CHILDHOOD BLOOD LEAD SURVEILLANCE IN MARYLAND

Maryland Department of the Environment
Lead Poisoning Prevention Program
Annual Report 2021

Wes Moore
Governor

Aruna Miller
Lieutenant Governor

Serena McIlwain
Secretary

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Deputy Secretary

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MARYLAND CHILDHOOD LEAD REGISTRY

ANNUAL SURVEILLANCE REPORT 2021

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EXECUTIVE SUMMARY

The Maryland Department of the Environment (MDE) statewide Childhood Lead Registry (CLR) performs childhood blood lead surveillance for the State of Maryland. The CLR receives the reports of all blood lead tests administered to Maryland children 0-18 years of age. The CLR also provides blood lead test results to the Maryland Department of Health (MDH), including Medicaid, ImmuNet, local health departments for case management, and to third parties for research and planning.

Since 1995, the CLR has released a comprehensive annual report on statewide childhood blood lead testing. The report includes a breakdown of blood lead data by age, jurisdiction, blood lead level, incident, prevalent cases of blood lead level ≥10 micrograms per deciliter (µg/dL), blood lead level between 5-9 µg/dL, and the trend of blood lead level over the years. This current report presents the blood lead test results for the calendar year (CY) 2021. The numbers are based on blood lead testing (venous or capillary) on children. The CLR does not receive and does not process any reports on lead screening based on the lead risk assessment questionnaire. With few exceptions, all numbers referenced within this report pertain to children 0-72 months of age.

CY21 Surveillance Highlights

* CLR received and processed 120,729 blood lead tests from 112,466 children 0-17 years in 2021, of which 112,622 tests were from 105,143 children 0-72 months.

* There was a decrease in the number of children 0-72 months tested for lead in 2021 compared to 2020 (105,143 vs. 110,158) and is the lowest since 2015. The decrease results from the impact of COVID-19 closures and the reduced in-person health services such as blood lead testing.

* The Statewide blood lead testing decreased by 4.6% in 2021 since 2020. Queen Anne's and Frederick counties had the greatest decrease in testing by percentage (27.3% and 20.6%, respectively). Washington County had the lowest decrease in testing in 2021 (0.3%).

* In 2021, the highest blood lead testing was found in children ages one- and two-years-old in comparison to other age groups, and had the lowest decrease compared to 2020.

* Children within the age of 0-72 months with blood lead level (BLL) ≥10 µg/dL increased from 270 in 2020, to 323 in 2021. This increase could be the result of increased outreach efforts in 2021, which included joining partnerships with MDH, working closely with local health departments, sending outreach letters to parents and conducting follow-up testing.

* The number of children 0-72 months of age identified with a blood lead level 5-9 µg/dL increased from 901 in 2020 to 1,107 in 2021.

* Overall, 1.4% of children 0-72 months of age who were tested in 2021 had a blood lead level of ≥5 µg/dL. This reflects an increase from 2020 (1.1%).

* In 2021, CLR received blood lead test reports from 135 entities, of which 122 were clinics or establishments doing in-office blood lead screening.

Statistical Report

In 2021, 105,143 children 0-72 months of age were tested for lead exposure statewide. Table One provides a summary of statewide statistics of blood lead testing in 2021. The age group "Six Years" is included in the Table and all totals as these children are 72 months old. The count of children 0-72 months of age tested for lead in 2021 shows a drop of 5,015 (4.6%) compared to 2020 (105,143 vs. 110,158). This 4.6% drop can be attributed to the impact of COVID-19. The Centers for Disease Control and Prevention (CDC) reported that throughout the United States, fewer children were tested for lead exposure in the months following the declaration of the COVID-19 pandemic than in 2019 (*Fokum, et al*, 2023). The pandemic increased the risk of lead poisoning among disparate communities as fewer lead screening tests were performed, fewer follow-up visits for patients with elevated blood lead levels were conducted, and people spent more time at home (*Dang, et al*, 2021; *Courtney, et al*, 2020).

Table One: CY21 Statistical Report[1]

Item	Number	Percent
	All Children (0-17 Years)	
Number of Tests	120,729	
Number of Children	112,466	
	Children 0-72 Months	
Number of Tests	112,935	
Number of Children	105,143	100.0
Age		
Under One	7,218	6.9
One Year	38,077	36.2
Two Years	35,124	33.4
Three Years	8,925	8.5
Four Years	8,317	7.9
Five Years	7,038	6.7
Six Years	444	0.4
Sex		
Female	51,601	49.1
Male	53,493	50.9
Blood Lead Level (µg/dL)		
≤4	103,713	98.6
5-9	1,107	1.1
10-14	199	0.2
15-19	61	0.1
≥20	63	0.1
Mean BLL (Geometric)		1.63
Blood Specimen		
Capillary	38,603	36.71
Venous	66,079	62.85
Undetermined	461	0.44

1. Due to the rounding percentage to the first decimal point in this and other tables, the sum of breakdown percentages may not equal the total percentage.

1. *Courtney, JG., Chuke, S., Duke, K.* (2020). Decreases in Young Children who received blood lead level testing during COVID-19 – 34 Jurisdictions. *MMWR Morbidity Mortality Weekly Report.* 70,5,155-161.

2. *Dang, D., Lively, M., Jalan, A.* (2021). Lead Poisoning and Racism in the Time of COVID-19. *Wisconsin Medical Journal.* 120,59-60.

3. *Fokum, F., Entezar, T., McAfee, K.* (2023). Effect of the COVID-19 Global Pandemic on Illinois Children Tested for Blood Lead Level and Exposure. *American Journal of Public Health.* 113,89-95.

Figure One demonstrates the visible decrease in blood lead testing from 2000 to 2021. In 2021, there was a slight increase in the number of children with reported blood lead level ≥10 µg/dL compared to 2020 (323 vs. 270 respectively).

Figure One: Number of Children 0-72 Months Tested for Lead and Number Reported to Have Blood Lead Level ≥10 µg/dL: CY 2000-2021

