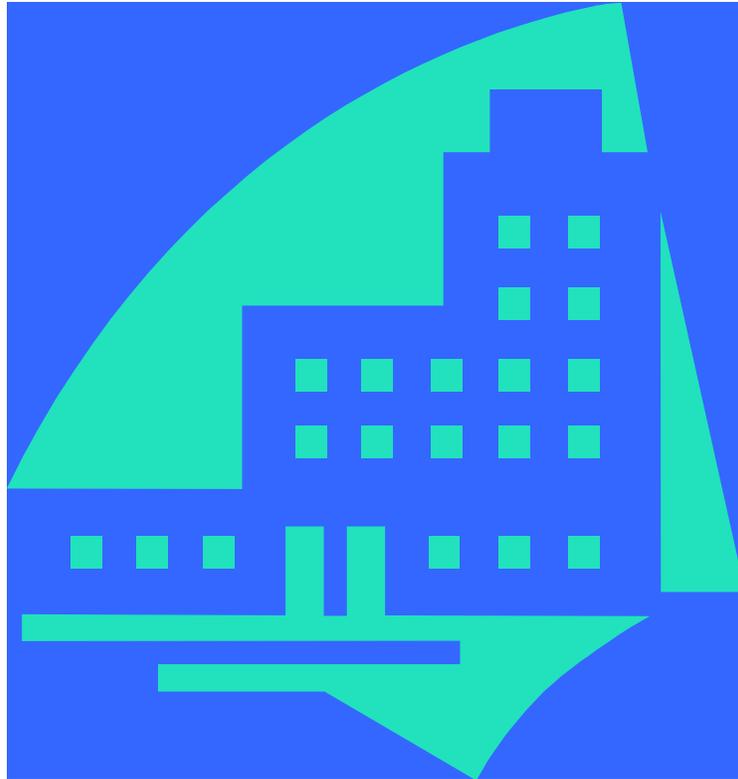


Childhood Lead Poisoning in The City of St. Louis



Annual Report 2003

City of St. Louis
Department of Health and Hospitals
Childhood Lead Poisoning Prevention Program

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The 2003 CLPPP Annual Report and Lead Safe St. Louis Action Plan can be downloaded from: <http://stlouis.missouri.org/citygov/health/>

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Statistics at a Glance

City of St. Louis Childhood Lead Poisoning Surveillance 2003

Demographics

2003 estimate, based on 2000 US Census population, children < 6 years Saint Louis City, MO	28,003
Children in Saint Louis City Screened	12,011
Percent eligible screened	42.9
Mean age in years	3.0
Male:Female Ratio	1.03
Race (%)	
African American	6,094 (50.7%)
Caucasian	735 (6.1%)
Asian	103 (0.9%)
Other	102 (0.9%)
Native American	7 (0.1%)
Multiracial	4 (< 0.1%)
Not reported	4,965 (41.3%)

Lead Poisoning, Saint Louis City:

*Note: Blood lead level units are based on micrograms per deciliter ($\mu\text{g}/\text{dl}$)

Prevalent Cases ($\text{Pb} \geq 10 \mu\text{g}/\text{dl}$)	1,638
Screening Prevalence Rate (%)	13.6%
Incident Cases ($\text{Pb} \geq 10 \mu\text{g}/\text{dl}$)	936
Screening Incidence Rate (%)	9.7%
Case Distribution	
CDC I ($\text{Pb} < 10$)	10,373 (86.4%)
CDC II ($\text{Pb} = 10-19$)	1,421 (11.8%)
CDC III ($\text{Pb} = 20-44$)	209 (1.7%)
CDC IV ($\text{Pb} = 45-69$)	8 (0.1%)
CDC V ($\text{Pb} \geq 70$)	0 (0.0%)
State of Missouri Screening Prevalence Rate (2003)	4.4%
U.S. Estimated Prevalence Rate (NHANES 2000)	2.2%

Note: Screening Prevalence and Incidence rates are based on the number of children screened not on the actual population. The number of incident cases presented in this report does not include 15 possible new cases because they could not be matched to previous test results. Likewise, 600 children were left out of the denominator of the incidence rates because they could not be matched back to previous test results.

Executive Summary

Approximately 434,000 U.S. children aged 1-5 years have blood lead levels greater than the CDC recommended level of 10 micrograms of lead per deciliter of blood (this figure is based on the NHANES 1999-2000 survey).

Lead poisoning can affect nearly every system in the body. Because lead poisoning often occurs with no obvious symptoms, it frequently goes unrecognized. Lead poisoning can cause learning disabilities, behavioral problems, and at very high levels, seizures, coma, and even death.

The major source of lead exposure among U.S. children is lead-based paint and lead-contaminated dust found in deteriorating buildings. Lead-based paints were banned for use in housing in 1978. However, approximately 24 million housing units in the United States have deteriorated leaded paint and elevated levels of lead-contaminated house dust. More than 4 million of these dwellings are home to one or more young children.

Childhood Lead Poisoning in St. Louis City, 2003

Ninety-nine percent of the housing stock in the City of St. Louis was built before 1978 when lead-based paints were banned. This puts St. Louis City residents, especially children, at great risk for being lead poisoned.

In order to identify children with lead poisoning, the City of St. Louis Department of Health has a surveillance system in place to track the number of children less than 6 years of age screened for lead poisoning in the City each year and their blood lead results. In 2003, 43% of city children less than 6 years of age were screened for lead

poisoning. Based on the Missouri Lead Testing Plan updated by the Missouri Department of Health and Senior Services in 2003, 100% of children under the age of 6 should be screened for lead poisoning annually. The City of St. Louis still has some hurdles to overcome in order to obtain this goal. Of the 12,011 children screened for lead poisoning in 2003, 1,638 (13.6%) had a blood lead level of 10 µg/dl or greater, which is the CDC definition of lead poisoning.

Profile of Lead-Poisoned Children in St. Louis City, 2003

Age is an important indicator of lead poisoning among children less than 6 years of age. Children under the age of 1 typically have lower rates of lead poisoning than children over the age of 1. Children 1 year and up are more mobile, they tend to put things in their mouths and they have poor hygiene, which can all contribute to lead

poisoning. In 2003, 12.4% of the 1 year olds screened for lead poisoning had a blood lead level of 10 µg/dl or greater. This is less than the screening prevalence rate for children two years of age (17.5%). Two year olds are more active than 1 year olds and once a child is poisoned, the lead remains in their bloodstream so if a child has an elevated

blood lead level when they are 1 year of age they may still have an elevated level at 2 years of age. Repeated exposure to lead can also contribute to a child continually being poisoned.

Race is another important indicator of lead poisoning due to disparities in income, access to affordable housing and access to medical care. In 2003, half of the children screened and reported to the Health Department were African American (50.7%), which is close to the proportion of African Americans in the population. African American children also account for 78.6% of all lead poisoned children in 2003 and they make up 72.0% of all newly identified cases in the City in 2003.

St. Louis City's Childhood Lead Poisoning Prevention Program, 2003

The Childhood Lead Poisoning Prevention Program (CLPPP) is located in the St. Louis City Department of Health and it functions to maintain the blood lead screening surveillance system and perform lead poisoning prevention and control activities. The CLPPP offers blood lead screenings to children under 6 years of age and coordinates educational workshops for parents, daycares, schools, community organizations and health professionals. In 2003, the Health Department screened 979 children and presented at 96 educational events.

Lead Safe St. Louis

In 2003, The City of St. Louis consulted with Ruth Ann Norton, Executive Director of the Coalition to End Childhood Lead Poisoning to develop an action plan geared towards eliminating childhood lead poisoning in the City of St. Louis. The Action Plan emphasizes the need to adopt a proactive prevention

Where a child lives in the City of St. Louis can also play a role in their exposure to lead. Some areas of the City have older housing stock than others. When examining lead poisoning in the City it is important to look within geographic boundaries (zip code, ward, neighborhood and census tract) to determine the high risk areas of the City. In 2003, the zip codes with the highest screening prevalence rates are: 63107, 63118, 63113, 63110 and 63115. The wards with the highest rates are: 20, 3, 4, 9 and 17, and the neighborhoods with the highest rates are: Gravois Park, Hyde Park, The Ville, Benton Park West and Academy.

The Lead Inspection and Hazard Control Section of the City Department of Health's Division of Environmental Services offers environmental investigations and remediation support. As of January 1, 2004, the unit is housed in the Building Division. The unit consists of certified lead hazard inspectors, certified lead abatement workers and data entry clerks. In 2003, the unit identified 520 units with lead violations and remediated 359 properties.

approach in order to prevent children from being lead poisoned. The goals of the plan include: preventing children from getting sick from lead poisoning; reducing childhood lead poisoning by 50% within 4 years and eradicating childhood lead poisoning in the City of St. Louis by 2010.

Introduction

Although rates have dropped in the last few years, childhood lead poisoning (CLP), defined as a blood lead level of greater than or equal to 10 micrograms per deciliter (µg/dl) in children less than 72 months of age, is a chronic problem in the City of St. Louis. The percentage of screened children found to have elevated blood lead levels is substantially higher in St. Louis City (13.6%) than in the State of Missouri (4.4%) and the rest of the nation (2.2%). In 2003, CLP in the City of St. Louis accounts for 53.1% of all lead poisoned

children in the State of Missouri (1,638/3,087).

Since 1996, the City of St. Louis Department of Health (Health Department) has published annual reports on lead surveillance data and related program activities. The purpose of these reports is to inform residents, caregivers, health care providers and policy makers of the presence of childhood lead poisoning in the City of St. Louis so they can take the necessary steps to address this problem.

Screening Guidelines

It is important to detect and treat lead poisoning at a young age to mitigate the impact of CLP on a child. In 2003, screening for CLP in the City of St.

Louis follows guidelines contained in the Missouri Lead Testing Plan ([Table 1](#)).

Table 1
Missouri Lead Testing Plan (updated in 2003)

High-Risk Areas	Non-High Risk Areas
<ul style="list-style-type: none"> • Any <u>child under the age of six years</u> living in or visiting for 10 hours per week or more, the high-risk area, <u>will be tested annually</u> for lead. • Day care facilities are required to record a "<u>proof of lead testing</u>" signed by the Health Care Provider performing the test <u>within thirty (30) days of the child's enrollment</u>. If the parent/guardian does not provide it or a written statement stating why they do not want the child tested, the Day care facility is to offer the parent assistance in scheduling a test. • Any <u>child found to be at High-Risk</u>, is living in a residence that was built before 1978, and is <u>undergoing renovation</u>, may be tested <u>every six months</u> and once following completion of the work. (Also applies to children found to be at high-risk in non high-risk areas.) 	<ol style="list-style-type: none"> 1. Any <u>child under the age of six years</u> visiting for 10 hours per week or more, a high-risk area, <u>will be tested annually</u> for lead. 2. All <u>Medicaid eligible children</u> will be blood tested for lead at 12 and 24 months of age. It is recommended that all children (regardless of Medicaid eligibility) be <u>tested for lead at 12 and 24 months of age</u>. (This statement does not appear in the law, but applies as HCFA policy and DHSS recommendations.) 3. Beginning at <u>age six months up to age six years</u> every child will be screened by <u>verbal risk assessment</u> (DHSS/DSS questionnaire) to determine whether they are at high risk. 4. <u>Every child, less than age six, found to be at high risk, will be tested for lead.</u>

These guidelines incorporate recommendations from the Centers for

Disease Control and Prevention (CDC), the American Academy of Pediatrics and

the Missouri Medicaid Program and call for the testing of children less than 72 months of age at least twice between 12 and 24 months of age. Preferably one test is given at 12 months and another test at 24 months.

Such testing permits the early identification of CLP during a child's most vulnerable years. Any child between the ages of 12 and 72 months who has never been tested needs to be tested immediately.

The City of St. Louis is defined as a high risk area, therefore, all children less than 6 years of age are required to receive an annual blood lead test. A child's primary health care provider should offer screening as part of their routine care.

The CDC, the State of Missouri and the Health Department all recommend follow-up actions when a child is found to be lead poisoned (Table 2). The Health Department provides many of these follow up actions.

Table 2
CDC Classification of Childhood Lead Poisoning and Follow-up Actions

CDC Class	Blood Lead Level (µg/dL)	CDC/State Recommended Actions
Class I	<9	No action, acceptable risk
Class II	10-19	Risk reduction education
Class II (After repeat test)	15-19	Risk reduction education, environmental investigation, case management
Class III	20-44	Risk reduction education, environmental investigation, case management
Class IV	45-69	Chelation therapy and same as Class III actions
Class V	≥70	Two drug chelation and same as Class III actions

In 2003, the Health Department provided environmental investigations to determine the possible sources of lead

poisoning for children who tested at a level of greater than or equal to 12 µg/dl.

Surveillance of Childhood Lead Poisoning

The City of St. Louis Department of Health collects and analyzes all reports of blood lead tests performed on children under the age of 6 living in the City of St. Louis. State regulation and local code require the reporting of all blood lead test results whether elevated or not to the local health department.

The Health Department is responsible for the daily entry of lead test results for those children who reside in the City into the Systematic Tracking of Elevated Lead Levels and Remediation (STELLAR) database. The software is provided by the CDC in Atlanta, GA.

