- Federal grant programs affect only a small percentage of housing with risks of potential lead hazards; few other funding sources exist for helping to address these hazards.

## **LEAD POISONING RISKS IN CHEMUNG COUNTY**

As described above, lead poisoning is of particular concern for children. The group most at risk are children under age 6 (particularly those 2 and under) who live in older housing in poor condition. Older housing in poor condition typically presents the highest risk, and rental housing tends to be in poorer condition than owner occupied housing. Also, federally supported housing is subject to additional lead regulations. To clarify the location and nature of high risk housing, this section summarizes the age, value, and ownership of housing in the county along with demographics of the County.

### **Overview of population at risk**

According to 2000 Census data, the population of Chemung County was 91,070, with around a third of the population residing in the City of Elmira. Past research has shown that children under age six are at greatest risk, particularly those who live in areas with high poverty, low educational attainment, and high percentage of black race. Table 6 summarizes these population characteristics for Chemung County. The City of Elmira has higher risk factors than the remainder of the county.

Housing units that were built before 1950, are rented (as opposed to owner occupied), and in poor condition are also more likely to have lead hazards. In general, public housing units subject to federal lead safety standards are of lower risk because federally supported housing is subject to additional lead regulations. Table 7 summarizes Chemung County's housing characteristics that relate most closely to lead risk. Again, Elmira has higher risk factors than the rest of the county, with approximately three quarters of the housing built before 1950 and 52% rented.

**Table 6A: Overview of population at risk**

	Total Population		# of children <6 and under living in poverty			Population for whom poverty status is determined: Income in 1999 below poverty level		
	#	% of County total	N (total kids <6)	# kids <6 in poverty	% kids <6 in poverty	N	#	%
<b>Elmira</b>	30,940	34%	2,570	856	33.3%	27,237	6,286	23.1%
<b>Non-City*</b>	60,130	66%	3,840	547	14.2%	58,158	4,777	8.2%
<b>County Total</b>	91,070		6,410	1,403	21.9%	85,395	11,063	13%
<b>State</b>	18,976,457		1,491,866	308,272	20.7%	18,449,899	2,692,202	14.6%

\* Of those living outside the City of Elmira; includes other urban areas

**Table 6B: Overview of population at risk**

	Population 25+ not graduated from high school			Black		
	N	#	%	N	#	%
<b>Elmira</b>	19,147	4,936	25.8%	30,940	3,961	12.8%
<b>Non-City*</b>	41,649	5,971	14.3%	60,130	1,216	2%
<b>County Total</b>	60,796	10,907	17.9%	91,070	5,177	5.7%
<b>State</b>	12,542,536	2,626,324	20.9%	18,976,457	2,986,242	15.7%

\* Of those living outside the City of Elmira; includes other urban areas

**Table 7A: Description of current housing stock**

	Total Housing Units		Public Housing			
	#	% of county total	# Section 8	% Section 8	# Other	% Other
<b>Elmira</b>	12,895	34.2%	328	2.5%	810	6.3%
<b>Non-City*</b>	24,850	65.8%	226	1%	258	1%
<b>County Total</b>	37,745		554	1.5%	1,068	2.8%
<b>State</b>	7,679,307		169,086		281,198	

\* Of those living outside the City of Elmira; includes other urban areas



**Table 7B: Description of current housing stock**

	Owner Occupied Units			Pre-1950 Housing Units		
	N	#	% of county total	N	#	%
<b>Elmira</b>	12,895	5,536	42.9%	12,895	9,617	74.6%
<b>Non-City*</b>	24,850	18,623	74.9%	24,850	8,882	35.7%
<b>County Total</b>	37,745	24,159	64%	37,745	18,499	49%
<b>State</b>	7,679,307	3,739,247	48.7%	7,679,307	3,309,770	43.1%

