

Childhood Lead Poisoning in Cayuga County: Building Local Capacity and Coalitions

Final Report

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January 31, 2009.

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



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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 NYSHealth 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 three counties. These partners were Catholic Charities of Chemung County (CCC), Mohawk Valley Community Action Agency (MVCAA), and the Cayuga County Cornell Cooperative Extension. The University of Rochester's Environmental Health Sciences Center (EHSC) worked with the Rochester Coalition to Prevent Lead Poisoning (CPLP) to provide technical advice, materials, and experience based on their past lead coalition-building efforts in Monroe 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 provides a summary of data on childhood lead poisoning in Cayuga County, description of the coalition-building activities and direct actions conducted as part of this project, and recommendations for next steps.

This report is based on publicly available screening and elevated blood lead level (EBL) data from the New York State Department of Health. 2000 Census demographic and housing data was used to map areas of high lead poisoning risks. Cornell Cooperative Extension and Cayuga County Health Department staff provided an overview of existing efforts to prevent childhood lead poisoning. These local partners' coalition-building activities conducted under this project are summarized in this report. The report concludes with recommendations for next steps that were developed through discussions between the University of Rochester staff and local partners.

State Health Department data show that in 2005, 17 children in Cayuga County were newly identified with blood lead levels over 10 μ g/dL, the Center for Disease Control's "level of concern." Cayuga had the 24th (out of 57 counties outside NYC) highest incidence *rate* for elevated blood lead levels. Although these children came from different parts of the county, the largest number of cases occurred in the city of Auburn. Cayuga County has a strong record of screening children for lead poisoning, although there are certain populations, particularly rural Mennonite children, who may not be adequately tested.

Through this project, Cornell Cooperative Extension partnered with the Cayuga County Health Department to provide education and outreach related to primary prevention of and blood screening for childhood lead poisoning prevention. Throughout the year Cornell Cooperative Extension brought local organizations together several times to learn about, coordinate and promote lead poisoning prevention efforts in the county. Activities included developing a display for educational events, hosting a free Lead Safe Work Practices course, and initiating public education through the local press. These efforts culminated in a door to door hazard identification and outreach effort on Orchard Street, a high risk neighborhood in the City of Auburn.

This report documents the current status of efforts to reduce childhood lead poisoning in Cayuga County. It is based on the information provided to project partners during 2008 and may not be comprehensive. It is intended to provide a foundation for future projects, planning, and education by local partners or interested others.

ACKNOWLEDGEMENTS

We would like to thank the many 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:

- Renee Jensen, Cayuga County Cornell Cooperative Extension
- Lisa Donalds, Cayuga County Department of Health

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

COMMENTS

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INTRODUCTION

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

This report summarizes existing data related to lead poisoning in Cayuga 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 Cayuga County. Third, it describes the coalition-building and direct action projects conducted by Cornell Cooperative Extension during the course of the project (2008). This report concludes with recommendations for next steps for lead poisoning prevention efforts in Cayuga County.

THE PROBLEM OF CHILDHOOD LEAD POISONING

While lead was identified as a health hazard long 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 poisoning, sources of exposure to lead, the extent of the problem, and approaches to preventing lead poisoning. This report provides 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
• New York State Department of Health, www.health.state.ny.us/ , 518-474-2011
• U.S. Environmental Protection Agency, www.epa.gov/lead/ , 1-800-424-LEAD
• U.S. Department of Housing and Urban Development, www.huduser.org/picture2000/ , 1-800-245-2691
• Centers for Disease Control, www.cdc.gov/nceh/lead/ , 1-800-CDC-INFO
• National Center for Healthy Housing, www.nchh.org , 410.992.0712
• Alliance for Healthy Homes, www.afhh.org , 202- 739-0882

Medical effects

Lead is a toxin that affects every organ system in the body, including 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 generally irreversible. Although lead poisoning cannot be treated, it can be prevented by reducing exposure to lead.

