



MetroHealth

Institute for H.O.P.E.™

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Session Description

Health Begins – Upstream

Persistent health disparities and ways to reduce them remain a challenge for healthcare providers and community-based organizations. In recognizing that all health begins upstream, participants will learn about a pilot program designed to prevent lead exposure in newborns through interventions during pregnancy. These include utilizing five steps to identify and alleviate lead hazards in the home and engaging at-risk populations with Community Health Workers to achieve positive health outcomes.

Learning Objectives: Participants will be able to:

1. Identify how lead exposure disproportionately impacts African American and LatinX Populations
2. Articulate how to implement a primary prevention program to reduce infant lead exposure
3. Describe how to utilize Community Health Workers to positively impact health outcomes

The speaker(s) have no financial relationships with any commercial interest related to the content of this activity.

The MetroHealth System's Institute for H.O.P.E.™

Improved Health through Opportunity, Partnership and Empowerment

Improve the **health** of populations by leading efforts to address social and economic barriers to good health

Identify and promote **opportunities** for change in practice, learning and policy

Develop and nurture **partnerships** to make the greatest impact for individuals, neighborhoods and communities

Co-create a self-sustaining community where everyone is **empowered** to live their healthiest life





Health Begins Upstream

HealthBegins is a national mission-driven consulting and training firm that drives radical improvements in health equity by helping clients and partners address the social and structural drivers of health equity.

- Strategic Consulting
- Upstream Investment Planning
- Capability Assessment
- Improvement Campaign Design
- On-line and in-person education modules
- **Learning Collaboratives**

Learning and Action Collaboratives

Runs and supports a series of national and regional Social Drivers of Health Equity Learning and Action Collaboratives (SDLC). Through a shared longitudinal experience, teams develop and implement rapid-cycle campaigns, not only to improve health outcomes and social needs for priority populations but also to build cross-sector capacity to address broader social and structural drivers of health

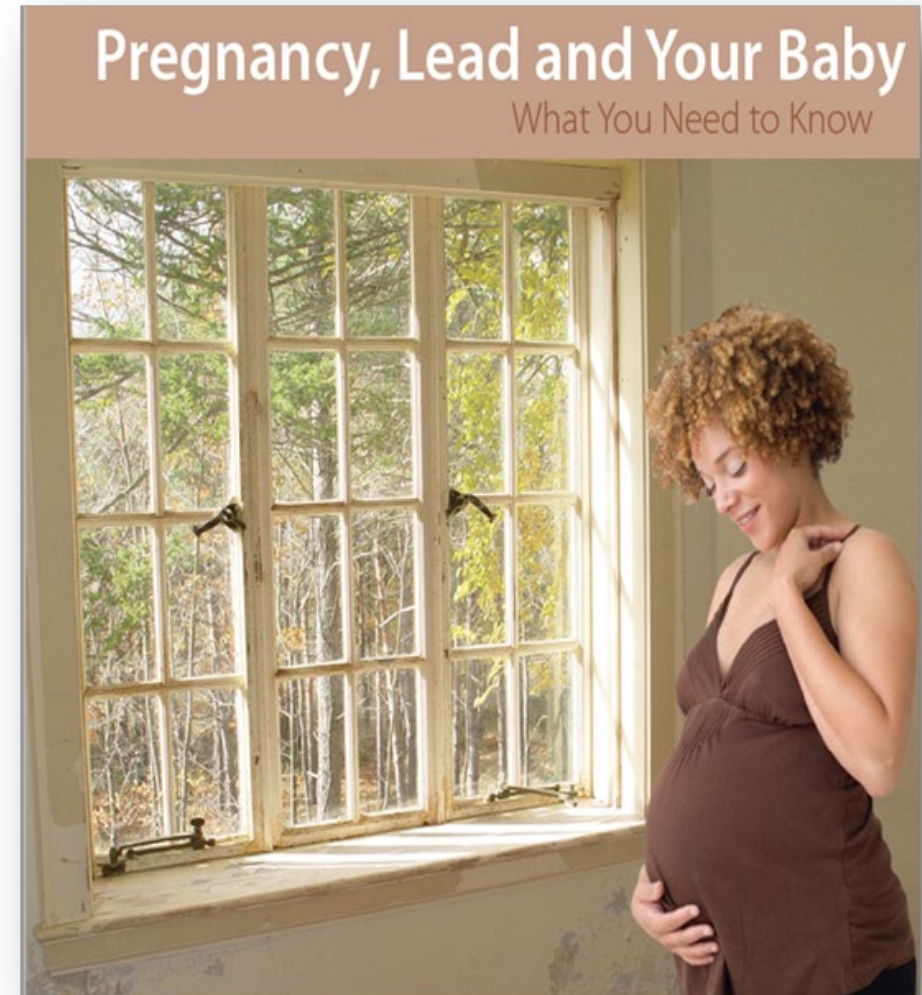


Voter Engagement & Empowerment

- Frame voting as a health issue
- Voter registration at MetroHealth ambulatory sites
- Voting reminders & registration updates
- Evaluation plan