\* Of those living outside the City of Elmira; includes other urban areas

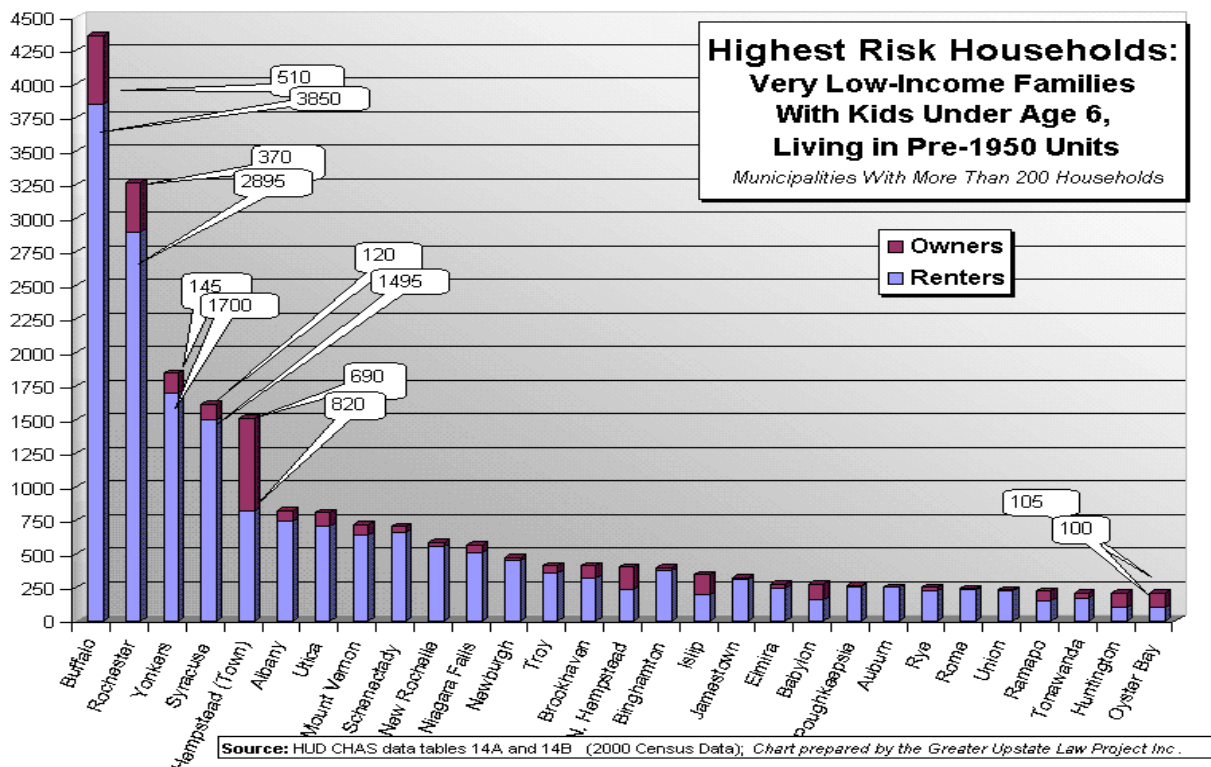
In many areas of the country, it has been demonstrated that lead poisoning cases are geographically clustered in areas with large numbers of low income children living in older housing in poor condition. In such cases, targeting resources at these “high risk” areas can be an efficient strategy for addressing lead poisoning. Because EBL data is only publicly available by county level, the information provided in the “Magnitude of the Problem” section is not sufficient to target efforts within Chemung County.

However, as noted above, extensive research has identified the risk factors for lead poisoning to include several demographic and housing characteristics, including income, race, education, housing age, rental versus owner occupied, etc. (Lanphear, 1998). Appendix A is a set of maps that display the distribution of these risk factors across the county by census block group. The sixth map combines these risk factors, giving the highest rating to those block groups that are in the highest quartile for all of these risk factors. This risk map is a modified version of the analysis conducted by the Center for Governmental Relations and validated with actual elevated blood lead levels data for Rochester New York (CGR 2002).