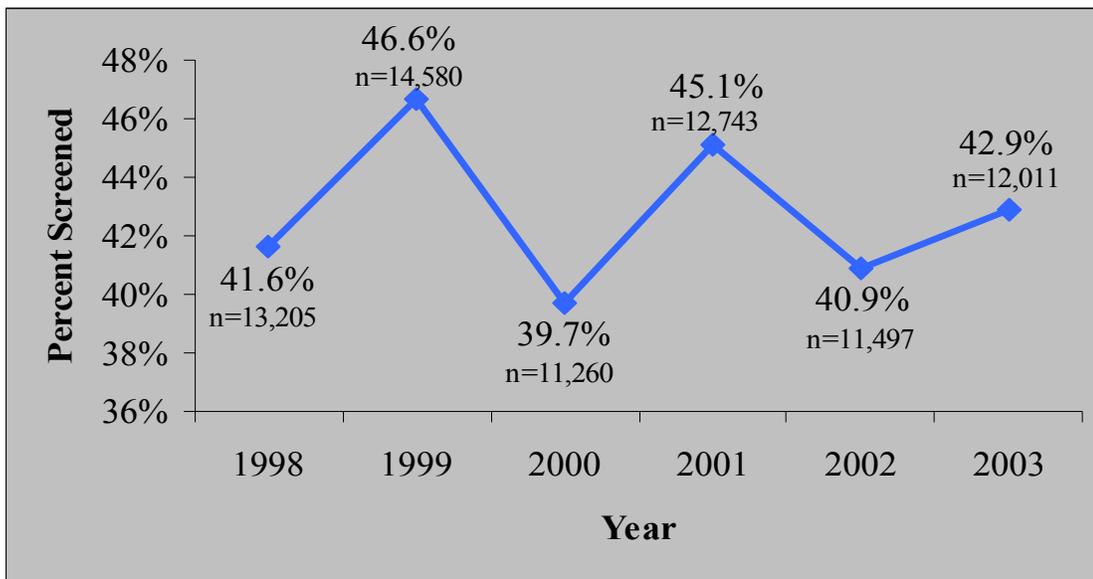
Childhood Lead Poisoning in St. Louis City, 2003

Screening for Lead Poisoning

In 2003, 43% (12,011/28,003) of city children less than 6 years of age were screened for lead poisoning (Figure 1). The rate of children screened increased in 2003 after a decrease in 2002. Based on the Missouri Lead Testing Plan (updated in 2003), all St. Louis City

children under the age of 6 should be tested annually for lead poisoning. This means that all 28,003 children under the age of 6 should have been tested in 2003 and that close to 60% of these children are not being tested according to the recommended time frame.

Figure 1
Children Screened for Lead Poisoning from 1998 to 2003



Health Providers of Lead Screenings

In previous years, community providers such as the Federally Qualified Health Centers and Connect Care performed the majority of the lead screenings. In 2001 this trend began to change with private physicians, clinics and hospitals providing a major portion of blood lead screenings. The Federally Qualified Health Centers, Connect Care and Health Department screened 4,492 out of 12,011 (37.4%) children in 2003 (Table A-2). Private Physicians, Private

Practices and Hospitals screened 7,229 (60.2%) (Table A-2). The increase in childhood blood lead screenings by private medical facilities is encouraging since screening should be a part of comprehensive health services for all children. Providers who serve low income or uninsured clients and those who target high risk children tend to have higher screening prevalence rates than private practices/physicians and hospitals.

Blood Lead Test Results

The Screening Prevalence Rate (SPR) of CLP is the number of children screened with blood lead levels $\geq 10 \mu\text{g}/\text{dl}$ out of the total number of children screened. It includes those who test elevated for the first time (incident cases) and those with elevated test results from prior screenings. It is difficult to reduce the lead body burden in children, especially if continued exposure occurs. Once poisoned, children can maintain elevated levels for some time unless aggressive

measures are taken. The overall Screening Incidence Rate (SIR) for the City of St. Louis in 2003 is 9.7% and the SPR is 13.6%, which is a slight decrease from 2002. However, there is insufficient evidence to conclude that the problem is being resolved.

Over half of the children at risk in the City of St. Louis are still not being screened annually by their health care providers. Nothing is known about their blood lead levels.

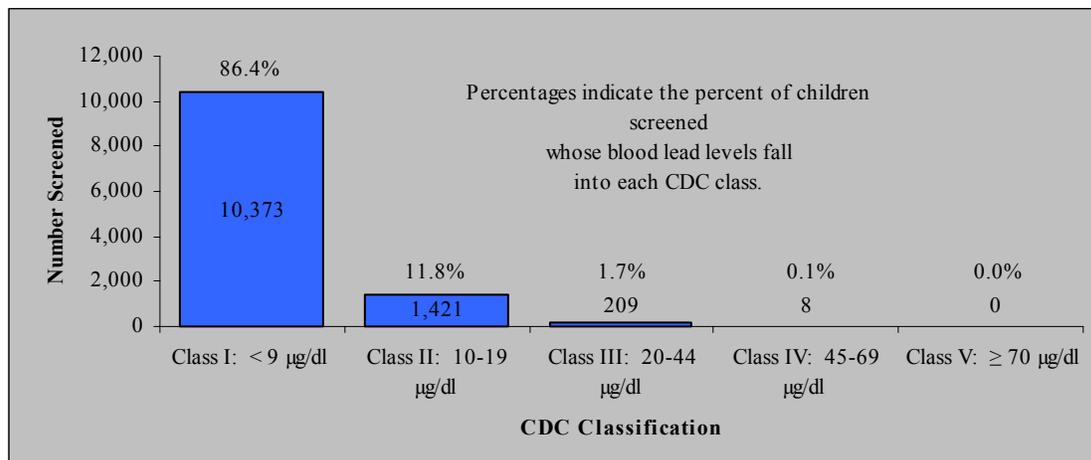
Severity of Lead Poisoning

The majority of the children screened in 2003 (86.4%) (Figure 2), tested below $10 \mu\text{g}/\text{dl}$, the level at which a child is considered lead poisoned. The rest of the children screened either fall into the second class with blood lead levels between $10\text{-}19 \mu\text{g}/\text{dl}$ or in the third class with blood lead levels between $20\text{-}44 \mu\text{g}/\text{dl}$.

In 2003, 1,638 or 13.6% of all children tested had elevated blood lead levels (Figure 2). Of these, 11.8% were in Class II ($10\text{-}19 \mu\text{g}/\text{dl}$); 1.7% in Class III ($20\text{-}44 \mu\text{g}/\text{dl}$) and .1% in Class IV ($45\text{-}69 \mu\text{g}/\text{dl}$) (Figure 2). Despite the fact that most lead poisoned children are in the lowest CDC Elevated Class, these figures are alarming since even these low levels of blood lead can have an adverse impact on a child's development. Determining the acceptable level of lead in a child's blood has been a source of debate. Studies have shown that even a lead level of $5 \mu\text{g}/\text{dl}$ in a child's bloodstream can lead to long term effects. Experts state that no level of lead is acceptable and that the CDC should lower the level defining lead poisoning to $5 \mu\text{g}/\text{dl}$.

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Figure 2
Case Distribution of all Children Screened in 2003

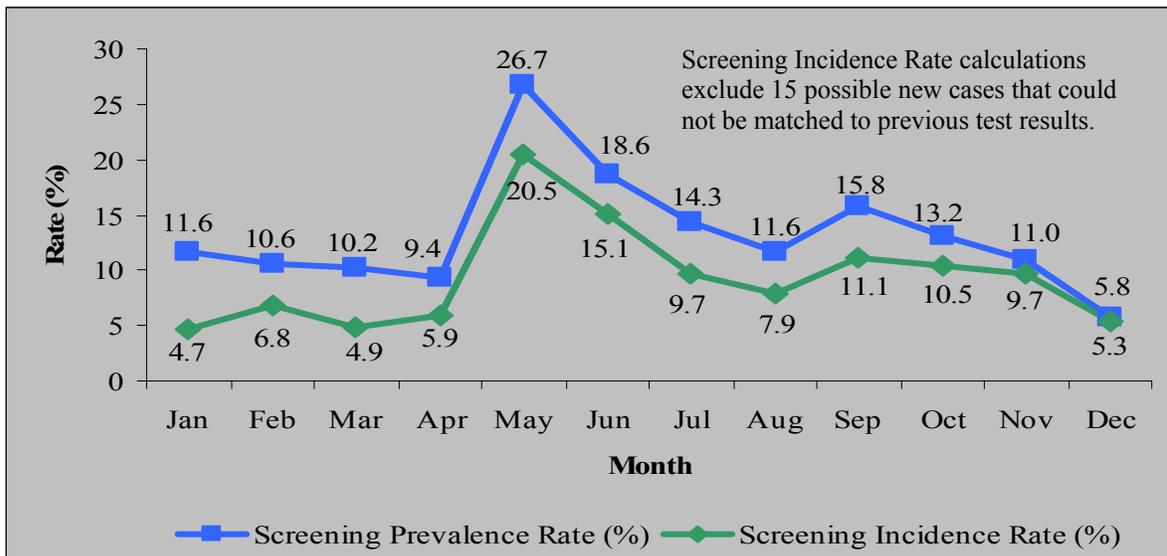


Seasonality and Lead Poisoning

Higher Screening Prevalence and Screening Incidence Rates are seen in the summer months and into the fall of the year (Figure 3). This pattern is similar to those of previous years. However, in 2003, the peak occurs at the beginning of the summer in May as

opposed to the fall months (Figure 3). Regardless of increased screening in the summer months, the increase in cases found is due to greater exposure during the summer months to contaminated soil while playing outside.

Figure 3
Seasonal Variation in Screening Prevalence and Screening Incidence Rates in 2003



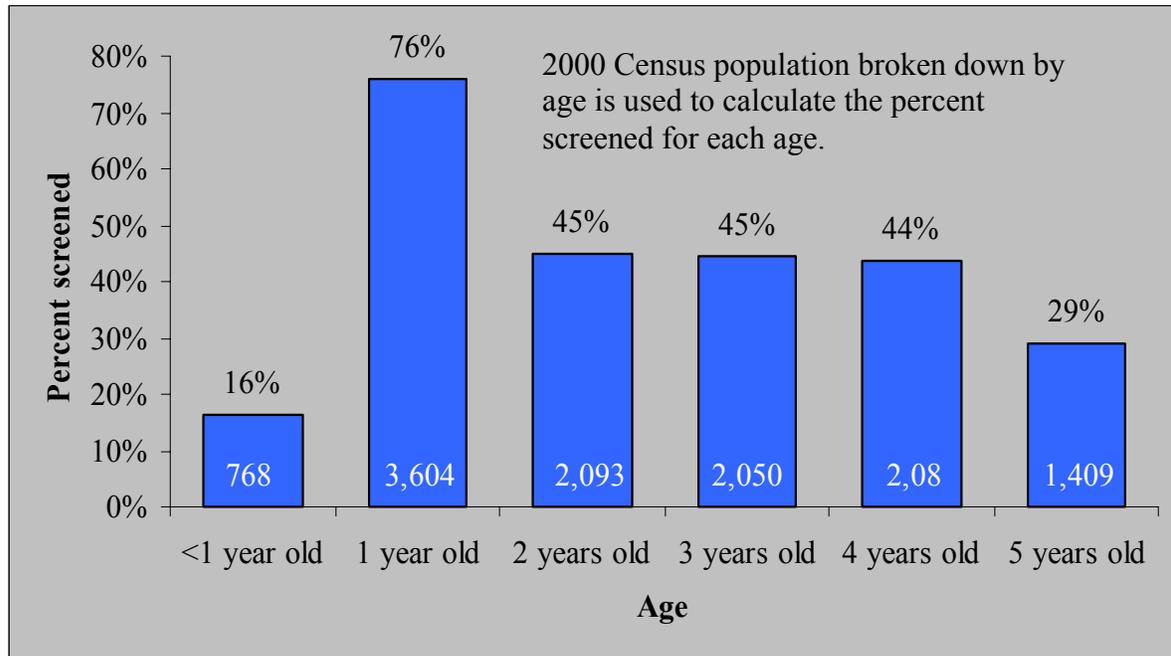
Profile of Lead-Poisoned Children in St. Louis City, 2003

Screening by Age

Looking within age groups, the highest screening rate (76%) is for children 1 year old (Figure 4). This is the age at which the first recommended

screening should occur. However, a similar peak in screenings should be seen in the 2 year old population when the second recommended screening test is to occur on all children.

Figure 4
Children Tested for Lead Poisoning by Age in 2003



Lead Poisoning Within Age Groups

The highest age-specific SIR in 2003 is 13.1% among the 2 year olds screened for lead poisoning (Figure 5). The identification of incident cases in this 'second testing cohort' of older children may be due to the failure of health care providers to fully implement screening recommendations at younger ages.

Children 2 years of age also have the highest SPR (17.5%) (Figure 5). These children are more active in exploring their environments and also have poor hand-washing skills. The SPR rate stays

relatively high through the rest of the age groups greater than or equal to 3 years of age. The longer a child remains elevated the greater the risk of long term damage to their development.