Preventing Lead Exposure in Newborns through Intervention During Pregnancy

- Educate
- Screen
- Intervene
- Inspect
- Resolve

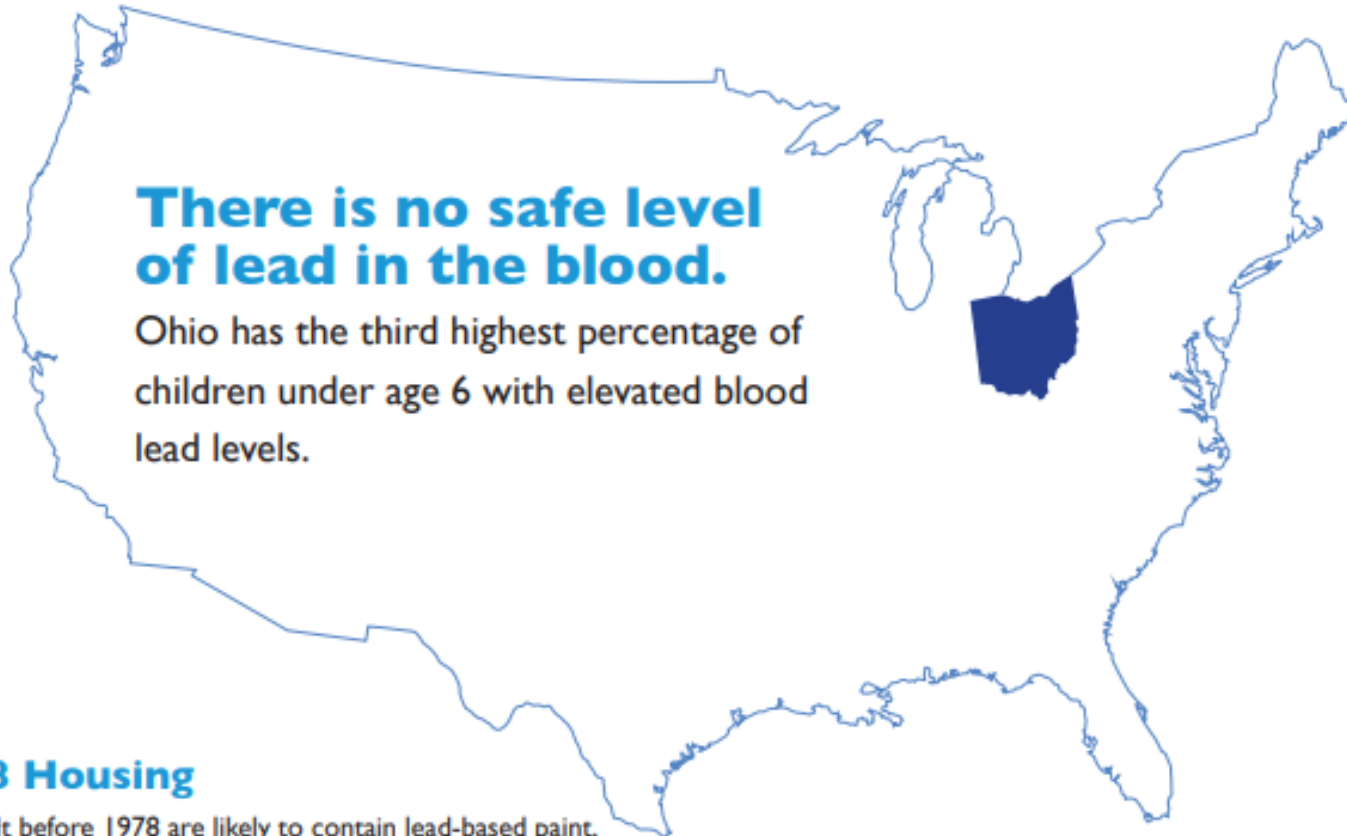


CHILDHOOD **LEAD POISONING**



There is no safe level of lead in the blood.

Ohio has the third highest percentage of children under age 6 with elevated blood lead levels.