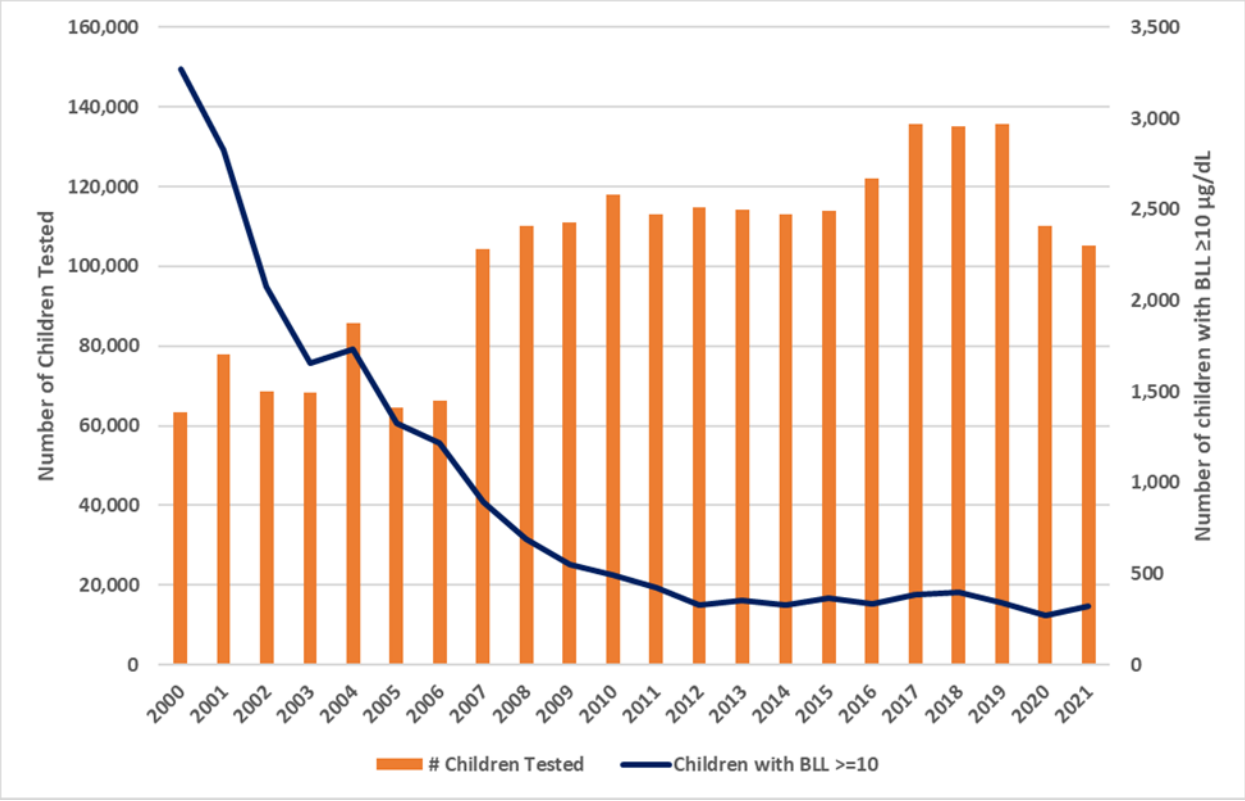


Figure Two illustrates the load of lead exposure among children has declined significantly over time. In CY 2000, approximately 18% of children 0-72 months of age tested for lead were identified with a blood lead level between 5-9 µg/dL. In CY 2021, this declined to under 3%.

Figure Two: Percent of Children 0-72 Months Tested for Lead and Identified with a Blood Lead Level of 5-9 µg/dL: CY 2000-2021

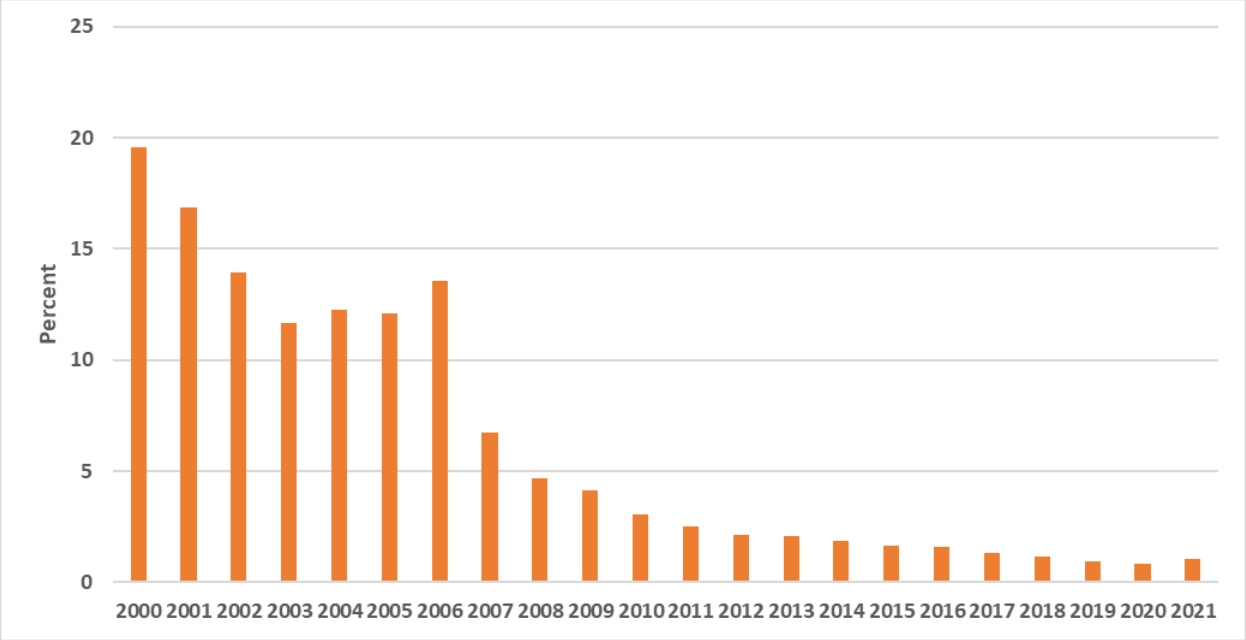


Figure Three displays the distribution of blood lead levels 5-9 µg/dL by zip code Statewide for 2020 compared to 2021. The blood lead levels are distributed in percentiles, the lowest - 25th to highest 100th. The percentile represents aggregated counts of the BLL 5-9 µg/dL that are ranked into percentiles stratified by zip code within each jurisdiction. The percentiles do not represent the incidence or prevalence of blood lead levels. The jurisdictions are overlaid on the map to visualize boundary lines. In 2020, zip codes in the following jurisdictions: Allegany, Baltimore City, Carroll, Cecil, Charles, Frederick, Montgomery, Prince George's, Washington, and Wicomico were in the 100th percentile. In 2021, zip codes in the following jurisdictions: Allegany, Baltimore, Baltimore City, Carroll, Montgomery, Prince George's, and Washington were in the 100th percentile.