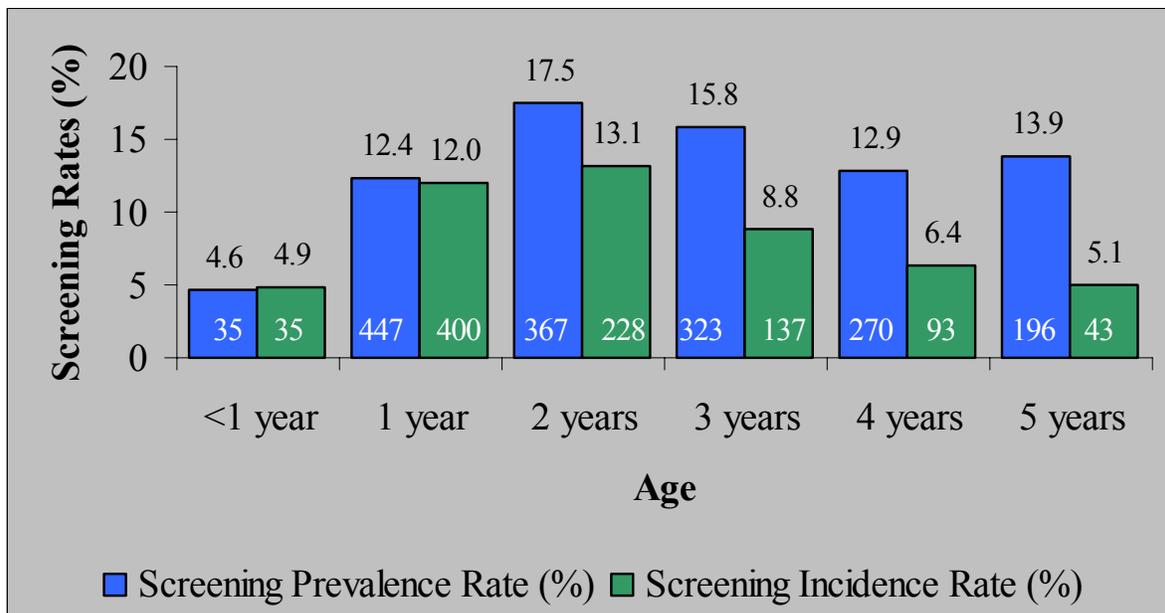
The SPR for children 1 year of age remains fairly constant with a reported rate of 12.0% in 2002 and a rate of 12.4% in 2003 (Figure 5), indicating that children at this age are still being lead poisoned at the same rate. However, there are still fewer children being poisoned at this age than at 2 and up.

Children at 1 year of age are less mobile than children at 2 years of age. Two and 3 year olds may also have higher screening prevalence rates than 1 year olds because lead can stay in a child's blood stream and is difficult to get rid of once a child becomes poisoned. Therefore, it is important to also look at the screening incidence rate, which only includes the new cases of lead poisoning. The SIR for 2 year olds

(13.1%) is still higher than that for 1 year olds (12.0%), but it does begin to decrease for 3 year olds (8.8%) (Figure 5).

The Screening Prevalence and Incidence Rates for children less than 1 year of age are almost identical (Figure 5). Children at this age are young enough that they have never been tested before.

Figure 5
Prevalent and Incident Cases of Lead Poisoning by Age in 2003

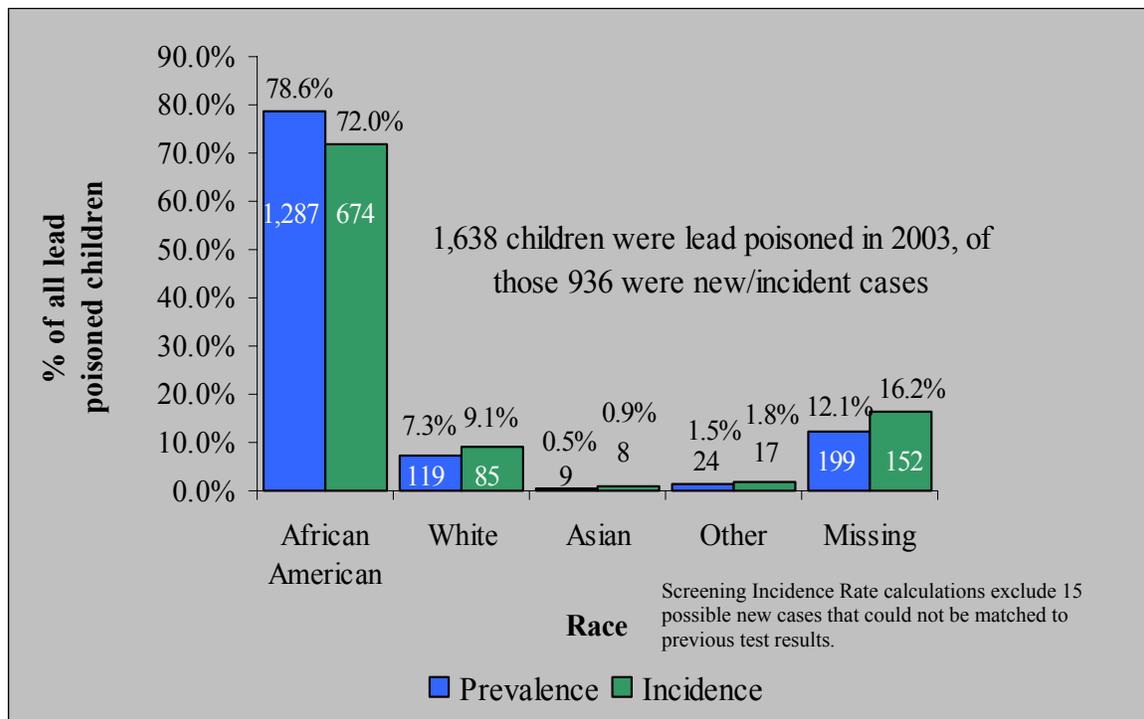


Race and Lead Poisoning

In and of itself, race is not an indicator of CLP. However, other risk factors such as poverty, poor housing stock and poor access to medical care are higher among minorities and these factors contribute to CLP. In 2003, half of the children screened and reported to the Health Department are African American (50.7% or 6,094/12,011)

(Table A-1), which is close to the proportion of African Americans in the population. African American children also account for 78.6% (1,287/1,638) of all lead poisoned children in 2003 and they make up 72.0% of all newly identified cases in the City in 2003 (Figure 6).

Figure 6
Prevalent and Incident Cases of Lead Poisoning by Race in 2003



Gender and Lead Poisoning

Nearly even numbers of males and females were tested for CLP in 2003. Females make up 48% of children tested in 2003 while males make up 49%.

Males are only slightly more likely to be lead poisoned (SPR=15%) than females (SPR=13%) in 2003 (Table A-1).

Lead Level History of Children Screened in 2003

Of those children in 2003 who tested < 10 µg/dl, 10.5% or 1,091 (Table 3) had an elevated blood lead level in the past. Of those children who had a blood lead level ≥ 10 µg/dl in 2003, 41.9% or 687 (Table 3) previously had an elevated blood lead level. Twenty-one percent (340/1,638) never had an elevated blood

lead level before 2003 and 36.4% (596/1,638) were tested for the first time in 2003 (Table 3). These numbers indicate both a problem of chronic lead poisoning in St. Louis City children and a substantial risk for children living in the City to become poisoned.

**Table 3
CDC Class by Lead Level History**

CDC Classes Not Elevated	Screened for first time		Never elevated		Previously elevated		Total screened
	N	%	N	%	N	%	
Class I < 10 µg/dl	5,212	53.2	3,485	35.6	1,091	11.1	9,788
585 children were not included in breakdown because they could not be matched on their previous testing history.							
CDC Classes Elevated	Screened for first time		Elevated for first time		Continue to be elevated		Total screened
	N	%	N	%	N	%	
Class II 10-19 µg/dl	515	36.6	310	22.0	581	41.3	1,406
Class III 20-44 µg/dl	77	36.8	28	13.4	104	49.8	209
Class IV 45-69 µg/dl	4	50.0	2	25.0	2	25.0	8
Class V ≥ 70 µg/dl	0	-	0	-	0	-	-
Classes II through V	596	36.7	340	20.9	687	42.3	1,623
15 children were not included in breakdown because they could not be matched on their previous testing history.							

Geography and Lead Poisoning

The use of geography in lead surveillance assists the Health Department in developing targeted programs in high prevalence areas. It also allows for the analysis of the CLP problem on a smaller, more local scale.

Maps can help local leaders understand the problem as it affects their community and motivate them to develop, promote and participate in prevention activities.

Zip Code

Screening rates by zip code range from 1.7% to 64.1% in 2003 (Table A-3). The zip codes were sorted and ranked by the SPR to determine which zip codes have the highest prevalence of lead poisoning in 2003. The number of prevalent cases and population under 6 were also taken into account when sorting the zip codes. The 5 zip codes with the highest SPRs in 2003 are: 63107 (27.3%), 63118 (25.4%), 63113

(20.8%), 63110 (20.7%) and 63115 (20.2%) (Table A-3). These zip codes were also reported as having the highest prevalence in 2002 and continue to have the highest occurrence of new cases (incidence) in 2003. For a visual representation of the screening prevalence and screening incidence rates by zip code in 2003 refer to Maps B-1 and B-2.

Ward

Screening rates by ward range from 7.8% to 63.0% in 2003 (Table A-4). Two of the wards with the highest screening rates also have the highest screening prevalence rates. The 5 wards with the highest SPRs in 2003 are: Ward 20 (29.6%), Ward 3 (26.6%), Ward 4 (23.5%), Ward 9 (22.0%) and Ward 17 (21.4%) (Table A-4). These wards also had the highest SPRs in 2002 and have among the highest screening incidence rates in 2003.

The use of ward to target lead prevention and control activities brings with it an active and established local political committee and local alderperson. Dissemination of this information can assist an alderperson in planning development and housing programs within their wards. Additionally, their involvement in lead prevention activities can increase community awareness. For a visual representation of the screening prevalence and screening incidence rates by ward in 2003 refer to Maps B-3 and B-4.

Neighborhood

Screening rates by neighborhood range from 0.7% to 90.9% (Table A-5). Neighborhoods were ranked by screening prevalence rate to determine which neighborhoods had the highest prevalence of lead poisoning. Ranking also took into account the number of prevalent cases and the population under six. Grouping children by neighborhood creates small sub-groups, therefore, some neighborhoods appear to have high SPRs when they only have a few cases of lead poisoning and small population size. These neighborhoods were not included in the ranking of neighborhood by SPR. The five neighborhoods with the highest SPRs in 2003 are: Gravois Park (32.8%), Hyde Park (29.8%), The Ville (29.3%), Benton Park West (28.1%) and Academy (26.8%) (Figure 7 and Table A-5). Gravois Park, The Ville, Benton Park West and Academy

also have the highest SIRs in 2003. The top 20 neighborhoods with the highest screening prevalence rates in 2003 are graphically represented in Figure 7.