According to these maps, as expected, the highest risk factors are within the City of Elmira. Figure 1, prepared from 2000 census data by the Greater Upstate Law Project Inc., illustrates cities in New York State with the highest number of high risk households, defined as pre-1950 units owned or rented by low-income families with children under 6 years of age; out of 29 municipalities listed, Elmira is 19<sup>th</sup> highest for number of high-risk households.

Within the City of Elmira, there are clearly some neighborhoods which rank high with respect to most or all of these risk factors. However, there are also ‘hot spots’ elsewhere in the county with a high percentage of older housing, children living in poverty, low educational attainment, and high rental rate.

**Figure 1 – Highest Risk Households**



**COALITION BUILDING IN CHEMUNG COUNTY, 2008**

This section describes the lead poisoning prevention initiatives that were undertaken by Catholic Charities of Chemung County (CC) during the project year (calendar year 2008). This project was primarily implemented by CC staff with technical support from the University of Rochester and Rochester’s Coalition to Prevent Lead Poisoning.

Prior to this project, Catholic Charities had limited experience with lead poisoning prevention, but had extensive experience with facilitating local coalitions on children’s issues and housing, and with working directly with low income families on health and housing issues. CC built on this experience by inviting existing and new partners to form a new lead coalition, which attracted over 25 organizations to five meetings over the course of the year. These meetings were used to share information about ongoing lead efforts and encourage partners to participate in lead education and statewide policy advocacy efforts. Rochester Coalition to Prevent Lead Poisoning members made presentations at two of these meetings. Members of this new coalition contributed to lead education efforts by distributing brochures through their existing outreach channels and printing articles on lead in their newsletters and bulletins.

In addition, CC collected brochures and other materials from NYSDOH, USEPA, and others to distribute in door to door outreach and various community events, such as the Elmira farmers’ market. CC wrote two articles about lead that appeared in local newspapers. Over 200 landlords were invited to a meeting in December that provided information about opportunities for lead inspection and hazard reduction funding through the Kennedy Valve settlement. Although only 7 landlords attended, CC hopes to build on this effort to reach out directly to owners of high-risk rental housing. An estimated 900-1,000 people received information on lead through these various outreach activities.

Throughout the year, CC made efforts to bring in new partners and expand their involvement in lead poisoning prevention in the County. CC's awareness-raising, combined with the County's focused efforts, likely contributed to a significant increase in testing rates. During the first nine months of 2007, a total of 649 blood tests were done in the county; during the same period in 2008, 1,679 tests were done (personal communication, Chemung County Health Department).

In recognition of their capacity to contribute to lead poisoning prevention efforts, CC has received ongoing funding for these activities, including \$10,000 in funding from the Kennedy Valve settlement and \$2,000 from the Diocese of Rochester to continue their lead outreach, education, and coalition-building work in 2009.

## **CHEMUNG COUNTY LEAD POISONING PREVENTION NEEDS**

### **Information needs:**

Although screening rates have improved, there is still limited information on existing testing rates and the prevalence of EBLs in some areas. Blood lead level data is only available on a county-wide basis. In order to better target lead poisoning prevention efforts, it would be helpful to have localized data about screening rates and distribution of elevated blood levels.

### **Education needs:**

Although the County Health Department has numerous educational materials and conducts outreach as resources allow, staff time that can be devoted to education is limited. There are no sustained community-based efforts to educate parents, property owners, or professionals about the dangers of childhood lead poisoning and how to prevent it.

### **Primary prevention needs (lead hazard assessment, controls/abatement, and funding):**

Although these have been temporarily augmented by the Kennedy Valve settlement, there are currently limited resources in Chemung County for identifying lead hazards, lead safe work practices, or lead hazard reduction. Outside of public housing, there are no grant or subsidy programs for supporting lead hazard control, nor are there legal requirements to address lead hazards. The Kennedy Valve settlement will offer some resources, but it remains to be seen how effectively the community will access these limited resources.