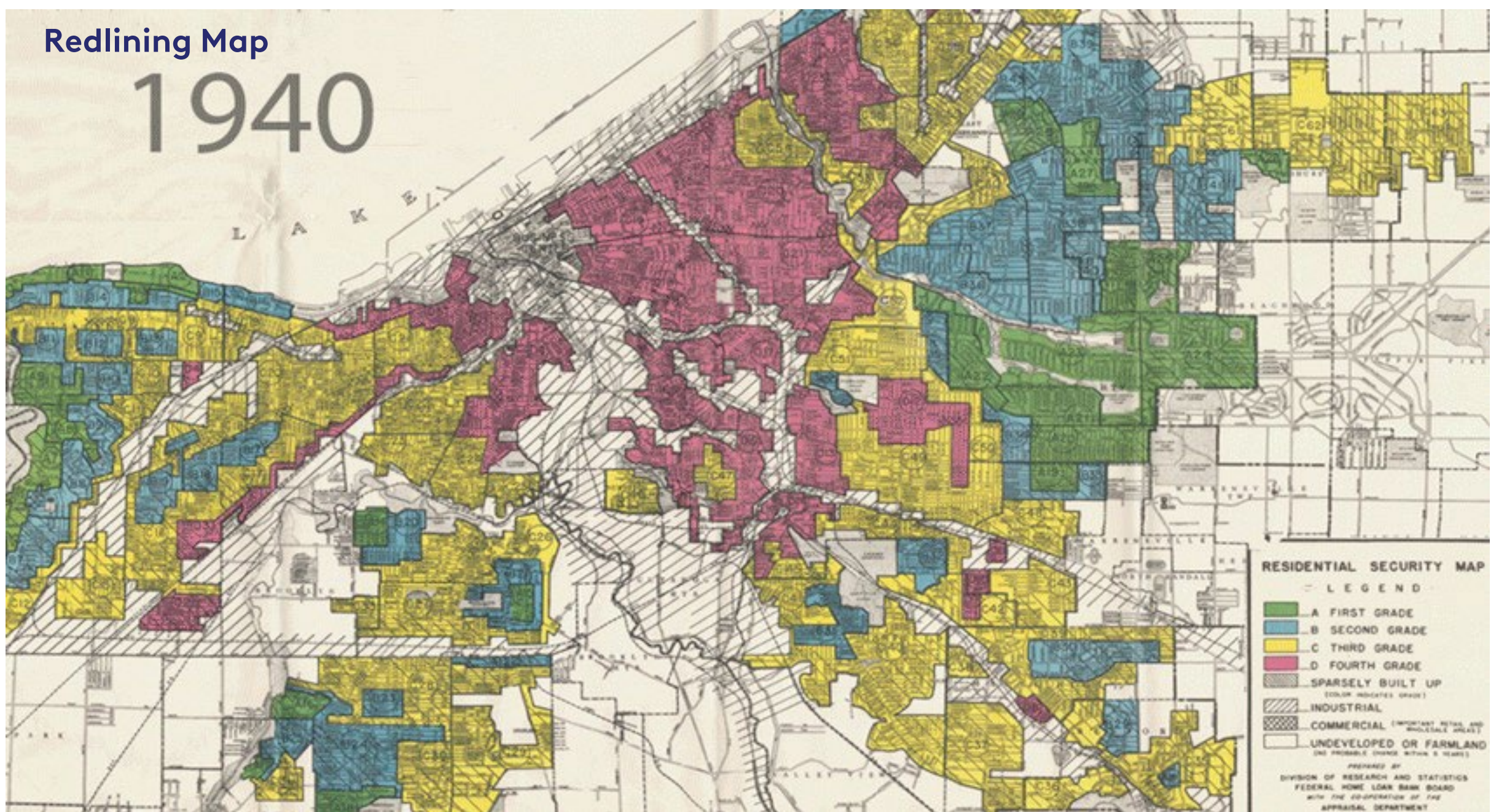
Pre-1978 Housing

- Houses built before 1978 are likely to contain lead-based paint.
- Ohio's large burden of elevated blood lead levels can be attributed to the age of Ohio's housing stock as well as the lack of maintenance and deterioration of some homes. The systemic disinvestment in certain neighborhoods, disproportionately affecting minority communities, has resulted in high lead exposure risk in those communities.