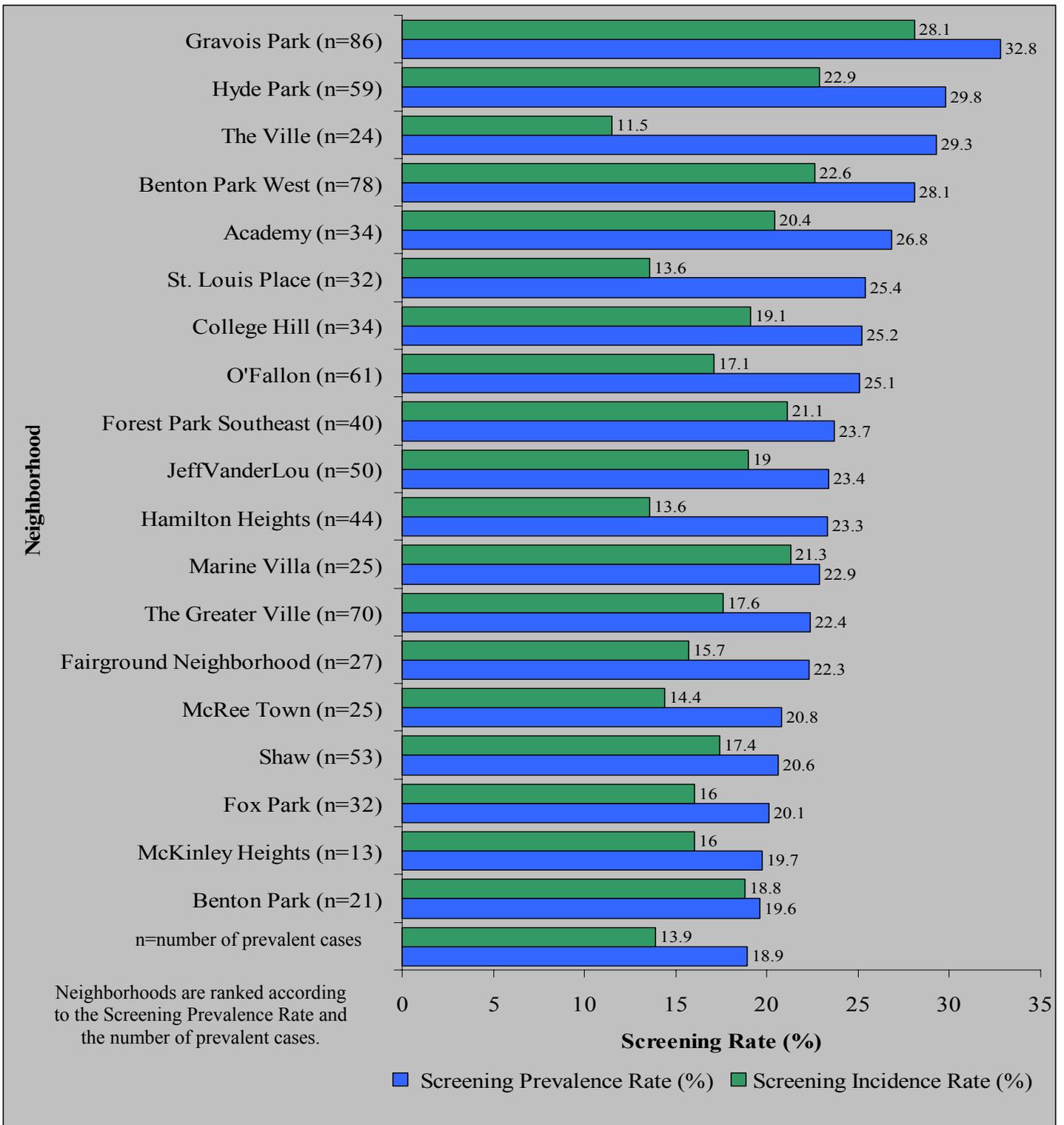
As with ward, the use of neighborhood to target lead prevention and control activities brings with it an active and established infrastructure. Dissemination of this information can assist neighborhood groups in planning for prevention activities and helping residents become aware of the problem and the assistance that is available through local programs. Neighborhood boundaries identify smaller areas for prevention and control than zip code. For a visual representation of the screening prevalence and screening incidence rates by neighborhood in 2003 refer to Maps B-5 and B-6.

Census Tract

Screening rates by census tract range from 7.9% to 83.8% in 2003 (Table A-6). The 5 census tracts with the highest SPRs in 2003 are: 1114 (33.7%), 1241 (33.3%), 1267 (33.0%), 1186 (32.3%) and 1164 (30.4%) (Table A-6). These census tracts also have the highest SIRs

in 2003. Data on housing broken down by census tract are available from the 2000 Census and the City Assessor's Office.

Figure 7
Elevated Blood Lead Level Screening Prevalence and Incidence Rates by Neighborhood in 2003
 (only the top 20 neighborhoods with the highest SPRs are shown)



St. Louis City’s Childhood Lead Poisoning Prevention Program, 2003

Lead Poisoning Prevention and Control Activities

In 2003, the Health Department offered blood lead screenings in the Childhood Lead Poisoning Prevention Clinic and organized off site screenings in the community. The Health Department screened 979 children or 8.2% of all children tested in 2003 (Table A-2), which is a slight decrease from 2002 when the Health Department screened 1,127 (9.8%) children. The Health Department identified 213 lead poisoned children (Table A-2), 13.0% of all children found with CLP in 2003. Out of the 3 Health Department screening sites, the mobile van identified the most cases (SPR 36.1%) (Table A-2). In warm weather months, this van rotates through neighborhoods to offer outreach, education and screening activities.

The Lead Clinic is where blood lead tests are performed to verify cases of childhood lead poisoning and to monitor a child’s progress throughout the many months it may take for their blood lead

level to drop and remain below 10 µg/dl. This clinic is also the repository of testing and case management files for all children reported with an elevated blood lead test. In 2003, the Clinic provided lead testing for 229 clients (Table A-2). These are children who were referred in for additional testing by an outreach worker, case manager or their primary care provider.

Beyond the provision of testing at off site events, outreach workers provide one-on-one education to parents and care providers. They also educate on the ways to prevent childhood lead poisoning and on the resources available to families with a lead poisoned child.

Lead education is the primary responsibility of the lead educator, but all portions of the CLPPP play a role in educating the public and child care providers about the hazards of lead poisoning and how to prevent it. In 2003, CLPPP gave presentations to 2,474 persons at 96 events (Table 4).

Table 4
Health Education Activities Conducted by the Childhood Lead Poisoning Prevention Program in 2003

Function	Audience Type	Age Group	Number of Participants	Number of Events
Educational	Daycares, Schools	<6	675	63
Educational	Parents/School Staff	Adults	208	11
Informational/Educational	Community Fairs	Adults	1190	14
Educational	Community Organizations	Adults	97	4
Conference/Group Meeting	Health Professionals	Adults	304	4

The Outreach team also plays a critical role in locating a child once an elevated

test result is received. Laboratory reports do not always include locating

information and addresses, and even when addresses are provided they may be incorrect. Outreach workers attempt to find children so they can receive follow up testing or other case management activities.

In 2003, the Clinic also served as the source of referrals to the Lead Inspection and Hazard Control Section. Clinic staff prepared referrals for environmental investigation on those children with any single blood lead test $\geq 12 \mu\text{g/dl}$. In 2003, the clinic made 1,076 such referrals (Table 5).

Lead Inspection and Hazard Control

The Lead Inspection and Hazard Control Section of the City Department of Health's Division of Environmental Services offers environmental investigations and remediation support. This unit consists of certified lead hazard inspectors, certified lead abatement workers and data entry clerks. Lead inspections are performed on a request and/or referral basis from a variety of sources. In 2003, the majority of reports (72.2%) are clinic referrals (Table 5), which occur when an inspection is requested to follow up on a lead-poisoned child. This is secondary

prevention, taken after the poisoning has occurred but to prevent further exposure or new cases. Occasionally, clinic referrals are made on pregnant women but these are less common. Referrals from the other sources (Citizens Service Bureau, Day Care Centers, the Building Division and Section 8 Housing) are not the result of a child being lead-poisoned but are for primary prevention so as to identify and correct a lead hazard prior to a child being exposed. These referrals amount to 27.8% of all referrals in 2003 (Table 5).

Table 5
Inspection Referrals Made to the Lead Inspection and Hazard Control Section of the Health Department in 2002 and 2003

Referral Source	2003		2002		2002-2003
	Number	Percent	Number	Percent	Percent Change
Lead Clinic	171				
HUD Elevated	898				
HUD Prevention	7				
<i>Clinic Total</i>	1,076	72.2	1,113	75.3	-3.3
Citizens' Service Bureau	330	22.1	286	19.3	15.4
Day Care Centers	25	1.7	20	1.4	25.0
Building Division	-	-	13	0.9	-
Conservation District	28	1.9	-	-	-
Section 8 Housing	31	2.1	46	3.1	-32.6
Unknown	1	0.1	1	0.1	0.0
Total	1,491	100.0	1,479	100.0	0.8

After a referral is made, a lead inspector goes out to the property and performs an inspection. In 2003, 39.2% (520/1,327) of the units initially inspected proved to have lead hazards (Table 6). The property owners were cited with violations under Chapter 11.22.120 of the Saint Louis City Revised Code and given a set time for remediation to take place. The volume of re-inspections (4,820) (Table 6) includes monitoring the progress of properties towards remediation and follow up clearance testing after remediation is completed.

An inspection was not permitted by the occupant for 127 housing units (Table 6) and is a serious impediment to the reduction or removal of lead from a child’s environment. In 2003, a total of 359 properties were remediated (Table 6) in order to reduce the risk of lead poisoning to other children. This appears to be an increase from 2002. However, remediation data for 2002 is missing work performed from a few sources.

Table 6
Lead Inspection Activities and Remediations in 2002 and 2003

Activity	2002	2003	Percent Change
Dwelling Units Inspected	1,193	1,327	11.2%
Hazardous Units	719	520	-27.7%
Re-inspections	4,827	4,820	-0.1%
Attempts to Inspect	1,490	2,545	70.8%
Inspections not Performed	156	127	-18.6%
Owner/Agent Remediations	223	279	25.1%
Health Department Remediations	97	80	-17.5%
Court Referrals	42	61	45.2%

An important component of the Health Department’s Childhood Lead Poisoning Prevention Program is the lead remediation team that actually performs lead remediation work in homes of private citizens to protect a lead poisoned child from further exposure. Families who receive this assistance must meet federal poverty guidelines and have a child in the home that has had an elevated blood lead level (EBLL). In 2003, the Lead Hazard Control team remediated 80 homes, which is slightly less than the 97 homes in 2002 (Table 6).

property is referred to court for legal action. In 2003, 61 cases relating to lead hazards were referred to court and charged (Table 7). The disposition of the cases indicates that a few cases were dismissed (4) (Table 7). Bench warrants for failure to show were issued on 20 of the charged cases although these warrants are not served on defendants (Table 7). In 2003, 7 defendants of the 61 charged cases were assessed fines for the violations on their properties (Table 7). The total amount of fines collected from charged cases in 2003 was \$978 (Table 7). These funds go to the general revenue account of the court and are not dedicated for any lead prevention or control activities.

When lead hazards are not corrected within the specified time period, the

Table 7
Court Activities for Lead Remediation in 2002 and 2003

	2002	2003	Percent Change
Cases Charged	30	61	103.3%
Disposition of Cases			
Appeal	0	5	-
Bench Warrant	14	20	42.9%
Continued by Defendant	1	16	1500.0%
Continued by City	1	0	-100.0%
Dismissed	0	4	-
Fine Paid	7	7	0.0%
Nolle Processed	5	2	-60.0%
Stayed for payment	2	7	250.0%
Additional Information			
Average number of times defendant was in court	4	3	-25.0%
Total cases open	18	48	166.7%
Total cases closed	12	13	8.3%
Total fines	\$1,636.00	\$5,027.00	207.3%
Total fines paid	\$858.00	\$978.00	14.0%
Average fine paid	\$122.57	\$139.71	14.0%
Number of defendants paying fines	7	7	0.0%

Lead Safe St. Louis

Action Plan

In order to address the ongoing problem of lead poisoning in the City of St. Louis, Ruth Ann Norton, Executive Director of the Coalition to End Childhood Lead Poisoning, was invited to St. Louis to perform an assessment of the lead problem in the City. On October 27, 2003, Ms. Norton presented her findings and recommendations to Mayor Francis Slay, resulting in the creation of “Lead Safe St. Louis: A Comprehensive Action Plan for the Eradication of Childhood Lead Poisoning in St. Louis By 2010.”

The Action Plan emphasizes the need to adopt a proactive prevention approach as opposed to the reactive approach traditionally taken by the City. A Lead Coordinator will oversee the operations and management of the Lead Safe St. Louis Plan. Integral to this plan is the coordination of efforts currently underway by the Department of Health, Building Division and the Community Development Administration. Key highlights of the plan include:

Goals:

- Prevent children from getting sick from lead poisoning.
- Reduce childhood lead poisoning by 50% within four years.
- Eradicate childhood lead poisoning in the City of St. Louis by the end of 2010.

Strategies:

- Management Plan: designed to institute effective coordination, collaboration, and accountability among the various City government and other entities committed to the prevention and elimination of childhood lead poisoning.

- Prioritization Plan: prioritizes prevention, intervention and education activities.
 - Action Plan:
Includes:
 - Inspections: routine, targeted and emergency
 - Intervention:
 - Enforcement of state and federal laws.
 - Remediation of lead-contaminated housing.
 - Relocation of families displaced due to lead-contaminated homes.
 - Education and outreach
 - Contractor capacity building
 - Legislative initiatives to provide incentives and upgrade enforcement
1. Universal blood lead testing of children who reside in High-Risk areas of Missouri. Risk assessments may indicate the need for blood lead testing at an earlier age (six months) and/or more frequently. Missouri Lead Poisoning Risk Assessment Tool.
 2. Immediate blood testing of any child 12 to 72 months who does not have a documented blood lead test. Childhood Blood Lead testing and Follow-up Guidelines.
 3. Re-evaluation of all children less than six years of age, for risk of lead poisoning at health care visits (at least annually). For this purpose, a lead risk assessment tool is recommended. Conduct a blood lead test for those found to be at risk.

Discussion

Surveillance data are subject to limitations and the interpretations of the findings reported must be viewed with these limitations in mind. Children are not randomly tested for lead exposure. Screening for lead poisoning in St. Louis City is weighted towards those at greatest risk, and the rates in this report are likely higher than true population rates. True childhood lead poisoning prevalence and incidence rates require that all children at risk have an equal chance of selection into the population studied. Although a large percentage of St. Louis City children who are at risk of lead poisoning are included in the surveillance database, not all at risk are included. The missing 50% could represent children tested but not reported to the Health Department. However, it is more likely that the majority of children not appearing in the surveillance database were not lead screened in 2003. Children between the ages of 3-6 years may no longer be considered at high risk so providers

choose not to test them. Providers also neglect to screen younger children. Forty-six percent of children younger than 3 years of age, at the greatest risk, were not tested in 2003.