Lead poisoning 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 and nursing mothers can pass lead to their babies.

Societal costs

Because of lead's wide ranging impacts on the human body and brain, 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. Many 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, children who have elevated blood lead levels may 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 recent study calculated that, due to lost IQ, lead reduced each birth cohort of U.S. children's lifetime earning potential by 43.3 billion dollars (Landrigan et al. 2002). Researchers estimated that 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 because of lead exposure by the 825 children born in Cayuga County in 2002 was over 9 million dollars. These estimates do not include the direct costs in terms of special education, juvenile justice, and health care that may be attributed to lead.

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. Nonetheless, these costs are significant and are born by the entire community.

Sources of lead hazards

Homes built before 1978 may contain hazardous levels of lead in dust, paint, and soil. While lead was banned from paint in the United States in 1978, the majority of all lead paint was used in units built before 1960; those built before 1950 have the highest risks of containing lead hazards. Lead is not a hazard unless it enters the environment in a way that people can ingest or inhale it.

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 children with elevated blood lead levels 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 re-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, repairs that control these risks may be quite affordable. Also, it is essential that lead hazard controls be done by properly trained workers using appropriate lead safe work practices (LSWP). 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 of 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 there is an exposure 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. Risk assessments are done by U.S. Environmental Protection Agency (EPA)-certified Risk Assessors using an XRF (x-ray fluorescence) analyzer, dust wipes and soil samples. Risk assessments usually cost around \$400 per housing unit.

Visual assessment: A visual inspection is a thorough examination of all interior and exterior paint for deterioration and for the presence of bare soil. The U.S. Department of Housing and Urban Development (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 the inspector's time).

Thus, there are several established methods for documenting lead hazards. However, there are no programs or generally available resources for subsidizing such assessments except as part of federal grant programs. Although a risk assessment is the most thorough way to identify lead hazards, the 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 leaded 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 (by creating and spreading lead dust) or using 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 likely 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" are 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:

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 careful cleaning and a clearance test (visual inspection plus dust wipes as described above) 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 re-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 ongoing 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 non-lead related repair 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 for 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 average \$3,366 to address all lead hazards using HUD's 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, 2008). It is important to remember that, while the Rochester law does require Lead Safe Work Practices, 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 µg/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 in fact have their blood tested for lead. Based on NYSDOH data, Cayuga County has a historically high screening rate (the second highest rate in 2003 of children less than 6 years of age, among the 57 counties outside New York City). Anecdotal information suggests that screening rates are higher in the cities (Auburn) and among Medicaid recipients and that significant gaps remain, particularly among rural Mennonite families.

Prior to 2003, state reports summarized 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; 2003 data includes children born before 1998.

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

		1994	1996	1998	County Rank****
New York State	%	87.9	91.9	92.2	
	#**	148,618	140,661	137,865	
Cayuga County	%	93.7	101.2	113.8***	2
	#**	1,016	991	909	30

*Source: 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 (1 = highest screening rate/lowest number of births)

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 2008 NYSDOH 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. Thus, although as of 2005 Cayuga County had slipped from the second (at least once by age 72 months) to the thirteenth (at least twice by age 36 months) highest countywide screening rate in the state, the county's absolute screening rate may have actually improved. Future data analyses should track these trends. Cayuga County's screening rates continue to significantly exceed the statewide average, yet still nearly half of the county's children are not screened as two year olds, as required by state law.

Table 3: Percent of children screened by age for 2001 and 2002 birth 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	Rank***
New York State	%	3.3	54.7	40.3	2.9	53.1	45.2	
	#**	134,112	134,112	134,112	132,867	132,867	132,867	
Cayuga County	%	5.3	67.5	57.6	4.7	65.9	52.1	13
	#**	887	887	887	825	825	825	29

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

**Number of births recorded in cohort year

***Rank (percent of children tested at least twice by the age 36 months) among 57 counties outside New York City (1=highest screening rate by age 36 months for 2002 cohort/lowest number of 2002 births)

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, Cayuga'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) declined from slightly above the statewide average to just over half the statewide average between 2000 and 2003 (Table 4).