Figure Three: 2020 vs. 2021 Blood Lead Level 5-9 µg/dL Statewide by Zip Code

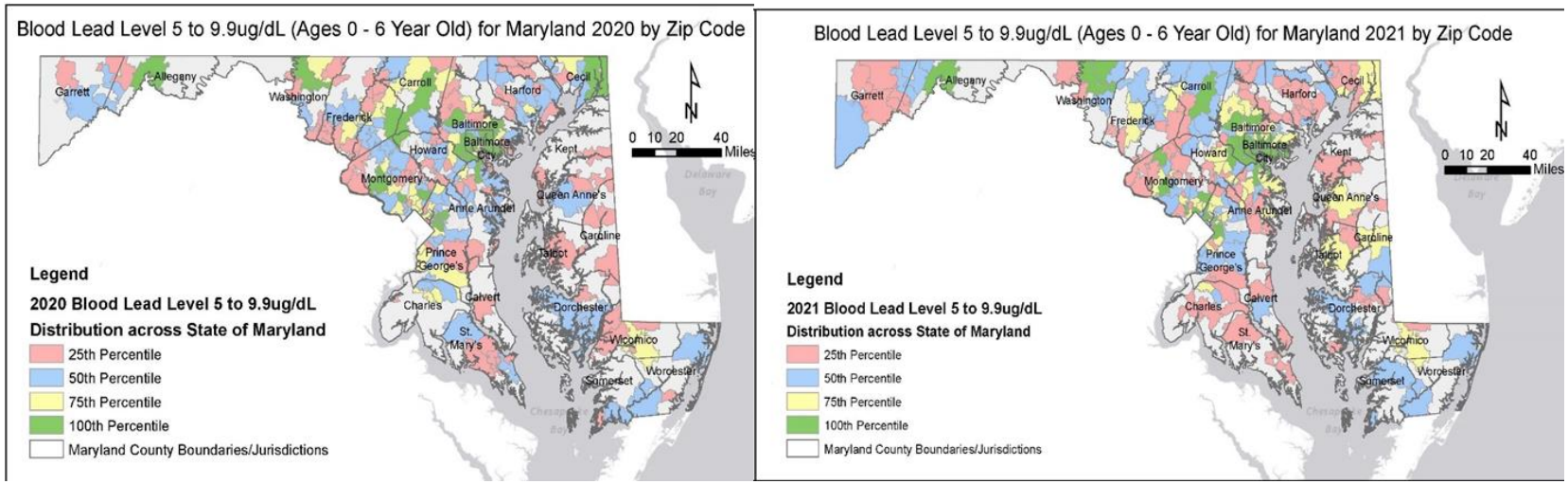
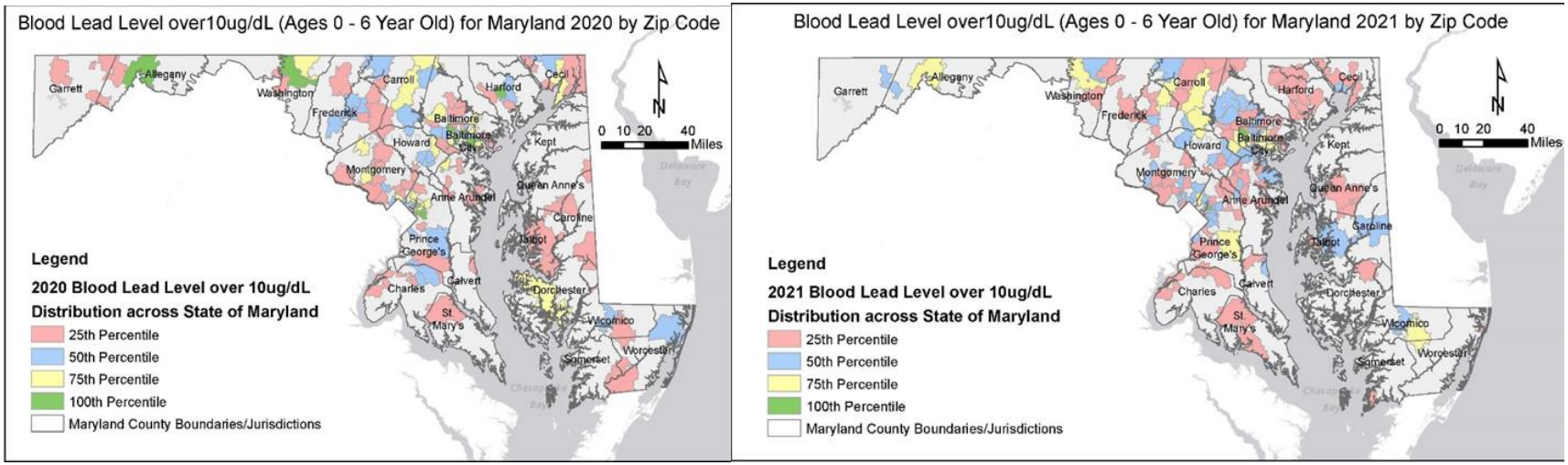


Figure Four displays the distribution of blood lead levels ≥10 µg/dL by zip code Statewide for 2020 compared to 2021. The blood lead levels are distributed in percentiles, the lowest - 25th to highest 100th. The percentile represents aggregated counts of the BLL ≥10 µg/dL that are ranked into percentiles stratified by zip code within each jurisdiction. The percentiles do not represent the incidence or prevalence of blood lead levels. The jurisdictions are overlaid on the map to visualize boundary lines. In 2020, zip codes in the following jurisdictions: Allegany, Baltimore City, Carroll, Dorchester, Harford, Prince George's, and Washington were in the 100th percentile. In 2021, zip codes in the following jurisdiction of Baltimore City were in the 100th percentile.

Figure Four: 2020 vs. 2021 Blood Lead Level ≥10 µg/dL Statewide by Zip Code



Tables Two and Three (page 9) present the decline in blood lead testing by age group and jurisdiction. The age group "Six Years" is included in Table Two and all totals as these children are 72 months old. The impact of COVID-19 on blood lead testing in 2021 continued to decline from 2020. A linear projection based on lead testing from 2015-2019 shows that 136,307 children 0-72 months were expected to be tested for lead in 2020. With the observed number of 105,143, the magnitude of decline is more than 23%. To address the decrease in testing, MDE continuously worked alongside the local health department lead nursing staff during the medical case management process to communicate the importance of follow-up testing to parents and guardians of persons at risk. Based on the decline in testing, MDE in partnership with the MDH, and local health departments, increased outreach efforts in 2021. These efforts included a letter to parents, distributed through various channels, explaining the importance of testing considering the pandemic. A copy of the letter is included on page 8 of this report.

Maryland
DEPARTMENT OF HEALTH

Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Dennis R. Schrader, Secretary

November 17, 2021

Dear Parent:

A blood lead test is the only way to know if your child has been exposed to lead. Childhood lead poisoning, even at low levels, can cause learning disabilities, loss of IQ, speech development problems, attention deficit disorder, and aggressive behavior in children.

Health care providers are required to test all children in Maryland for lead exposure at their **12** and **24** month checkups to see if they have lead in their blood. We know that due to COVID-19, many children have missed their doctor's appointments and have not gotten their blood lead test.

Children are spending more time in their homes due to COVID-19, which may increase their risk of being exposed to lead dust, and lead paint hazards can get lead into their bodies. If you live in an older home (built before 1978), getting your child tested for lead is especially important. Children must be tested or screened for lead before entering school or child care.

Ask your doctor to test your child or call our Environmental Health Help Line toll-free at 1-866-703-3266 if you need help getting your child a blood test. More information on blood lead testing and lead poisoning prevention resources is available on the Maryland Department of Health's website: https://phpa.health.maryland.gov/oehfp/eh/pages/lead.aspx

Lead poisoning is preventable. Get your child tested today to find out if they have a lead level. If they do, Maryland has new services to help you and your child. Call us if you have any questions about preventing lead poisoning. Working together, we can stop lead poisoning in Maryland. Thank you.