Entry into the surveillance sample was not done by random selection. The surveillance sample includes all children under the age of 6 screened for lead poisoning in the City of St. Louis. Housing age and condition are related to risk for CLP. In St. Louis City, poor children are more likely to be screened for lead exposure than their affluent cohorts. This is largely due to the screening practices of experienced community health centers and because poor areas tend to be targeted for lead screening and education more than affluent areas due to higher screening prevalence and incidence rates in poor areas. The screening prevalence and incidence rates reported portray a level of extreme risk for segments of St. Louis City children.

Summary

Childhood lead poisoning is an ongoing problem in the City of St. Louis. There are still families and health care providers who are uninformed about the risks and long term effects of lead poisoning.

Keeping children from ever becoming poisoned through primary prevention is the preferred method to addressing the problem of childhood lead poisoning. This entails providing housing and play areas free from lead contamination for all children; education of anyone who cares for children as to the potential sources and hazards of lead; good nutrition for children to retard the absorption of lead by their bodies and closer supervision to keep them safe and away from contaminated areas.

The early detection and treatment of lead poisoned children (including the removal of lead from their environment on a piece meal basis) through secondary prevention is the second best method of preventing childhood lead poisoning. Ideally, homes should be made lead safe before children live in them and are exposed. Early detection and treatment can help health care providers reduce a child's lead body burden and motivate the care providers to remove lead from the child's environment. However, it is

obvious from the screening data for 2003 that children residing in the City of St. Louis are not receiving the basic annual lead testing from their primary health care providers. Over half of our children do not receive this simple test.

The City of St. Louis has seen a modest decline in the screening prevalence rate from 2002 (14.6% SPR to 13.6% in 2003). This modest decline in rates may be due to changes in provider testing patterns. Until all City children receive the recommended annual screening from their primary health care provider, surveillance data will not reflect a true picture of childhood lead poisoning in the City of St. Louis.

This modest decrease in SPR does not indicate that the problem of childhood lead poisoning is any less troublesome for the City of St. Louis than in the past. The SIR (9.6%) remained the same as it was in 2002. Each year the majority of all children found to be lead poisoned in the State of Missouri reside in the City of St. Louis (53.1%) in 2003. Even more discouraging is the astounding number of children who continue to carry a lead burden in their bodies from year to year.

Appendix

Table A-1
Health Care Providers of Blood Lead Screenings in 2003

Provider	Number Screened	Percent of Total Screened	Number ≥10 µg/dl	SPR (%)	New Cases	SIR (%)
St. Louis City Health Department						
Van	269	2.2	97	36.1	65	31.0
Fixed Screening	481	4.0	32	6.7	20	4.9
Lead Clinic	229	1.9	84	36.7	31	20.4
<i>STLCHD Sub total</i>	<i>979</i>	<i>8.2</i>	<i>213</i>	<i>21.8</i>	<i>116</i>	<i>15.1</i>
Connect Care						
Homer G. Phillips	134	1.1	45	33.6	21	22.8
Florence Hill	352	2.9	69	19.6	33	13.1
Lillian Courtney	381	3.2	68	17.8	38	13.1
Max Starkloft	490	4.1	103	21.0	56	15.8
<i>Connect Care Sub total</i>	<i>1,357</i>	<i>11.3</i>	<i>285</i>	<i>21.0</i>	<i>148</i>	<i>15.0</i>
Community Health Centers						
<i>Grace Hill</i>						
South Jefferson	14	0.1	2	14.3	2	14.3
Neighborhood	15	0.1	3	20.0	3	20.0
Soulard	25	0.2	4	16.0	2	10.0
St. Stephens	0	0.0	0	0.0	0	0.0
Water Tower	20	0.2	7	35.0	5	29.4
<i>Grace Hill Sub total</i>	<i>74</i>	<i>0.6</i>	<i>16</i>	<i>21.6</i>	<i>12</i>	<i>18.2</i>
<i>Family Care</i>						
Carondelet	129	1.1	11	8.5	7	6.4
Health Center	217	1.8	47	21.7	24	13.9
<i>Family Care Sub total</i>	<i>346</i>	<i>2.9</i>	<i>58</i>	<i>16.8</i>	<i>31</i>	<i>11.0</i>
Myrtle Hilliard	648	5.4	159	24.5	79	16.8
Peoples	1,088	9.1	114	10.5	69	7.3
<i>CHCs Sub total</i>	<i>2,156</i>	<i>18.0</i>	<i>347</i>	<i>16.1</i>	<i>191</i>	<i>10.8</i>
Hospitals						
Cardinal Glennon	774	6.4	122	15.8	82	12.4
St. Louis Children's Hospital	1,889	15.7	278	14.7	146	9.2
Forest Park Hospital	94	0.8	16	17.0	10	12.2
St. Louis University Hospital	27	0.2	1	3.7	0	0.0
Other Hospitals	62	0.5	8	12.9	5	9.1
<i>Hospitals Sub total</i>	<i>2,846</i>	<i>23.7</i>	<i>425</i>	<i>14.9</i>	<i>243</i>	<i>10.1</i>
Other Categories						
Clinics/Group Practices	3,408	28.4	274	8.0	175	6.2
Private Physicians	975	8.1	93	9.5	63	7.3
All Others	290	2.4	1	0.3	0	0.0
<i>Other Categories Sub total</i>	<i>4,673</i>	<i>38.9</i>	<i>368</i>	<i>7.9</i>	<i>238</i>	<i>6.4</i>
Grand Total	12,011	100.0	1,638	13.6	936	9.7

Table A-2
Demographic Profile of Children Screened for Lead Poisoning: St. Louis City, 2003 (N=12,011)

		Number Screened	Percent of Total Screened	Number ≥ 10 µg/dl	Screening Prevalence Rate (%)	Number New Cases	Screening Incidence Rate (%)	< 10 µg/dl		10-19 µg/dl		20-44 µg/dl		45-69 µg/dl	
								N	%	N	%	N	%	N	%
Age	Less than 1 year old	768	6.4	35	4.6	35	4.9	733	95.4	32	4.2	2	0.3	1	0.1
	1 year old	3,604	30.0	447	12.4	400	12.0	3157	87.6	380	10.5	64	1.8	3	0.1
	2 years old	2,093	17.4	367	17.5	228	13.1	1726	82.5	312	14.9	53	2.5	2	0.1
	3 years old	2,050	17.1	323	15.8	137	8.8	1727	84.2	282	13.8	40	2	1	0
	4 years old	2,087	17.4	270	12.9	93	6.4	1817	87.1	249	11.9	21	1	0	0
	5 years old	1,409	11.7	196	13.9	43	5.1	1213	86.1	166	11.8	29	2.1	1	0.1
Gender	Female	5,729	47.7	737	12.9	426	9.3	4992	87.1	639	11.2	94	1.6	4	0.1
	Male	5,928	49.4	869	14.7	482	10.2	5059	85.3	752	12.7	113	1.9	4	0.1
	Unknown	354	3.0	32	9.0	28	8.2	322	91	30	8.5	2	0.6	0	0
Race	African American	6,094	50.7	1287	21.1	674	14.7	4807	78.9	1119	18.4	163	2.7	5	0.1
	White	735	6.1	119	16.2	85	13.7	616	83.8	98	13.3	19	2.6	2	0.3
	Asian	103	0.9	9	8.7	8	8.7	94	91.3	8	7.8	0	0	1	1.0
	Multiracial	4	0.0	0	0.0	0	0.0	4	100	0	0	0	0	0	0.0
	Native American	7	0.1	2	28.6	1	16.7	5	71.4	2	28.6	0	0	0	0.0
	Other	102	0.9	22	21.6	16	20.8	80	78.4	16	15.7	6	5.9	0	0.0
	Unknown	4,966	41.3	199	4.0	152	3.6	4767	96.0	178	3.6	21	0.4	0	0.0

**Table A-3
Screening and Childhood Lead Poisoning Rates by Zip Code**

Zip Code	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Total Occupied	Percent Owner Occupied	Percent Renter Occupied	Percent Pre-1950 Housing
63107	1,551	735	47.4	201	27.3	102	20.6	7,929	28.7	71.3	5,655	44.8	55.2	93.2
63118	3,214	1,205	37.5	306	25.4	178	20.6	15,326	25.6	74.4	11,409	37.4	62.6	92.4
63113	1,307	563	43.1	117	20.8	56	13.5	8,540	26.4	73.6	6,286	46.9	53.1	95.8
63110	1,886	633	33.6	131	20.7	80	16.7	10,179	17.8	82.2	8,371	39.3	60.7	88.9
63115	2,050	876	42.7	177	20.2	96	14.9	12,421	19.5	80.5	9,998	55.3	44.7	91.1
63136	356	142	39.9	24	16.9	18	17.3	1,694	10.5	89.5	1,516	70.5	29.5	76.9
63120	1,079	482	44.7	81	16.8	44	12.9	4,848	18.5	81.5	3,949	58.5	41.5	87.5
63112	1,729	816	47.2	135	16.5	75	12.0	12,574	20.1	79.9	10,045	35.5	64.5	93.6
63108	714	246	34.5	37	15.0	24	12.2	11,675	13.2	86.8	10,135	26.7	73.3	87.5
63104	1,811	553	30.5	78	14.1	44	10.1	9,847	18.6	81.4	8,016	36.4	63.6	86.4
63143	131	3	2.3	1	33.3	1	50.0	815	8.6	91.4	745	66.6	33.4	81.3
63101	78	50	64.1	7	14.0	7	17.1	730	41.2	58.8	429	7.2	92.8	36.1
63111	1,889	643	34.0	78	12.1	54	10.9	10,508	16.3	83.7	8,797	44.7	55.3	87.3
63106	1,395	580	41.6	69	11.9	36	7.9	6,250	32.0	68.0	4,247	13.3	86.7	85.2
63116	4,114	906	22.0	108	11.9	71	9.9	22,844	10.3	89.7	20,497	57.9	42.1	83.1
63147	915	370	40.4	39	10.5	20	6.9	5,071	12.6	87.4	4,432	66.8	33.2	79.7
63103	102	42	41.2	3	7.1	3	8.8	3,609	18.6	81.4	2,939	1.3	98.7	65.5
63139	1,517	198	13.1	12	6.1	8	5.4	12,344	6.3	93.7	11,569	61.3	38.7	76.4
63109	2,078	231	11.1	12	5.2	11	5.7	15,042	4.5	95.5	14,358	61.8	38.2	81.8
63102	23	5	21.7	0	-	0	-	870	24.8	75.2	654	2.1	97.9	74.4
63105	26	1	3.8	0	-	0	-	727	9.2	90.8	660	46.1	53.9	98.4
63117	31	4	12.9	0	-	0	-	302	5.3	94.7	286	56.6	43.4	93.5
63119	18	3	16.7	0	-	0	-	201	3.5	96.5	194	1.5	98.5	44.4
63123	188	7	3.7	0	-	0	-	1,246	2.6	97.4	1,214	92.8	7.2	11.7
63125	0	1	-	0	-	0	-	1	-	100.0	1	-	100.0	20.3
63130	32	2	6.3	0	-	0	-	154	3.2	96.8	149	59.7	40.3	93.4
63133	58	1	1.7	0	-	0	-	113	46.0	54.0	61	14.8	85.2	82.6
63137	75	12	16.0	0	-	0	-	491	5.9	94.1	462	56.1	43.9	72.6
Not geocoded	-	2,701	-	22	0.8	8.0	0	-	-	-	-	-	-	-
City Total	28,369	12,011	42.3	1638	13.6	936	9.7	176,354	16.6	83.4	147,076	46.9	53.1	85.3