### **Secondary prevention needs (blood lead screening):**

Chemung County's relatively low testing rate, suggests that the countywide lead poisoning rate is probably a low estimate of actual rates. The Kennedy Valve settlement has provided testing equipment to health care providers, and as noted above blood lead testing rates have already increased dramatically. Hopefully, this trend will continue as parents increasingly request that their children be tested in accordance with state law.

### **Organization/Policy needs:**

While there are federal laws that affect publicly funded housing and state programs that require blood lead testing and management for children with elevated blood lead levels, there are no policies that universally address preventing lead hazards in housing. Chemung County does not have any local policies that specifically address childhood lead poisoning. The three-year Kennedy Valve settlement is funding several specific programs to address lead hazards, and Catholic Charities plans to continue to work to build awareness of lead poisoning.

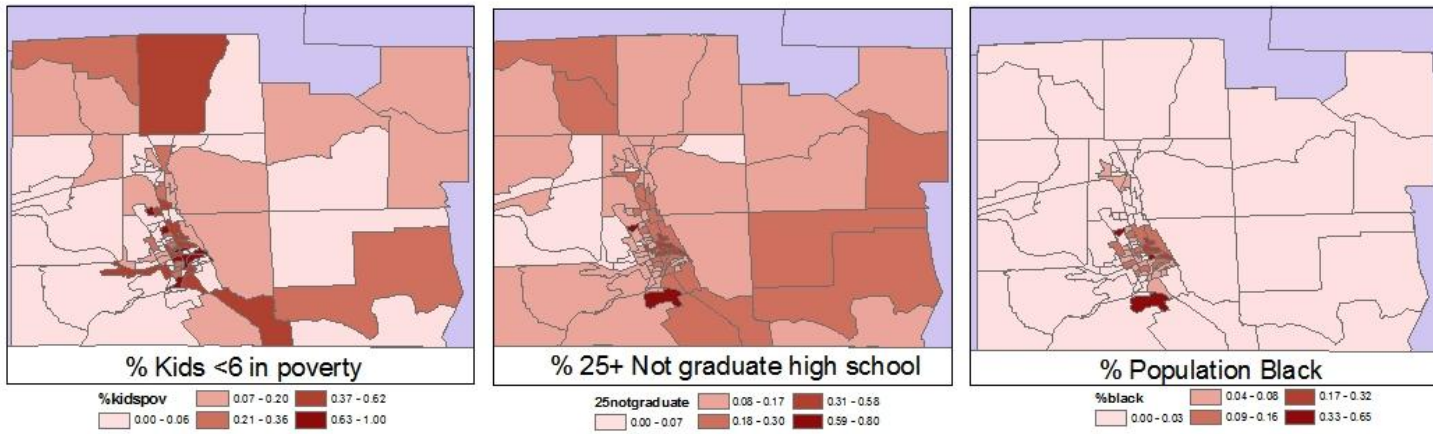
## References

- Canfield, R.L., C.R. Henderson, D.A Cory-Slechta, C. Cox, T.A. Juski, B.P Lanphear. 2003. Intellectual impairment in children with blood lead concentrations below 10 µg per Deciliter. *New England Journal of Medicine*. 348(16): 1517-1526.
- Centers for Disease Control and Prevention. 2008. Data and Surveillance Resources. <http://www.cdc.gov/nceh/lead/surv/data.htm>. Accessed Feb. 12, 2008.
- Center for Governmental Research. 2008. An Evaluation of the City of Rochester's Lead Law: 2006-2008. <http://www.cgr.org/>. Accessed January 31, 2009
- Center for Governmental Research. 2002. Lead poisoning among young children in Monroe County, NY: A needs assessment, projection model, and next steps. Rochester, NY: Prepared for the Monroe County Department of Health. Available at: <http://www.monroecounty.gov/p/eh-LeadPoisoningAmongYoung.pdf>. Accessed February 28, 2008.
- Lanphear, B.P., R.S. Byrd, P. Auinger, and S.J. Scahaffer. 1998. Community characteristics associated with elevated blood lead levels in children. *Pediatrics* 101(2): 264-271.
- Landrigan, P.J., C.B. Schechter, J.M. Lipton, M.C. Fahs, and J. Schwartz. 2002. Environmental pollutants and disease in American children: Estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities. *Environmental Health Perspectives*. 110(7): 721-728.
- Meyer, P.A, et. al. 2003. Surveillance for Elevated Blood Lead Levels Among Children – United States – 1997-2001. *MMWR Surveillance Summaries*. 52(SS10): 1-21. <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5210a1.htm>. Accessed Feb. 12, 2008.
- New York State Department of Health (NYSDOH). 2001. Promoting Lead Free Children in New York State. A Report of Lead Exposure Status Among New York Children, 2000-2001. <http://www.health.state.ny.us/environmental/lead/exposure/report/>. Accessed February 24, 2009.