Sincerely,

Dr. Clifford S. Mitchell, MS, MD, MPH
Maryland Department of Health

Kaley Laleker
Director for the Land and Materials Administration
Maryland Department of the Environment

Paula Montgomery
Maryland Commission on Lead Poisoning Prevention

Table Two: Reduction in Blood lead Testing 2020 vs. 2021 by Age Group

	2020				2021				Changes in 2021	
		Children Tested				Children Tested				
Age	Population of Children	Number	Percent	Age	Population of Children	Number	Percent	Number	Percent
Under One	93,260	8,838	9.4	Under One/<12 Months	68,236	7,218	10.6	1,620	18.3
One Year	93,684	43,962	46.9	One Year/12 Months	70,222	38,077	54.2	5,885	13.4
Two Years	93,707	38,757	41.4	Two Years/ 24 Months	71,425	35,124	49.2	3,633	9.4
Three Years	93,606	6,284	6.7	Three Years/36 Months	72,798	8,925	12.3	2,641	42.0
Four Years	93,328	6,942	7.4	Four Years/ 48 Months	73,549	8,317	11.3	1,375	19.8
Five Years	92,892	5,375	5.8	Five Years/ 60 Months	75,170	7,038	9.4	1,663	30.9
Total	560,837	110,158	19.6	Six Years/ 72 Months	75,557	444	0.6	5,015	4.6
				Total	506,957	105,143	20.7		

Table Three: Reduction in Blood Lead Testing 2020 vs. 2021 by Jurisdiction

	2020			2021			Change in 2021	
County	Population of Children	Number	Percent	Population of Children	Number	Percent	Number	Percent
Allegany	5,343	976	18.3	3,128	911	29.1	65	6.7
Anne Arundel	53,069	11,546	21.8	34,789	9,395	27.0	2,151	18.6
Baltimore	73,922	15,074	20.4	48,603	15,871	32.7	797	5.3
Baltimore City	62,282	11,543	18.5	34,265	11,189	32.7	354	3.1
Calvert	7,889	1,092	13.8	4,973	1,180	23.7	88	8.1
Caroline	3,564	655	18.4	2,033	616	30.3	39	6.0
Carroll	14,381	2,564	17.8	9,343	2,270	24.3	294	11.5
Cecil	9,957	1,341	13.5	5,845	1,420	24.3	79	5.9
Charles	14,588	2,461	16.9	9,786	2,149	22.0	312	12.7
Dorchester	3,082	472	15.3	1,737	529	30.5	57	12.1
Frederick	23,093	4,761	20.6	16,198	3,782	23.3	979	20.6
Garrett	2,457	298	12.1	1,334	287	21.5	11	3.7
Harford	23,224	4,327	18.6	14,307	3,853	26.9	474	11.0
Howard	27,203	4,897	18.0	18,296	4,531	24.8	366	7.5
Kent	1,553	156	10.0	792	179	22.6	23	14.7
Montgomery	98,107	20,695	21.1	60,861	19,591	32.2	1,104	5.3
Prince George's	89,328	19,104	21.4	59,252	19,225	32.4	121	0.6
Queen Anne's	4,264	929	21.8	2,647	675	25.5	254	27.3
Saint Mary's	11,685	1,737	14.9	6,847	1,926	28.1	189	10.9
Somerset	1,954	283	14.5	1,087	327	30.1	44	15.5
Talbot	2,921	591	20.2	1,709	476	27.9	115	19.5
Washington	13,964	2,383	17.1	8,444	2,389	28.3	6	0.3
Wicomico	9,438	1,615	17.1	6,311	1,782	28.2	167	10.3
Worcester	3,569	658	18.4	2,001	590	29.5	68	10.3
Statewide	560,837	110,158	19.6	354,588	105,143	29.7	5,015	4.6

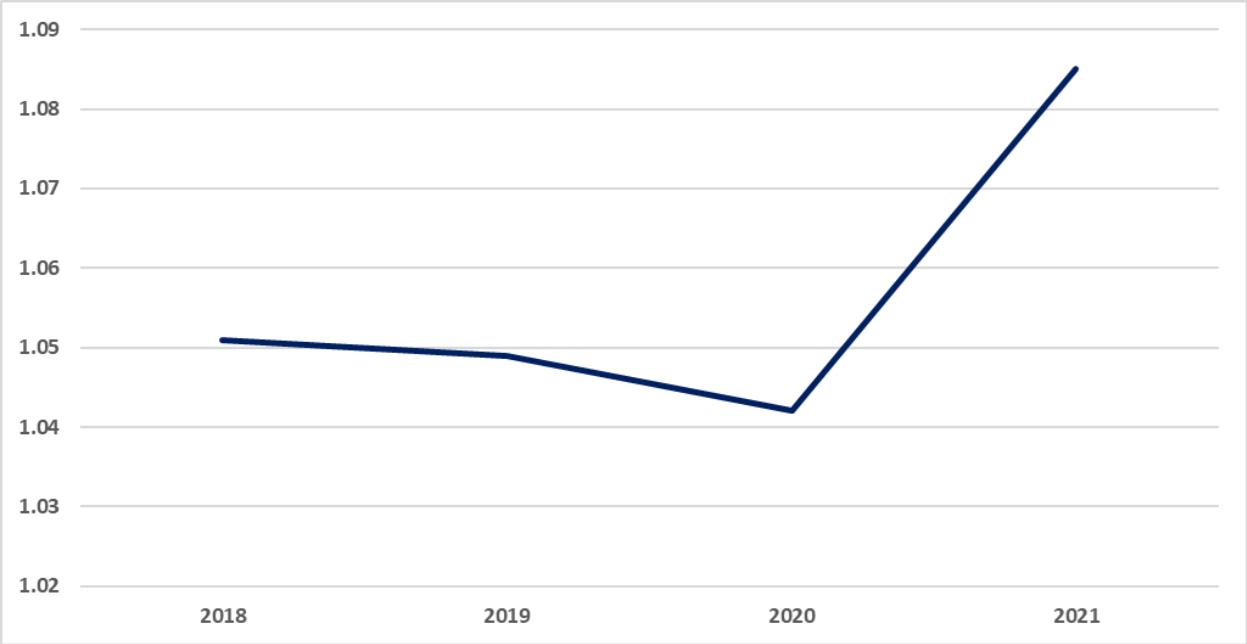
Table Four shows the number of children ages one and two years tested for blood lead by jurisdiction 2021 compared to 2020.

Table Four: Number of Children Ages One and Two Years Tested for Lead by Jurisdiction: CY 2020-2021

Jurisdiction	2020	2021	2020	2021
	One Years Old		Two Years Old	
Allegany	469	432	431	379
Anne Arundel	5,164	3,753	4,331	3,455
Baltimore	6,349	6,133	5,549	5,678
Baltimore City	4,990	4,250	3,821	3,547
Calvert	469	454	324	317
Caroline	318	263	268	249
Carroll	1,156	927	1,095	921
Cecil	596	580	370	376
Charles	1,193	860	791	619
Dorchester	231	218	189	182
Frederick	2,184	1,556	1,868	1,382
Garrett	121	111	125	101
Harford	1,541	1,318	1,635	1,375
Howard	1,901	1,628	1,779	1,480
Kent	79	82	52	60
Montgomery	7,064	6,082	7,404	6,620
Prince George's	6,439	5,940	5,651	5,554
Queen Anne's	380	291	385	279
Saint Mary's	844	804	541	542
Somerset	123	152	130	114
Talbot	271	220	252	184
Washington	1,038	974	829	783
Wicomico	766	772	616	681
Worcester	275	277	322	246
Statewide	43,961	38,077	38,758	35,124

Figure Five shows the average number of blood lead tests per child tested from 2018-2021. There is a significant increase in tests per child in 2021, which may be attributed to increased outreach efforts in 2021, which included partnership with MDH, the local health departments, letter to parents and follow-up testing. Some of the follow-up testing was due to a recall in May 2021 by Magellan Diagnostics, the distributor of Lead Care Blood Lead test kits providing falsely low results, as well as identification of more exposure sources such as toys, jewelry, environmental exposure (air and soil), candies, and traditional home remedies.