**Table A-4
Screening and Childhood Lead Poisoning Rates by Ward**

Ward	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Total Occupied	Percent Owner Occupied	Percent Renter Occupied	Pre-1950 Housing
Ward - 20	907	571	63.0	169	29.6	100	24.9	5,693	28.4	71.6	4,076	37.5		93.3
Ward - 03	908	556	61.2	148	26.6	77	20.5	5,670	28.9	71.1	4,033		55.7	93.3
Ward - 04	793	443	55.9	104	23.5	55	17.1	6,321	25.2	74.8		47.2	52.8	94.8
Ward - 09	1,316	418	31.8	92	22.0	57	18.8	7,048	22.7		5,449	36.2	63.8	89.6
Ward - 17	682	359	52.6	77	21.4	47	17.2	7,491		82.7	6,192	25.0	75.0	85.2
Ward - 15	1,168	316	27.1	66	20.9	48	19.3		13.8	86.2	8,846	45.8	54.2	93.4
Ward - 22	795	476	59.9	95	20.0	45		5,585	24.5	75.5	4,214	46.8	53.2	90.9
Ward - 21	956	415	43.4	75	18.1		12.5	5,899	16.8	83.2	4,909	54.9	45.1	89.6
Ward - 08	1,279	333	26.0	59		37	14.6	6,488	15.4	84.6	5,492	37.6	63.4	94.9
Ward - 01	940	390	41.5		17.4	39	13.7	5,735	19.4	80.6	4,621	58.3	41.7	93.5
Ward - 18	750	387		66	17.1	39	13.2	6,522	21.5	78.5	5,120	38.0	62.0	93.9
Ward - 07	1,097		27.5	49	16.2	31	12.7	7,926	23.4	77.6	6,154	23.6	76.4	87.9
Ward - 19		263	38.0	42	16.0	24	11.5	5,198	77.5	22.5	4,030	16.6	83.4	87.6
Ward - 27	900	499	55.4	80	16.0	46	12.9	4,669	12.8	87.2	4,073	71.6	28.4	82.7
	544	101	18.6	16	15.8	12	15.0	7,803	9.6	90.4	7,055	32.5	67.5	
Ward - 25	1,365	470	34.4	65	13.8	36	10.0	6,348	17.2	82.8	5,258	41.6		91.7
Ward - 26	870	449	51.6	62	13.8	33	9.5	6,361	21.9	78.1	4,966		64.4	91.6
Ward - 05	1,224	586	47.9	79	13.5	42	9.3	6,878	32.6	67.4		19.9	80.1	84.7
Ward - 02	1,027	326	31.7	43	13.2	23	9.1	4,863	15.6		4,106	60.1	39.9	78.8
Ward - 06	1,101	389	35.3	47	12.1	27	9.2	6,314		80.2	5,061	37.4	62.6	82.8
Ward - 14	1,310	242	18.5	29	12.0	14	7.4		8.3	91.7	5,388	55.6	44.4	92.4
Ward - 13	1,389	214	15.4	23	10.7	14		5,987	8.4	91.6	5,484	65.3	34.7	92.9
Ward - 11	1,123	297	26.4	29	9.8	21	8.8	6,198	14.7	85.3	5,290	53.5	46.5	79.9
Ward - 10	1,464	156	10.7	14	9.0	9	7.2	6,996	8.9	91.1	6,374	46.9	53.1	77.4
Ward - 24	832	93	11.2	8		6	8.5	6,819	92.7	7.3	6,321	58.5	41.5	79.1
Ward - 12	940	84	8.9	7	8.3	5	7.5	6,476	4.4	95.6	6,193	70.6	29.4	53.7
Ward - 23	962	75	7.8	2	2.7	1	1.7	6,265	4.0	96.0	6,012	76.5	23.5	77.5
Ward - 16	1,034	93	9.0	2	2.2	2	2.7	6,490	3.0	97.0	6,297	69.0	31.0	74.1
Not geocoded	-	2,708	-	22	0.8	8	0.3	-	-	-	-	-	-	-
City Total	28,369	12,011	42.3	1,638	13.6	936	9.7	176,354	14.7	85.3	150,376	46.9	53.1	85.3

**Table A-5
Screening and Childhood Lead Poisoning Rates by Neighborhood**

Neighborhood	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Total Occupied	Percent Owner Occupied	Percent Renter Occupied
Gravois Park	686	262	38.2	86	32.8	52	28.1	2,818	28.2	71.8	2,024	65.7	34.3
Hyde Park	426	198	46.5	59	29.8	30	22.9	1,767	29.2	70.8	1,252	35.2	64.8
The Ville	211	82	38.9	24	29.3	6	11.5	1,492	26.9	73.1	1,091	35.7	64.3
Benton Park West	647	278	43.0	78	28.1	43	22.6	2,540	26.7	73.3	1,863	73.4	26.6
Academy	284	127	44.7	34	26.8	19	20.4	1,729	27.6	72.4	1,252	53.8	46.2
St. Louis Place	257	126	49.0	32	25.4	11	13.6	1,395	33.3	66.7	931	39.9	60.1
College Hill	313	135	43.1	34	25.2	18	19.1	1,342	31.5	68.5	919	45.6	54.4
O'Fallon	625	243	38.9	61	25.1	31	17.1	3,269	18.5	81.5	2,666	52.3	47.7
Forest Park Southeast	341	169	49.6	40	23.7	27	21.1	1,831	23.0	77.0	1,409	34.3	65.7
JeffVanderLou	561	214	38.1	50	23.4	30	19.0	3,463	28.0	72.0	1,492	34.5	65.5
Hamilton Heights	359	189	52.6	44	23.3	18	13.6	1,852	26.0	74.0	1,371	49.5	50.5
Marine Villa	296	109	36.8	25	22.9	17	21.3	1,576	25.4	74.6	1,175	39.5	60.5
The Greater Ville	688	312	45.3	70	22.4	42	17.6	4,221	23.7	76.3	3,220	48.8	51.2
Fairground Neighborhood	215	121	56.3	27	22.3	13	15.7	1,216	28.8	71.2	866	47.7	52.3
McRee Town	289	120	41.5	25	20.8	13	14.4	824	34.6	65.4	539	21.7	78.3
Shaw	811	257	31.7	53	20.6	34	17.4	3,802	17.9	82.1	3,120	38.9	61.1
Fox Park	384	159	41.4	32	20.1	19	16.0	1,549	29.8	71.1	1,101	36.7	63.3
McKinley Heights	236	66	28.0	13	19.7	8	16.0	1,101	23.5	76.5	842	26.7	73.3
Benton Park	336	107	31.8	21	19.6	15	18.8	2,377	26.2	73.8	1,755	42.3	57.7
Dutchtown	1,808	629	34.8	119	18.9	65	13.9	8,445	18.8	81.2	6,856	41.3	58.7
Walnut Park West	342	143	41.8	27	18.9	20	19.2	1,592	11.2	88.8	1,414	72.2	27.8
Lewis Place	155	80	51.6	15	18.8	9	15.3	1,045	27.6	72.4	757	46.6	53.4
Tower Grove East	693	208	30.0	37	17.8	24	14.3	3,485	20.6	79.4	2,766	38.5	61.5
Walnut Park East	456	284	62.3	50	17.6	25	13.0	2,111	19.0	81.0	1,710	64.1	35.9
Skinker/DeBaliviere	244	54	22.1	9	16.7	8	20.0	2,348	10.3	89.7	2,106	58.5	41.5
Mark Twain	420	157	37.4	26	16.6	13	11.0	2,281	22.2	77.8	1,775	35.9	64.1
Kingsway West	260	133	51.2	22	16.5	11	11.5	1,978	18.7	81.3	1,609	45.9	54.1
Wells/Goodfellow	790	345	43.7	56	16.2	30	11.6	4,063	26.7	73.3	2,978	46.3	53.7
Princeton Heights	608	91	15.0	14	15.4	10	13.5	4,033	5.4	94.6	3,817	68.7	31.3
Covenant Blu/Grand Center	237	106	44.7	16	15.1	6	7.7	1,721	27.3	72.7	1,252	11.4	88.6
Kingsway East	364	150	41.2	22	14.7	15	13.6	2,162	19.6	80.4	1,739	52.0	48.0
Tower Grove South	1,270	334	26.3	48	14.4	36	13.3	7,308	13.6	86.4	6,316	47.7	52.3

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Neighborhood	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Total Occupied	Percent Owner Occupied	Percent Renter Occupied
West End	635	277	43.6	40	14.4	22	10.2	3,347	21.8	72.8	2,317	29.9	70.1
Compton Heights	98	14	14.3	2	14.3	1	8.3	688	11.8	88.2	607	64.7	35.3
Downtown West	36	14	38.9	2	14.3	2	18.2	2,073	20.2	79.8	1,654	1.4	98.6
Midtown	65	14	21.5	2	14.3	1	8.3	1,532	18.9	81.1	1,442	1.2	98.8
Old North St. Louis	241	84	34.9	12	14.3	5	8.6	1,036	41.5	58.5	606	21.1	78.9
Franz Park	172	36	20.9	5	13.9	3	10.7	1,318	7.7	92.3	1,216	66.6	33.4
Penrose	545	251	46.1	34	13.5	18	10.1	3,565	15.1	84.9	3,028	61.0	39.0
Patch	236	67	28.4	9	13.4	7	13.7	1,513	18.8	81.2	1,228	50.7	49.3
Vandeventer	182	84	46.2	11	13.1	8	11.8	1,183	28.8	71.2	842	50.1	49.9
Tiffany	135	46	34.1	6	13.0	4	10.8	571	12.3	87.7	501	25.2	74.8
Bevo Mill	1,153	240	20.8	31	12.9	16	8.7	5,984	7.9	92.1	5,513	63.7	36.3
Central West End	451	93	20.6	12	12.9	10	12.7	9,572	11.3	88.7	8,488	25.7	74.3
The Gate District	343	98	28.6	12	12.2	7	8.6	1,636	17.2	82.8	1,354	35.7	64.3
Baden	695	264	38.0	32	12.1	16	7.8	3,697	13.9	86.1	3,184	56.6	43.4
Mount Pleasant	399	151	37.8	18	11.9	13	11.4	2,281	14.9	85.1	1,941	30.5	69.5
Fountain Park	160	51	31.9	6	11.8	2	5.4	1,010	25.2	74.8	756	32.0	68.0
Columbus Square	285	95	33.3	10	10.5	9	11.8	1,236	37.2	62.8	776	7.0	93.0
Soulard	162	19	11.7	2	10.5	0	-	2,216	17.6	82.4	1,825	27.7	72.3
Visitation Park	79	38	48.1	4	10.5	3	10.3	576	15.3	84.3	488	22.1	77.9
Holly Hills	317	42	13.2	4	9.5	3	9.1	1,887	8.1	91.9	1,734	58.4	41.6
North Hampton	520	74	14.2	7	9.5	5	8.3	4,524	5.4	94.6	4,279	47.5	52.5
Peabody, Darst, Webbe	310	161	51.9	14	8.7	8	6.6	779	28.1	71.9	560	3.4	96.6
DeBaliviere Place	153	58	37.9	5	8.6	3	6.1	2,409	14.3	85.7	2,064	18.0	82.0
Carondelet	828	252	30.4	21	8.3	14	6.9	4,730	15.4	84.6	4,004	51.8	48.2
Hi-Point	128	15	11.7	1	6.7	0	-	1,331	5.6	94.4	1,256	48.8	51.2
Lasalle	158	47	29.7	3	6.4	2	5.0	650	6.8	93.2	606	28.0	72.0
Clifton Heights	263	19	7.2	1	5.3	1	6.3	1,642	6.8	93.2	1,531	74.9	25.1
North Point	261	117	44.8	6	5.1	2	2.2	1,648	3.4	96.6	1,592	83.7	16.3
Carr Square	349	204	58.5	10	4.9	7	4.0	1,327	25.7	74.3	966	99.4	0.6
Mark Twain/I-70 Industrial	51	19	37.3	5	26.3	4	26.7	393	7.9	92.1	362	86.5	13.5
Lindenwood Park	687	66	9.6	3	4.5	2	4.0	5,032	4.2	95.8	4,819	29.3	70.7
Boulevard Heights	558	52	9.3	2	3.8	1	2.4	4,093	3.8	92.2	3,939	84.5	15.5
Southwest Garden	334	58	17.4	2	3.4	1	2.3	3,188	10.4	89.6	2,856	42.8	57.2
Downtown	11	10	90.9	3	30.0	3	30.0	1,050	34.9	65.1	684	0.9	99.1

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Neighborhood	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Total Occupied	Percent Owner Occupied	Percent Renter Occupied
Near North Riverfront	25	3	12.0	2	66.7	1	100.0	157	52.2	47.8	75	36.0	64.0
Kings Oak	17	4	23.5	2	50.0	1	33.3	113	11.5	86.5	100	59.0	41.0
Cheltenham	21	5	23.8	2	40.0	1	50.0	262	10.3	89.7	235	54.5	45.5
North Riverfront	21	5	23.8	2	40.0	2	66.7	107	27.1	72.9	78	52.6	47.4
South Hampton	648	80	12.3	1	1.3	1	1.6	3,675	5.3	94.7	3,482	66.3	33.7
Clayton/Tamm	127	14	11.0	0	-	0	-	1,436	7.2	92.8	1,333	52.9	47.1
Ellendale	137	1	0.7	0	-	0	-	756	9.0	91.0	688	68.6	31.4
Lafayette Square	109	15	13.8	0	-	0	-	1,007	11.8	86.2	888	34.7	65.3
Riverview	18	2	11.1	0	-	0	-	96	8.2	91.8	90	78.9	21.1
St. Louis Hills	451	39	8.6	0	-	0	-	4,077	3.3	96.7	3,941	57.1	42.9
The Hill	157	15	9.6	0	-	0	-	1,486	6.8	93.2	1,385	66.2	33.8
Not geocoded	-	2,710	-	23	0.8	9	0.3	-	-	-	-	-	-
City Total	28,369	12,011	42.3	1,638	13.6	936	9.7	176,354	14.7	85.3	150,376	46.9	53.1