Table 4: Prevalence Rate of Confirmed Elevated Blood Lead Levels (Number of Tests $\geq 10 \mu\text{g/dL}$ per 100 children screened) Among Children Under 6 Years of Age*

		2000	2001	2002	2003	County Rank**
New York State	% 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	
Cayuga County	% EBL**	3.41	2.48	1.70	1.40	12
	# EBL**	51	38	26	19	20
	# tested	1,496	1,530	1,543	1,383	24

*Source: 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 number of children with blood lead levels over $10 \mu\text{g/dL}$

***Rank among 57 counties outside New York City (1= lowest prevalence in 2003/highest number tested)

From 2001-2005 Cayuga's *incidence* or "new case" rate (the number of children identified for the first time with a confirmed elevated blood lead level over $10 \mu\text{g/dL}$ (in a specified age range and geographic area) divided by the number of children that had a screening test in that given year) similarly dropped (Table 5). There were 18 new cases of EBL identified in 2002 (3 over $20 \mu\text{g/dL}$), 12 in 2003 (7 over $20 \mu\text{g/dL}$), and 13 in 2004 (0 over $20 \mu\text{g/dL}$). There were 17 new EBL cases identified in 2005 (2 over $20 \mu\text{g/dL}$). This meant that Cayuga County had the 34th lowest incidence rate (rate of new cases in 2005) (NYSDOH). The health department investigated 2 homes in connection with children with elevated blood lead levels in 2002, 14 homes in 2003, 5 homes in 2004, and 5 homes in 2005 (NYSDOH 2005 and 2008).

Table 5: Incidence (New Cases $\geq 10 \mu\text{g/dL}/100$ Screened)*

		2000	2001	2002	2003	2004	2005	2005 County Rank***
New York State	% EBL**	1.98	1.70	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	
Cayuga County	% EBL**	2.43	1.87	1.20	0.90	1.05	1.55	34
	# EBL**	35	28	18	12	13	17	30
	# screened	1,443	1,495	1,513	1,356	1,237	1,096	28

*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 $\geq 10 \mu\text{g/dL}$

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

LEAD POISONING PREVENTION EFFORTS – NATIONAL 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 elevated blood lead levels (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 greater than 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) 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 prevention 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 group focused on lead poisoning prevention. NYSCELP is a coalition of housing, health policy and public interest organizations coordinated by the New York Public Interest Research Group (NYPIRG). NYSCELP's primary goal is to promote primary prevention policies at the state level.

Local Actions

In Cayuga County, the NYSDOH childhood lead poisoning prevention program is implemented by the county health department. In addition to managing data on blood lead screens conducted by health care providers, providing public education about lead, and conducting case management of children with elevated blood lead levels, the county staff does a limited amount of blood lead testing in clinics as resources allow. The Cayuga County Health Department works with local health care providers to increase testing rates. In 2005, there were nine pediatricians, six family practitioners, and four obstetricians in the county.

The Cayuga 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. There are no locally available training courses in Lead Safe Work Practices or EPA contractor or risk assessment training, although they are available in the region (Syracuse).

The County Health Department also coordinates an advisory council including additional health department programs, a representative of Women, Infants and Children (WIC), the Cayuga/Seneca Head Start program, Cornell Cooperative Extension, and Homsite. This group meets twice a year to discuss recent data and ongoing efforts (for more information, see <http://cayugacounty.us/>)

There are no local laws that specifically address lead poisoning prevention in Cayuga County. Rochester and New York City are the only municipalities in New York State that currently 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. This code applies unless a more restrictive local 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 that directly address lead hazard reduction in Cayuga County. However, the City of Auburn administers several grant programs that support housing rehabilitation, which may include lead hazard control. For example, the City of Auburn's Community Development Block Grant (CDBG) from HUD funds a Home Repair Assistance Program (HRAP), which provides loans primarily to owner occupants, and occasionally to investors, for rehabilitation to address major code violations and lead-based paint hazards. The HRAP is administered by the Office of Planning and Economic Development, with assistance from Cayuga County Homsite Development Corporation.