Figure Five: Average Number of Blood Lead Test per Child (2018-2021)



Data Quality

In 2021, CLR received the reports of blood lead tests from 135 entities, of which 122 were clinics or establishments doing in-office blood screening (point of care). Five establishments send reports electronically with the rest in hard copy.

CLR makes all efforts to make sure the reports of blood lead tests are complete and, to the extent that is possible, correct. Table Five displays a summary of the completeness of data in blood lead reports for CY21. Completeness of data does not necessarily mean accuracy of the data.

Table Five: Completeness of Data for CY21

Item	Percent Complete
Child's Name	100.0
Date of Birth	100.0
Sex/Gender	99.9
Race	49.9
Ethnicity	58.6
Guardian's Name	66.9
Sample Type	99.6
Test Date	100.0
Blood Lead Level	100.0
Address (geocoded)	95.1
Telephone Number	95.2

*The record missing this information is held until the missing information is filled in.

Medical and Environmental Case Management in Maryland

In CY21, environmental case management was required when a child aged 0-72 months was identified with a blood lead level of ≥5µg/dL. Case management consists of comprehensive medical and environmental case management, coordinated between the health care provider, local health department, and MDE. Services include outreach and education to the family of the identified child, a comprehensive environmental investigation to identify all potential sources of lead exposure, recommendations for lead hazard remediation,

Blood Lead Laboratory Reporting Requirement as of July 1, 2020

The amended law and regulations* of 2020 require that the following information be included in the lab report:**1. Child information:**

Name (last name, first name, middle initial)
Date of birth
Gender
Race
Ethnicity
Address: complete street address with apartment number (if applicable), city/town, state, zip code, county
Country of birth
Pregnancy status at the time test (if applicable)
Parent/Guardian name (last name, first name)
Parent/Guardian Address (if different from the child address)
Telephone number

2: Test information

Date specimen was drawn
Type of specimen
Blood lead level (in microgram per deciliter "µg/dL" with up to two decimal points) with the applicable comparator.
The date the test was done (analyzed)
Method of measurement
The method of measurement detection limit
The date the result was reported/sent to the state

3: Provider/Submitter information:

Name (last name, first name)
National provider identifier (NPI)
Office address
Office telephone number
Office fax number
Contact person (if applicable)

4: Laboratory information:

Name of the establishment
Clinical laboratory improvement amendment (CLIA) number
Address
Telephone number

and compliance and enforcement as needed on pre-1978 residential rental units. Identifying all potential sources of lead in the child's environment and preventing further exposure are the most important factors in case management. All home visits are arranged with the family based on the availability of the parent or guardian and in accordance with recommendations identified in the Maryland's Lead Case Management Guidelines (Guidelines). It is important to note that the Baltimore City Health Department (BCHD) provides these services to families in Baltimore City. The BCHD reports all case management outcomes to MDE.

During CY21, there were 533 total new cases of children with blood lead levels of ≥5µg/dL in Maryland counties. This is an increase of 232 new cases when compared to CY20 at 301. This increase is a direct result of Maryland lowering medical and environmental case management interventions which are now required at ≥5µg/dL, which became effective July 1, 2020. In CY21, medical case management was completed on 366 of the 533 new lead cases. This was a 68.7% completion rate. This was significantly higher when compared to the completion rate for CY20, which was 54.7%. Table Six illustrates the medical case management outcomes for the 533 new cases of children identified with blood lead levels of ≥5µg/dL in Maryland counties, excluding Baltimore City, for CY21. Medical case management guidelines in Maryland consider telephonic and in person home visits as acceptable forms of medical case management for lead exposures.

Table Six: Medical Case Management Outcomes ≥5µg/dL CY 21 Maryland Counties (Excluding Baltimore City)

Total Referrals	Completed Medical Outreach and Education (In-home or telephonic)	Unable to contact family/family moved	Refused
533	366	153	14

An Environmental Investigation is a comprehensive assessment that requires direct contact with families and their property. Effective July 1, 2021, Code of Maryland Regulations-Environmental Investigations (COMAR 26.16.08) were enacted to achieve consistency during Environmental Investigations statewide. These regulations were enacted, to address the decrease in environmental investigations, upon scheduling the home visit, inspection staff communicated COVID safety protocols regarding the wearing of personal protective equipment while investigating to ease potential exposure concerns of the parents and guardians of persons at risk to increase completion rates. Further, MDE and BCHD staff continued to administer the environmental questionnaire to collect information on the possible home hazards within the home to discuss potential strategies to decrease exposure within the residence until an inspection occurred.

During CY21, there were a total of 564 referrals to perform Environmental Investigations on new cases of children with blood lead levels of ≥5µg/dL in Maryland counties. This is an increase of 260 new cases when compared to CY20 at 304. Of the 564 referrals for Environmental Investigations, there were a total of 249 (44%) completed. It should be noted that the number of environmental investigations may be greater than the number of children identified as new cases, in part because Environmental Investigations may be performed at

secondary addresses where the identified child may spend time. There remains a significant no-entry rate for Environmental Investigations, when compared with prior years. This may in part be attributed to the ongoing concerns of the COVID-19 pandemic. Specifically, in CY21 families continued to be unwilling to allow government officials into their homes to perform Environmental Investigations. In CY21, 128 (22.6%) of all Environmental Investigations were refused. Table Seven illustrates Environmental Outcomes for new cases in the counties for CY21.

Table Seven: Environmental Investigation Outcomes ≥5µg/dL CY21 Maryland Counties (Excluding Baltimore City)

Total Referrals	Completed	Unable to make contact	Refused	Moved/ Incorrect address
564	249	158	128	40

Medical and Environmental Case Management Baltimore City

The Baltimore City Health Department performs all case management for children aged 0-72 months identified with blood lead levels of ≥5µg/dL in Baltimore City. During CY21, there were 278 new cases of children aged 0-72 months identified with blood lead levels of ≥5µg/dL in Baltimore City. Table Eight illustrates the medical case management outcomes for new cases in Baltimore City for CY21 for blood lead levels ≥5µg/dL. Medical case management was completed on 151 (54.0%) of the 278 new cases of children identified with a blood lead level of ≥5µg/dL.

Table Eight: Medical Case Management Outcomes ≥5µg/dL CY21 Baltimore City

Total Referrals	Completed Medical Outreach and Education (In-home or telephonic)	Unable to contact family/family moved/Not Baltimore City Address	Refused
278	151	120	7

During CY21, there were 278 total new cases of children with blood lead levels of ≥5µg/dL in Baltimore City that were referred for Environmental Investigations. This is an increase of 148 new cases when compared to CY20 at 130. In CY21, Environmental Investigations were completed on 98 of the 278 (35.2%) referrals. This was significantly higher when compared to the completion rate for CY20, which was 8%. Table Nine illustrates the Environmental Investigation outcomes for Baltimore City in CY21.