Table A-6
Screening and Childhood Lead Poisoning Rates by Census Tract

Census Tract	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Percent Owner Occupied	Percent Renter Occupied	Percent Pre-1950 Housing
101100	186	16	8.6	0	-	0	-	1,211	3.5	96.5	91.3	8.7	28.5
101200	194	17	8.8	0	-	0	-	1,494	2.6	97.4	83.5	16.5	39.6
101300	377	64	17.0	5	7.8	4	7.3	2,207	6.6	93.4	66.4	33.6	91.9
101400	236	67	28.4	3	4.5	2	3.8	1,411	10.6	89.4	60.4	39.6	89.0
101500	290	109	37.6	11	10.1	9	10.5	1,708	17.2	82.8	45.6	54.4	79.4
101800	259	71	27.4	11	15.5	7	12.1	1,658	20.5	79.5	48.6	51.4	84.2
102100	179	23	12.8	4	17.4	4	20.0	1,748	5.8	94.2	40.4	59.6	79.9
102200	428	44	10.3	5	11.4	4	10.5	3,095	3.7	96.3	80.5	19.5	71.4
102300	111	9	8.1	0	-	0	-	930	4.0	96.0	86.3	13.7	33.4
102400	233	39	16.7	6	15.4	3	11.1	1,211	7.4	92.6	63.0	37.0	93.5
102500	175	17	9.7	2	11.8	-	-	1,047	6.5	93.5	70.3	29.7	80.5
103100	203	16	7.9	0	-	0	-	1,819	2.7	97.3	52.0	48.0	77.4
103400	170	24	14.1	0	-	0	-	971	4.7	95.3	73.7	26.3	86.3
103600	115	11	9.6	1	9.1	1	11.1	702	4.6	95.4	72.1	27.9	57.5
103700	188	19	10.1	1	5.3	1	7.1	1,461	8.1	91.9	68.1	31.9	89.3
103800	277	22	7.9	1	4.5	-	-	1,883	3.9	96.1	81.1	18.9	80.0
104100	191	31	16.2	5	16.1	3	12.5	1,453	8.3	91.7	63.8	36.2	77.1
104200	196	27	13.8	1	3.7	-	-	2,091	5.8	94.2	50.3	49.7	83.9
104500	97	14	14.4	4	28.6	2	22.2	1,051	9.2	90.8	53.9	46.1	74.1
105198	155	21	13.5	2	9.5	2	13.3	-	-	-	-	-	-
105200	153	42	27.5	8	19.0	7	21.9	1,629	11.7	88.3	34.1	65.9	81.9
105300	219	83	37.9	14	16.9	8	12.5	1,362	20.9	79.1	25.0	75.0	89.4
105400	282	148	52.5	21	14.2	11	9.9	1,110	27.4	72.6	23.7	76.3	94.0
105500	211	113	53.6	12	10.6	6	6.6	1,518	20.9	79.1	48.0	52.0	93.1
106100	273	135	49.5	37	27.4	15	16.3	1,390	24.5	75.5	49.5	50.5	98.1
106200	300	125	41.7	18	14.4	8	8.0	1,239	30.7	69.3	37.6	62.4	84.9
106300	299	118	39.5	19	16.1	10	12.3	1,411	21.5	78.5	46.9	53.1	90.0
106400	232	101	43.5	17	16.8	12	16.7	1,715	24.8	75.2	48.7	51.3	90.9
106500	219	129	58.9	24	18.6	11	11.5	1,676	20.6	79.4	48.7	51.3	97.7
106600	211	80	37.9	16	20.0	7	13.0	1,208	27.4	72.6	47.8	52.2	97.5
106700	364	151	41.5	22	14.6	15	13.5	2,162	19.6	80.4	52.0	48.0	94.8
107100	51	25	49.0	6	24.0	4	21.1	393	7.9	92.1	86.5	13.5	82.9

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Census Tract	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Percent Owner Occupied	Percent Renter Occupied	Percent Pre-1950 Housing
107200	150	92	61.3	13	14.1	8	13.1	707	19.2	80.8	57.1	42.9	80.2
107300	463	198	42.8	30	15.2	21	14.4	2,289	9.0	91.0	74.8	25.2	78.7
107400	306	202	66.0	39	19.3	19	13.5	1,404	18.9	81.1	67.6	32.4	91.1
107500	304	125	41.1	24	19.2	12	13.3	1,064	16.3	83.7	68.5	31.5	95.1
107600	165	75	45.5	10	13.3	5	8.8	1,222	27.2	72.8	57.3	42.7	93.1
107700	307	102	33.2	9	8.8	4	5.4	2,067	13.7	86.3	62.2	37.8	90.3
108100	296	131	44.3	12	9.2	5	4.9	1,526	11.4	88.6	73.9	26.1	83.4
108200	181	62	34.3	6	9.7	5	10.6	1,240	8.1	91.9	61.1	38.9	77.9
108300	209	88	42.1	10	11.4	5	7.0	1,083	9.9	90.1	71.5	28.5	83.9
108400	104	27	26.0	4	14.8	2	9.1	557	14.9	85.1	39.2	60.8	68.3
108500	63	23	36.5	3	13.0	-	-	365	27.4	72.6	36.2	63.8	71.7
109600	383	124	32.4	30	24.2	17	19.3	1,832	15.0	85.0	51.7	48.3	89.4
109700	420	177	42.1	47	26.6	24	19.5	1,899	32.9	67.1	45.2	54.8	85.0
110100	301	144	47.8	23	16.0	14	12.7	1,779	19.5	80.5	58.6	41.4	88.2
110200	306	129	42.2	32	24.8	16	16.3	1,592	21.1	78.9	52.1	47.9	92.7
110300	262	113	43.1	31	27.4	18	21.2	1,744	23.9	76.1	46.6	53.4	94.2
110400		109	41.6	29	26.6	16	20.5	1,554	23.9	76.1	49.0	51.0	97.6
110500	181		64.6	24	20.5	12	14.8	1,038	29.6	70.4	46.9	53.1	92.9
111100	155	66		11	16.7	8	14.5	962	29.4	70.6	48.9	51.1	91.8
111200	147	62	42.2		22.6	9	18.0	1,098	34.4	65.6	44.0	56.0	95.7
111300	179	73	40.8	19		7	14.0	1,279	28.1	71.9	36.2	63.8	94.6
111400	151	86	57.0	29	33.7		25.5	1,129	29.8	70.2	47.7	52.3	94.1
111500	129	37	28.7	11	29.7	7		670	27.0	73.0	44.2	55.8	94.1
112100	194	77	39.7	9	11.7	6	9.2		12.8	87.2	29.4	70.6	89.9
112200	172	76	44.2	22	28.9	16	26.2	990		78.0	40.2	59.8	97.4
112300	231	100	43.3	13	13.0	5	6.8	1,494	25.0		39.3	60.7	98.4
112400	107	13	12.1	1	7.7	1	11.1	2,687	9.2	90.8		76.5	91.5
113100	169	25	14.8	1	4.0	-	-	1,784	6.7	93.3	46.6		69.6
113400	76	14	18.4	0	-	0	-	509	11.4	88.6	49.0	51.0	
113500	154	13	8.4	0	-	0	-	1,408	7.0	93.0	67.0	33.0	80.9
114100	614	86	14.0	5	5.8	3	3.9	4,925	5.2	94.8	49.3	50.7	83.4
	329	34	10.3	3	8.8	3	10.7	2,698	4.8	95.2	62.7	37.3	65.4
114300		60	11.2	1	1.7	1	2.2	2,770	4.5	95.5	74.0	26.0	93.8
115100	321		28.0	11	12.2	3	4.6	1,962	6.9	93.1	58.2	41.8	94.7

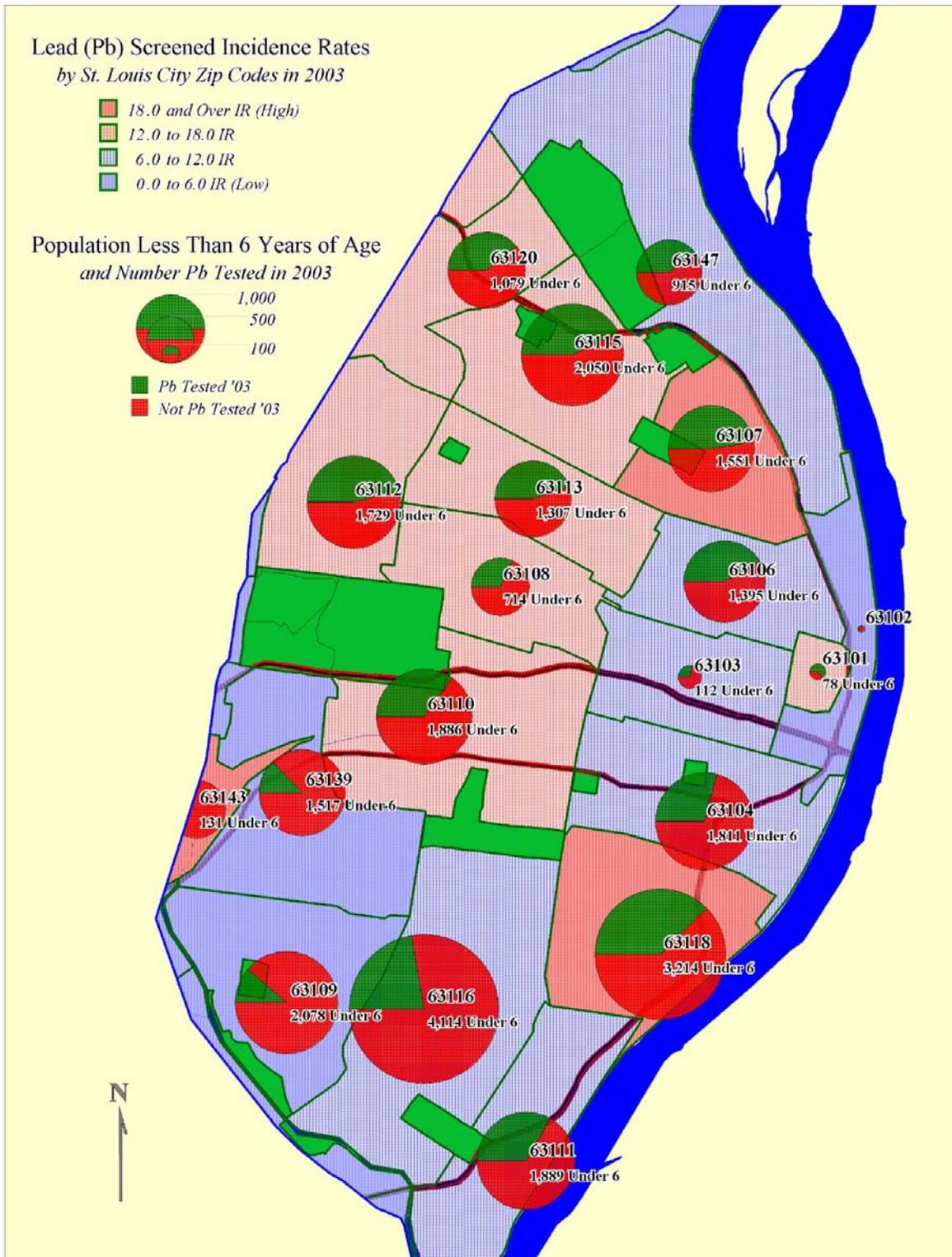
Childhood Lead Poisoning Prevention Program Annual Report 2003—37

Census Tract	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Percent Owner Occupied	Percent Renter Occupied	Percent Pre-1950 Housing
115200	345	76	22.0		11.8	4	6.8	1,699	10.3	89.7	37.0	63.0	82.3
115300	566	182	32.2	28		18	12.0	2,578	14.5	85.5	62.3	37.7	86.7
115400	304	74	24.3	5	6.8		3.4	1,413	10.3	89.7	68.2	31.8	90.6
115500	629	210	33.4	34	16.2	22		2,987	17.2	82.8	45.3	54.7	95.5
115600	475	167	35.2	18	10.8	13	10.2		15.0	85.0	32.7	67.3	84.7
	377	137	36.3	22	16.1	14	13.3	1,890	19.4	80.6	38.3	61.7	90.5
116100	297	83	27.9	9	10.8	7	11.1	1,768	11.1	88.9	50.5	49.5	83.3
116200		97	19.2	13	13.4	8	10.3	2,458	14.2	85.8	51.3	48.7	96.4
116300	521	165	31.7	32	19.4	25	18.5	3,207	15.3	84.7	37.5	62.5	95.8
116400	597	273	45.7	83	30.4	53	27.3	2,483	23.3	76.7	36.6	63.4	95.0
116500	470	156	33.2	26	16.7	12	10.1	2,266	22.0	78.0	39.2	60.8	95.4
117100	112	25	22.3	1	4.0	1	5.0	1,181	15.3	84.7	20.5	79.5	96.4
117200	765	271	35.4	67	24.7	41	20.4	3,155	19.6	80.4	36.1	63.9	98.2
117300	284	90	31.7	9	10.0	5	7.1	1,487	16.9	83.1	36.0	64.0	94.8
117400	437	111	25.4	18	16.2	11	12.4	2,330	16.4	83.6	43.4	56.6	96.0
118100	247	113	45.7	15	13.3	12	13.3	994	33.0	67.0	34.5	65.5	88.2
118500	97	16	16.5	3	18.8	3	20.0	363	17.4	82.6	56.3	43.7	77.2
118600	217	96	44.2	31	32.3	20	29.0	1,291	20.3	79.7	34.2	65.8	88.9
119100	152	30	19.7	1	3.3	-	-	4,483	11.1	88.9	23.3	76.7	74.1
119200	90	38	42.2	6	15.8	5	17.2	960	22.6	77.4	45.5	54.5	88.7
119300	111	37	33.3	5	13.5	3	10.0	1,324	13.6	86.4	4.5	95.5	63.1
120100	58	28	48.3	8	28.6	4	21.1	503	30.6	69.4	37.0	63.0	91.9
120200	144	65	45.1	16	24.6	7	18.4	543	21.5	78.5	38.7	61.3	93.2
120300	164	85	51.8	25	29.4	10	18.9	916	34.3	65.7	40.2	59.8	78.0
121100	80	67	83.8	12	17.9	5	9.6	865	10.8	89.2	1.6	98.4	82.5
121200	311	76	24.4	4	5.3	2	3.5	1,477	33.2	66.8	7.6	92.4	77.6
121300	119	78	65.5	5	6.4	4	6.1	613	30.8	69.2	7.3	92.7	91.7
121400	7	2	28.6	0	-	0	-	143	37.8	62.2	3.4	96.6	70.7
122100	180	46	25.6	3	6.5	-	-	864	11.7	88.3	38.5	61.5	63.1
122200	0	2	-	0	-	0	-	2	-	100.0	50.0	50.0	50.6
122400	433	176	40.6	17	9.7	10	7.7	1,088	17.3	82.7	22.1	77.9	85.8
123100	426	176	41.3	36	20.5	21	15.8	1,973	26.1	73.9	39.5	60.5	87.5
123200	170	43	25.3	0	-	0	-	1,193	20.2	79.8	36.9	63.1	90.9
123300	288	80	27.8	15	18.8	10	16.7	1,716	20.9	79.1	34.9	65.1	96.0