Cayuga County Homsite Development Corporation operates the HUD Section 8 housing program. Section 8 housing must meet certain standards for lead safety. Additional information on public housing affected by HUD's lead safety standards is provided below.

Summary

A host of 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. In Cayuga County, ranked 13th highest out of 57 upstate New York counties for testing rates, only 40% of children born in 2001 and 2002 had been tested twice by 36 months of age.
- 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.
- State and local health departments provide most of the lead education in Cayuga County; however, these efforts are limited by available resources and staff time.
- 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 CAYUGA 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 lead risk housing, this section summarizes the age, value, and ownership of housing in the county along with demographics of the County.

Overview of population

According to 2000 Census data, the population of Cayuga County was 81,963, with around a third of the population residing in the City of Auburn. 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 (Lanphear et al. 1998). Table 6 summarizes these population characteristics for Cayuga County. The City of Auburn has higher risk factors than does 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. Table 7 summarizes Cayuga County's housing characteristics that relate most closely to lead risk. Again, Auburn has higher risk factors than the rest of the county, with approximately two-thirds of the housing built before 1950 and half 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	#	%
Auburn	28,574	34.9%	2,071	579	28%	26,214	4,335	16.54%
Non-City*	53,389	65.1%	3,663	446	12.2%	51,026	4,209	8.2%
Cayuga County Total	81,963		5,734	1,025	17.9%	77,240	8,544	11.1%
State	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 Auburn; includes other urban areas

Table 6B: Overview of population at risk

	Population 25+ not graduated from high school			Black		
	N	#	%	N	#	%
Auburn	19,390	4,948	25.5%	28,574	1,919	6.72%
Non-City*	35,259	6,494	18.42%	53,389	1,110	2.08%
County	54,649	11,442	20.9%	81,963	3,029	3.7%
State	12,542,536	2,626,324	20.9%	18,976,457	2,986,242	15.7%

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

Table 7A: Description of current housing stock risk factors

	Total Housing Units		Public Housing			
	#	% of county total	# Section 8	% Section 8	# Other	% Other
Auburn	12,637	35.6%	607	4.8%	641	5.1%
Non-City*	22,840	64.4%	20	0.09%	**	**
Cayuga County Total	35,477		627	1.8%	497	**
State	7,679,307		169,086	2.2%	281,198	**

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

**Information unavailable

Table 7B: Description of current housing stock risk factors

	Owner Occupied Units			Pre-1950 Housing Units		
	N	#	% owner occupied	N	#	%
Auburn	12,637	5,920	46.8%	12,637	8,428	66.7%
Non-City*	22,840	16,085	70.4%	22,840	9,531	41.7%
Cayuga County Total	35,477	22,005	62.0%	35,477	17,959	50.6%
State	7,679,307	3,739,247	48.7%	7,679,307	3,309,770	43.1%