Table Nine: Environmental Investigation Outcomes ≥5µg/dL CY21 Baltimore City

Total Referrals	Completed	Unable to locate family/family moved	Refused
278	98	113	67

Property Type: Environmental Investigations Statewide CY21

Table Ten lists the property type for each completed Environmental Investigation by jurisdiction. In CY21, 129 (52%) of the Environmental Investigations completed in Maryland counties, excluding Baltimore City, were identified as rental properties. In CY21, 120 (48%) of the Environmental Investigations completed in Maryland counties were identified as owner-occupied properties. In CY21, 53 (68%) of the Environmental Investigations completed in Baltimore City were identified as rental properties. In CY21, (32%) of the Environmental Investigation completed in Baltimore City were identified as owner-occupied properties.

Table Ten: Environmental Investigation Property Type by County CY21 Blood Lead Levels ≥5µg/dL

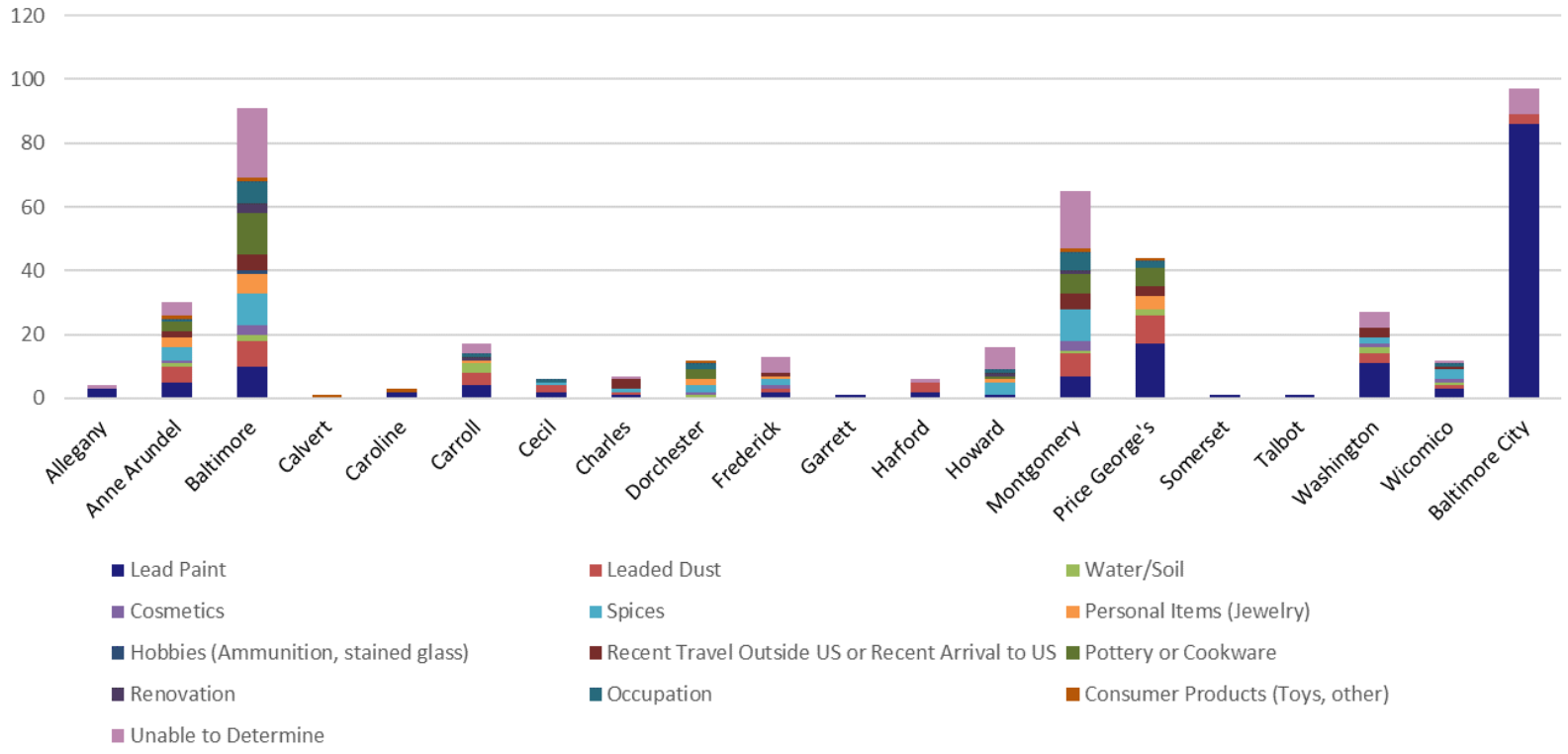
County	Total Environmental Investigations	Owner-Occupied						Rental Property					
		Pre-1950		1950-1977		post-1977		Pre-1950		1950-1977		post-1977	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Allegany	5	2	40%	0	0	0	0	3	60%	0	0	0	0
Anne Arundel	16	3	19%	2	12%	6	38%	0	0	3	19%	2	12%
Baltimore	52	11	21%	9	17%	5	10%	5	10%	17	32%	5	10%
Calvert	1	0	0	1	100%	0	0	0	0	0	0	0	0
Caroline	3	2	67%	0	0	1	33%	0	0	0	0	0	0
Carroll	10	3	30%	2	20%	1	10%	3	30%	0	0	1	10%
Cecil	4	3	75%	0-	0	0	0	1	25%	0	0	0	0
Charles	4	0	0	2	50%	1	25%	0	0	0	0	1	25%
Dorchester	3	1	33%	0	0	0	0	1	33%	1	33%	0	0
Frederick	9	1	11%	0	0	5	56%	1	11%	1	11%	1	11%
Garrett	1	1	100 %	0	0	0	0	0	0	0	0	0	0
Harford	5	1	20%	0	0	0	40%	1	20%	0	0	1	20%
Howard	12	0	0	0	0	5	42%	0	0	4	33%	3	25%
Kent	0	0	0	0	0	0	0	0	0	0	0	0	0
Montgomery	37	2	5%	5	14%	5	14%	3	8%	16	43%	6	16%
Prince George's	61	5	8%	12	20%	7	11%	4	7%	32	52%	1	2%
Queen Anne's	0	0	0	0	0	0	0	0	0	0	0	0	0
Saint Mary's	0	0	0	0	0	0	0	0	0	0	0	0	0
Somerset	1	1	100 %	0	0	0	0	0	0	0	0	0	0
Talbot	1	0	0	0	0	0	0	1	100 %	0	0	0	0

Washington	18	9	50%	0	0	1	5.50%	5	28%	1	5.50%	2	11%	
Wicomico	6	2	33%	0	0	1	17%	2	33%	0	0	1	17%	
County Total	**249**	**47**	**19%**	**33**	**13%**	**40**	**16%**	**30**	**12%**	**75**	**30%**	**24**	**10%**	
Baltimore City Total	**98**	**32**	**33%**	**0**	**0**	**0**	**0**	**54**	**55%**	**11**	**11%**	**1**	**1%**	

Sources of Lead

An Environmental Investigation may identify multiple lead sources in a child's environment. There may also be instances when the accredited lead risk assessor is unable to determine a source of lead exposure. Figure Six illustrates the distribution of lead hazards that were identified during Environmental Investigations, by county for CY21.