- New York State Department of Health (NYSDOH). 2003. Promoting Lead Free Children in New York State: A Report of Lead Exposure Status among New York Children. 2002-2003 Supplement to 2000-2001 Report. [http://www.health.state.ny.us/environmental/lead/exposure/report/docs/lead\\_exposure\\_status\\_among\\_new\\_york\\_children\\_2002-2003.pdf](http://www.health.state.ny.us/environmental/lead/exposure/report/docs/lead_exposure_status_among_new_york_children_2002-2003.pdf). Accessed February 24, 2009.
- New York State Department of Health (NYSDOH). 2008. Eliminating Childhood Lead Poisoning in New York State: 2004-2005 Surveillance Report. [http://www.health.state.ny.us/environmental/lead/exposure/childhood/surveillance\\_report/2004-2005/](http://www.health.state.ny.us/environmental/lead/exposure/childhood/surveillance_report/2004-2005/). Accessed February 24, 2009.

## **Lead Poisoning in Chemung County Fact Sheet**

1. Although lead poisoning is heavily concentrated in the city of Elmira, it affects all areas of the County. Throughout Chemung County, 54 tested children were found to have elevated blood lead levels in 2003. However, only around half of all children were properly tested.
2. Lead poisoning in Chemung County is almost entirely the result of lead paint in homes – paint that is peeling, flaking or simply deteriorating into dust. Lead may also be released during home renovations. Homes built before 1978 have a high probability of containing lead; homes built before 1950 are more likely to contain lead. 90% of homes in Chemung County were built prior to 1978.
3. Lead poisoning causes irreversible brain damage that leads to lowered IQ, difficulty reading, poor impulse control, and attention deficits. Children who are lead poisoned are much more likely to engage in juvenile crime than statistically identical children who are not lead poisoned. Adults who were poisoned as children suffer increased osteoporosis, kidney damage, and heart damage.
4. The cost of lead poisoning is substantial. It is borne by the entire county in increased Medicaid costs, pre-school special education, and criminal justice expense – three of the fastest rising cost areas in the County budget. Later in life, individuals who were lead poisoned as children cost all levels of government vast sums in lost taxes because of the significantly lower earnings resulting from brain damage. Health insurance plans, both public and private, bear the cost of the after-effects of poisoning that surface in later years.
5. Identifying homes with exposed lead paint or dust, finding the hazards, and safely remediating the hazardous conditions is straightforward, well-understood, and practical. Addressing lead hazards is the only way to prevent lead poisoning.
6. The existing approaches to reducing lead hazards in children's homes are not adequate to protect our children. While lead poisoning rates have declined in recent years, changes at the city, county, and state levels are needed to ensure that we meet the national goal of ending childhood lead poisoning by 2010.

Appendix A  
 County-wide Distribution of Risk Factors  
 Chemung



Chemung County