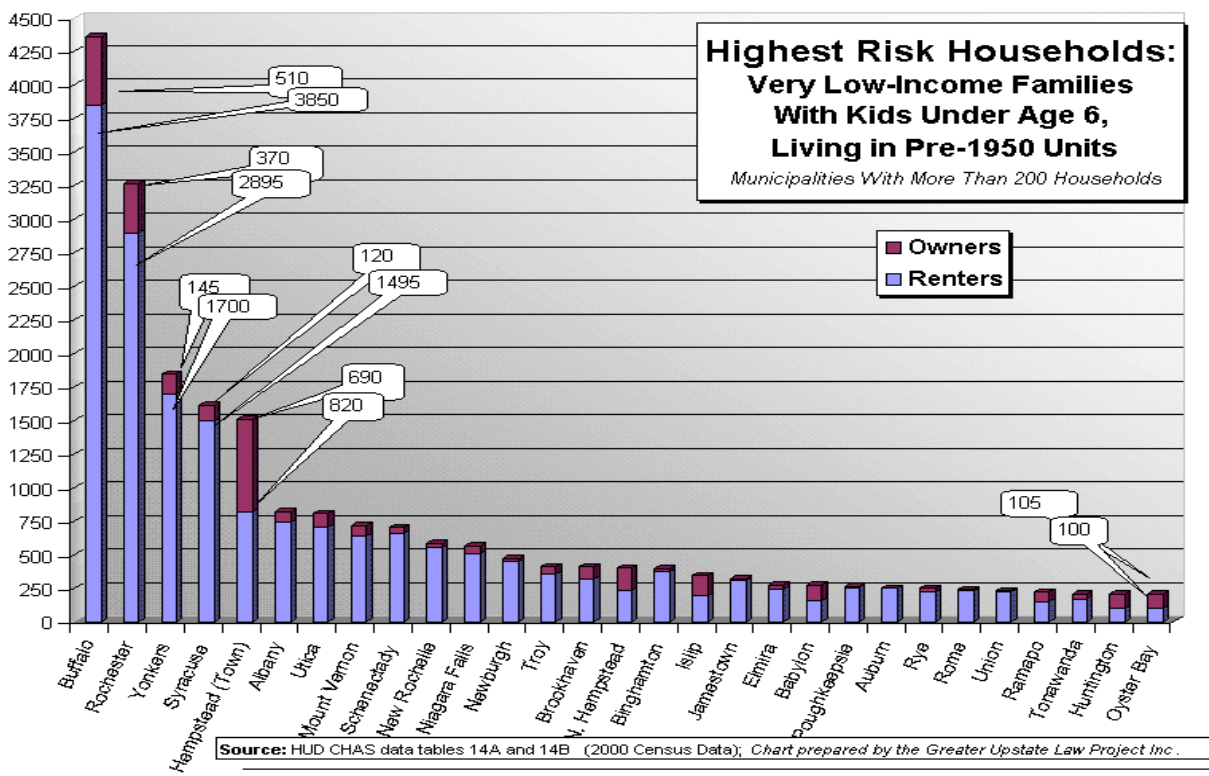
* Of those living outside the City of Auburn; includes other urban areas

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 lead poisoning data is only publicly available by county level, the information provided in Tables 5 and 6 is not sufficient to target lead poisoning prevention efforts within Cayuga 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 includes a set of five maps (for both the county as a whole and the City of Auburn) 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 Auburn. 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. High risk is defined here as pre-1950 units owned or rented by low-income families with children under 6 years of age; Auburn is 22nd. Within the City of Auburn, there are clearly some neighborhoods which rank higher 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 CAYUGA COUNTY, 2008

This section describes the lead poisoning prevention initiatives that were undertaken by Cornell Cooperative Extension (CCE) during the project year (calendar year 2008). This project was primarily implemented by CCE Environmental Educator Renee Jensen in partnership with Lisa Donalds at the Cayuga County Health Department and with technical support from the University of Rochester and Rochester's Coalition to Prevent Lead Poisoning.

Prior to this project, Cornell Cooperative Extension had limited experience with lead poisoning prevention, but had extensive experience with community outreach and education on other environmental topics. CCE built on this experience by partnering with the local health department to develop educational materials on lead, including a display board and Cayuga County-specific brochure. In addition, CCE collected brochures and other materials from NYSDOH, USEPA, and others to stock a 'Lead Resource Center' at the CCE offices. These materials will continue to be available after the end of this project.