Figure Six: Distribution of Lead Sources by County CY21



Lead Hazards Identified by Housing Type

Figure Seven illustrates the lead total hazards, in owner occupied housing, by built date range, identified during Environmental Investigations in CY21 in Maryland Counties, excluding Baltimore City.

Figure Seven: Lead Hazards - Owner Occupied Housing Maryland Counties CY21

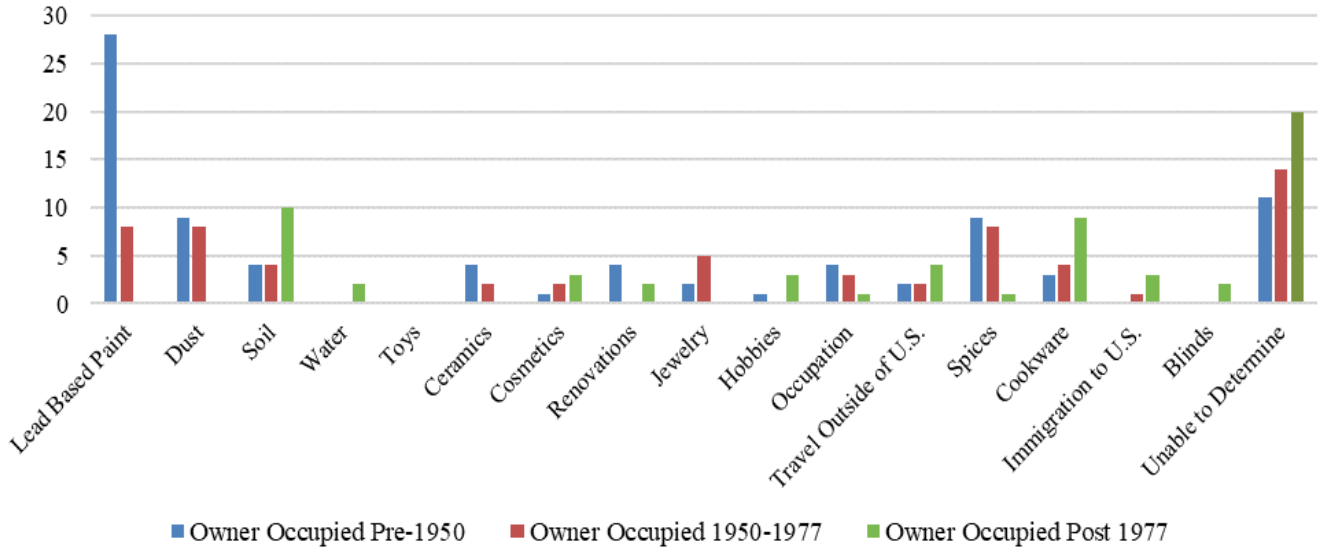
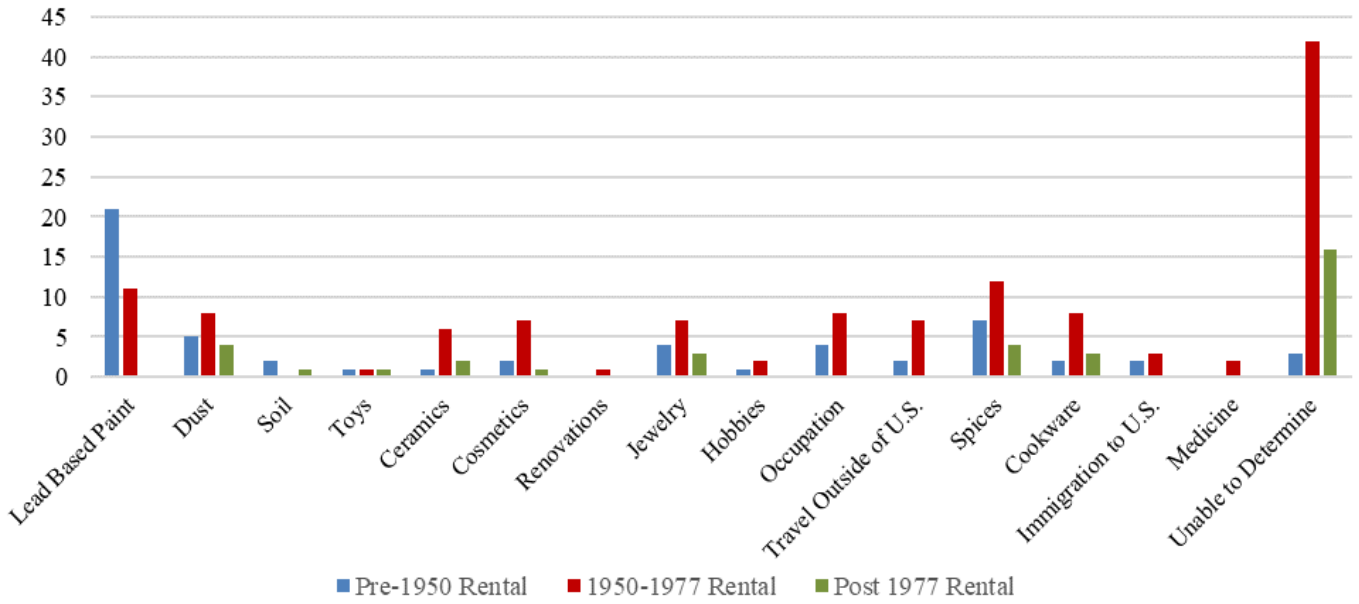


Figure Eight illustrates the lead total hazards, in rental occupied housing, by built date range, identified during Environmental Investigations in CY21 in Maryland counties, excluding Baltimore City.

Figure Eight: Lead Hazards - Rental Occupied Housing Maryland Counties CY21



Figures Nine and Ten illustrate the lead total hazards, in owner occupied housing and rental housing, by built date range, identified during Environmental Investigations in CY21 in Baltimore City.