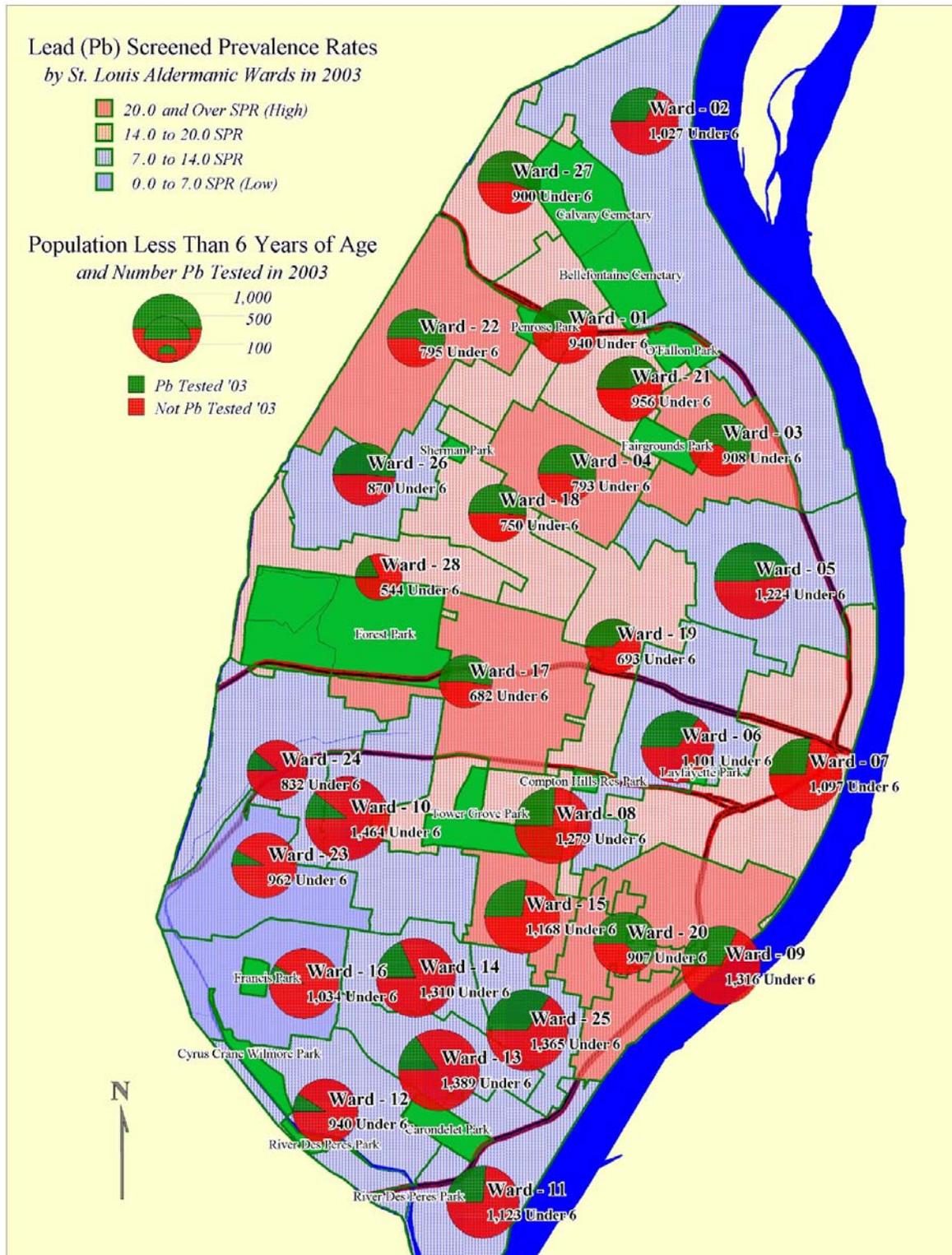
Childhood Lead Poisoning Prevention Program Annual Report 2003—38

Census Tract	Population <6 Years	Number Screened	Percent Screened	Number ≥ 10 µg/dl	SPR (%)	New Cases	SIR (%)	Total Housing Units	Percent Vacant	Percent Occupied	Percent Owner Occupied	Percent Renter Occupied	Percent Pre-1950 Housing
123400	153	25	16.3	2	8.0	0	-	2,070	16.6	83.4	27.1	72.9	87.3
124100	600	201	33.5	67	33.3	35	25.9	2,645	30.2	69.8	35.1	64.9	92.0
124200	477	196	41.1	54	27.6	28	21.1	1,918	28.0	72.0	33.2	66.8	92.5
124300	293	97	33.1	19	19.6	15	20.0	2,145	27.4	72.6	41.5	58.5	95.5
124600	216	76	35.2	22	28.9	14	25.5	1,023	26.6	73.4	41.7	58.3	76.5
125500	36	10	27.8	2	20.0	2	22.2	1,963	19.1	80.9	1.3	98.7	76.7
125600	52	34	65.4	7	20.6	6	23.1	1,310	29.3	70.7	0.5	99.5	63.1
125700	480	208	43.3	11	5.3	9	5.1	1,795	35.7	64.3	5.1	94.9	32.9
126600	357	122	34.2	21	17.2	8	9.3	1,534	38.9	61.1	28.1	71.9	90.5
126700	214	100	46.7	33	33.0	17	26.2	1,017	30.8	69.2	31.4	68.6	93.1
Not geocoded	-	2,710	-	22	0.8	8	0.3	-	-	-	-	-	-
City Total	28,369	12,011	42.3	1,638	13.6	936	9.7	176,354	14.7	85.3	46.9	53.1	85.3

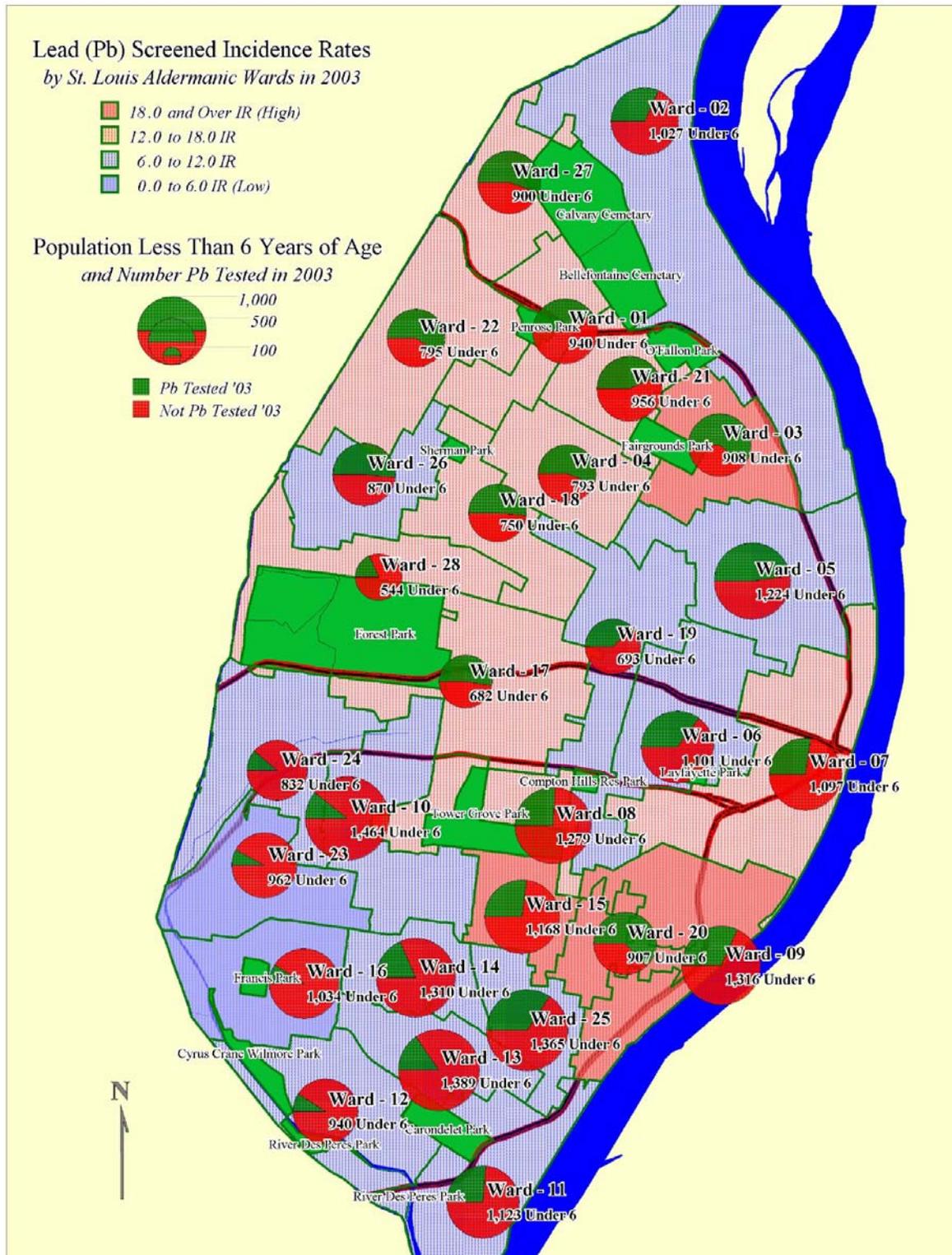
Map B-2
Elevated Blood Lead Level Screening Incidence Rates by Zip Code



Map B-3
Elevated Blood Lead Level Screening Prevalence Rates by Ward



Map B-4
Elevated Blood Lead Level Screening Incidence Rates by Ward



Neighborhood Map Legend
Neighborhood Number and Neighborhood Name

Neighborhood Number	Neighborhood Name	Neighborhood Number	Neighborhood Name
1	Carondelet	41	Cheltenham
2	Patch	42	Clayton-Tamm
3	Holly Hills	43	Franz Park
4	Boulevard Heights	44	Hi-Point
5	Bevo Mill	45	Wydown/Skinker
6	Princeton Heights	46	Skinker/DeBaliviere
7	South Hampton	47	DeBaliviere Place
8	St. Louis Hills	48	West End
9	Lindenwood Park	49	Visitation Park
10	Ellendale	50	Wells/Goodfellow
11	Clifton Heights	51	Academy
12	The Hill	52	Kingsway West
13	Southwest Garden	53	Fountain Park
14	North Hampton	54	Lewis Place
15	Tower Grove South	55	Kingsway East
16	Dutchtown	56	The Greater Ville
17	Mount Pleasant	57	The Ville
18	Marine Villa	58	Vandeventer
19	Gravois Park	59	JeffVanderLou
20	Kosciusko	60	St. Louis Place
21	Soulard	61	Carr Square
22	Benton Park	62	Columbus Square
23	McKinley Heights	63	Old North St. Louis
24	Fox Park	64	Near North Riverfront
25	Tower Grove East	65	Hyde Park
26	Compton Heights	66	College Hill
27	Shaw	67	Fairground Neighborhood
28	McRee Town	68	O'Fallon
29	Tiffany	69	Penrose
30	Benton Park West	70	Mark Twain/I-70 Industrial
31	The Gate District	71	Mark Twain
32	Lafayette Square	72	Walnut Park East
33	Peabody, Darst, Webbe	73	North Point
34	Lasalle	74	Baden
35	Downtown	75	Riverview
36	Downtown West	76	Walnut Park West
37	Midtown	77	Covenant Blu/Grand Center
38	Central West End	78	Hamilton Heights
39	Forest Park Southeast	79	North Riverfront
40	Kings Oak		

Map B-6
Elevated Blood Lead Level Screening Incidence Rates by Neighborhood