Throughout the year, CCE made efforts to bring in new partners and expand their involvement in lead poisoning prevention in the County. The County Health Department had a pre-existing Lead and Immunization Advisory Committee that includes primarily County and City of Auburn staff. CCE hosted two meetings (one in May, another in November) to which it invited a wide range of community stakeholders. At the May meeting, the group interacted with Rochester Coalition founding member Ralph Spezio, who shared his experience as a former elementary school principal where 41% of his incoming students had blood lead elevations. At the December meeting, the group heard about CCE's direct action efforts over the year and discussed the feasibility of continuing as an independent coalition.

In addition to providing education at a number of public events alongside the Cayuga County Health Department at the Chamber of Commerce 2008 Home Expo, blood lead screening clinics at the WIC office and at the County Fair, CCE conducted several activities designed to reach out to additional stakeholders. These events directly reached nearly 700 individuals. Environmental Educator Renee Jensen and Lisa Donalds were interviewed about lead on local radio station WAUB on October 7. CCE also organized, advertised, and supported a free Lead Safe Work Practices course in October that trained nine individuals. These activities were complemented by news releases that generated newspaper articles and announcements about the events to heighten public awareness.

The primary direct action project was a targeted door to door outreach event on Orchard Street in Auburn. This neighborhood had been identified by lead risk maps, County records, and the City of Auburn as having particularly high lead risks. CCE trained BOCES high school students in environmental science and health sciences classes to do exterior visual assessments of homes, conduct short interviews with residents, and provide education about childhood lead poisoning. The event was held on November 14, 2008. Nearly 70 door mats and litterbags were distributed to houses and housing units. 13 residential surveys were conducted, 59 houses were evaluated for cracking, chipping or peeling paint from the outside and 19 soil samples were taken. CCE followed up by mailing property owners copies of their external visual assessments, soil sample results, and information about lead hazard reduction and local resources. CCE plans to share these results with residents, owners, and the neighborhood's community group. The project was also presented to the Central/Eastern New York Lead Poisoning Resource Center and received significant press coverage.

While it is not clear whether CCE will have staff capacity to continue to convene a lead coalition, they expect that a wider range of stakeholders will continue to meet to share information and coordinate lead poisoning prevention efforts, perhaps as a subcommittee or work group of the County's Advisory Board. In addition, the educational materials in the Lead Resource Center will continue to be available to the public. CCE will continue to seek funding to support continuation of these efforts in the future.

CAYUGA COUNTY LEAD POISONING PREVENTION NEEDS

Information needs:

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, these resources and staff time are limited. With the end of this project, CCE does not have dedicated funds or staff support for lead education. Ongoing support for community-based lead poisoning prevention outreach and education would be beneficial.

Primary prevention needs (lead hazard controls):

There are currently limited resources in Cayuga County for identifying lead hazards, conducting lead safe work practices courses, or reducing lead hazards. 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.

Secondary prevention needs (blood lead screening):

Cayuga County has a high testing rate, which means that the countywide lead poisoning rate is probably fairly accurate. However, there are certain populations that do not receive appropriate screening, particularly among the non- and under-insured. This may include many rural Mennonite families and others living in older housing in outlying areas.

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. Likewise, Cayuga County does not have any local policies or programs that specifically address childhood lead poisoning. Although there are several local coalitions that have interests related to lead, there has not been a focused effort to organize diverse stakeholders or advocate for policy change.

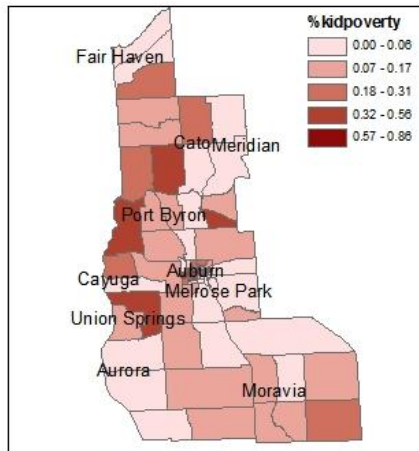
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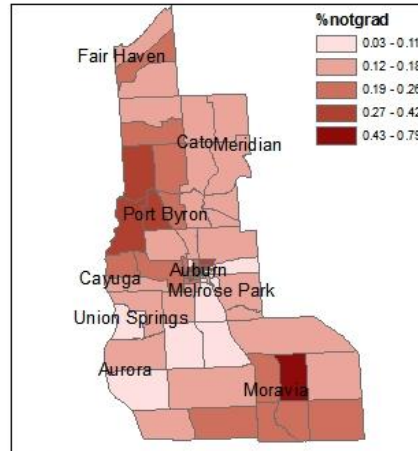
Lead Poisoning in Cayuga County Fact Sheet