Figure Nine: Lead Hazards - Owner Occupied Housing Baltimore City CY21

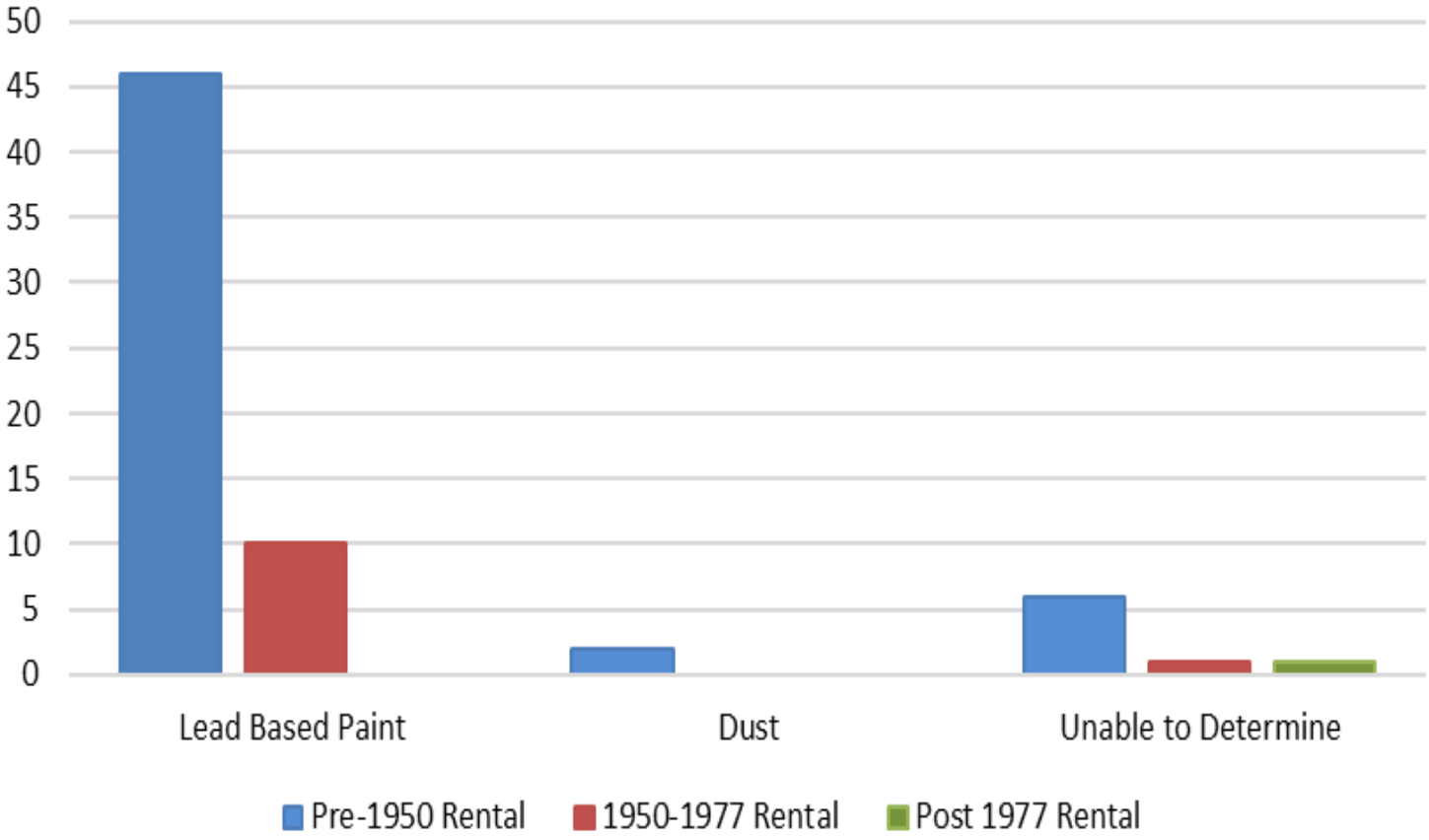
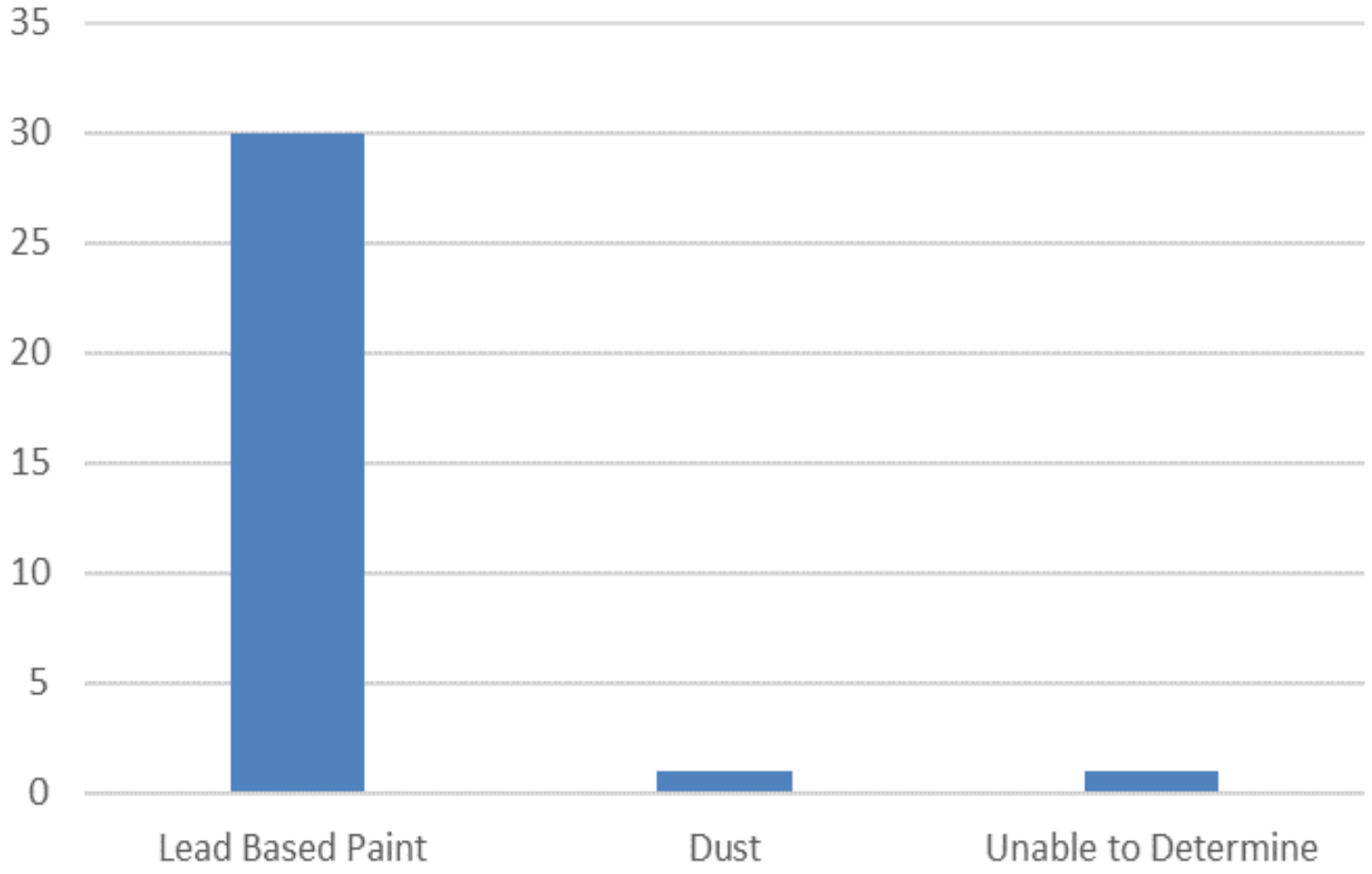


Figure Ten: Lead Hazards- Rental* Occupied Housing Baltimore City CY21



***-All Lead Hazards Identified were in Pre-1950 Rental Housing**