1. Although lead poisoning is heavily concentrated in the City of Auburn, it affects all areas of the County. Throughout Cayuga County, 17 children had elevated blood lead levels in 2005.
2. Lead poisoning in Cayuga County is almost entirely the result of lead paint in homes – paint that is peeling, flaking or simply deteriorating into dust. Homes built before 1978 have a high probability of containing lead; homes built before 1950 are more likely to contain lead.
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, dust, or soil, 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.

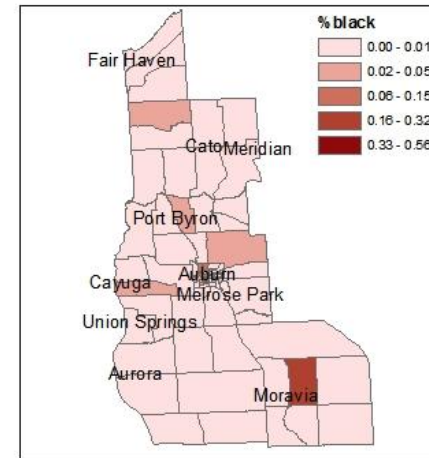
Appendix A
County-wide Distribution of Risk Factors
Cayuga



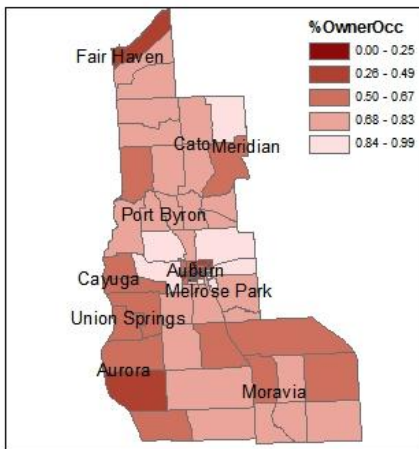
% Kids 6+ in poverty



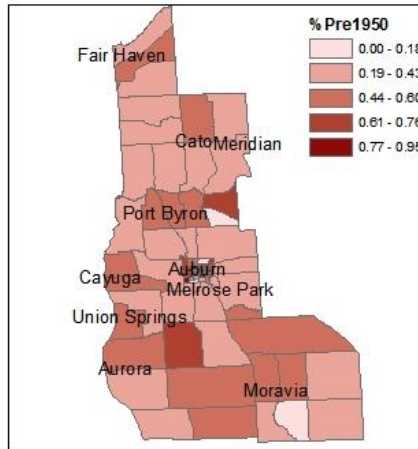
% 25 + without a high school diploma



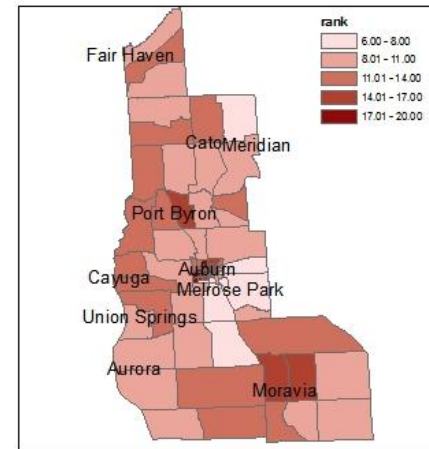
% Black



% Owner Occupied Housing Units



% Pre-1950 Housing Units



Rank

Cayuga County