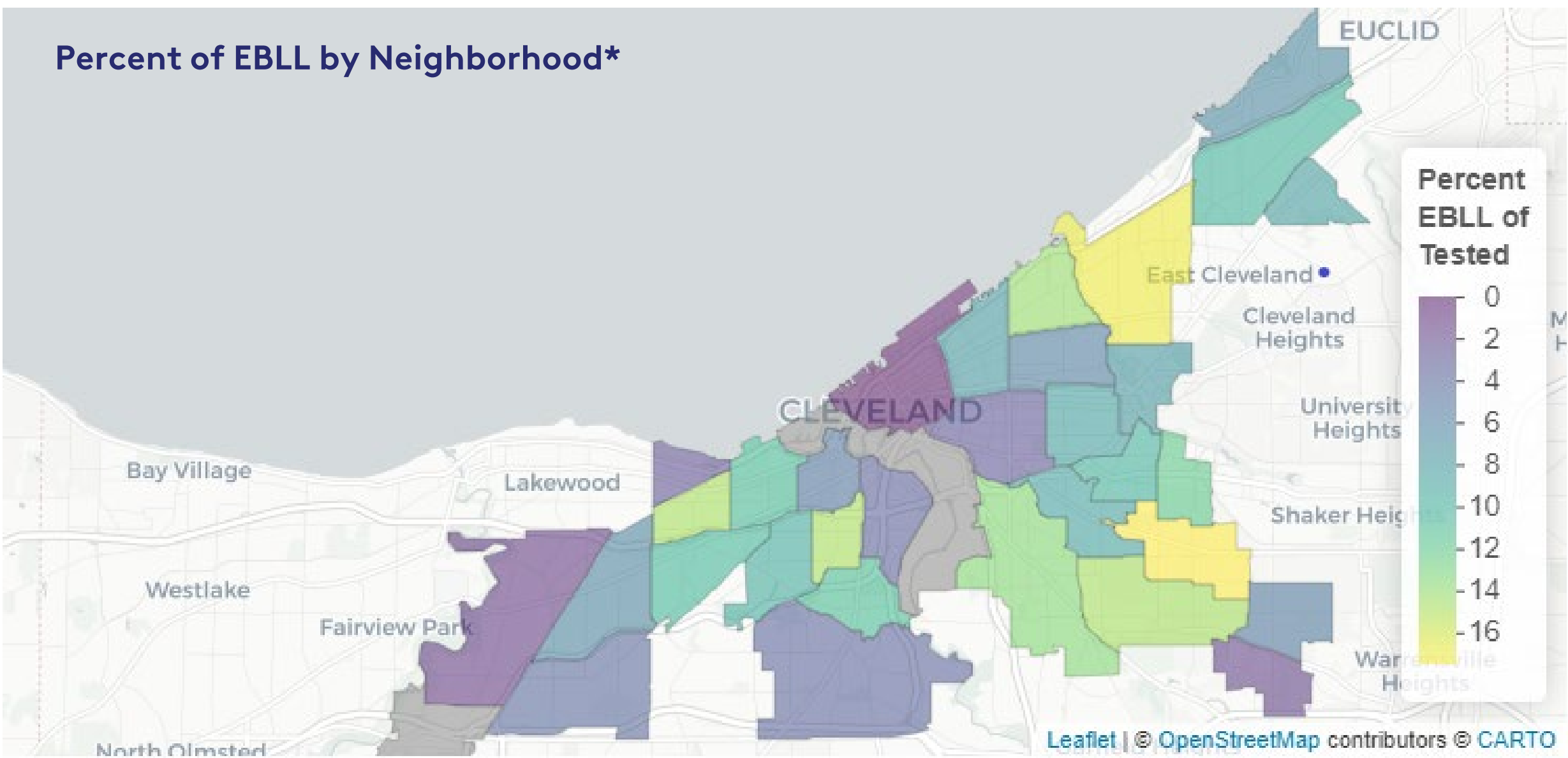
Source: <https://ohioaap.org/wp-content/uploads/2021/09/Lead-Resource-Guide-for-Physicians.pdf>

Redlining Map

1940



Percent of EBLL by Neighborhood*



*https://cwru-urb-pov.shinyapps.io/lsc_dashboard/#section-baseline

Defining the problem

Even after decades of work, childhood lead poisoning remains a widespread problem in Northeast Ohio.

25%

- Percentage of kindergarteners in Cleveland Metropolitan School District with a history of lead exposure

1,312

- Number of children in Cuyahoga County in 2019 with an elevated lead level

90%

- Percentage of Cleveland rental properties that were built before 1978 and likely contain lead-based paint

[https://case.edu/socialwork/povertycenter/sites/case.edu.povertycenter/files/2019-02/Lead Report CMSDFinal_0119rev.pdf](https://case.edu/socialwork/povertycenter/sites/case.edu.povertycenter/files/2019-02/Lead%20Report%20CMSDFinal_0119rev.pdf)

Ohio and Cleveland Specific Data

- 2/3 of homes in Ohio may have lead paint
- 40% of high-risk kids don't receive recommended lead tests
- 80% of Ohio's lead poisoning cases result from dust created by deteriorated lead-based paint in houses built before 1978
- Cleveland's lead poisoning rates are almost 4 times the national average.
 - The problem is even more severe in the Glenville and Clark-Fulton areas where a disproportionate number of children of color live, often in substandard housing.

[LSCC Lead Safe Child Care RFQ - FINAL \(08-29-2022\)_0.pdf \(leadsafecle.org\)](#)
[Microsoft Word - Lead Report CMSDFinal_0119rev \(case.edu\)](#)
[Lead-Rackcard.pdf \(ohioaap.org\)](#)
[LSC Lead Safe Child Care Pilot SOW \(V8\).pdf \(leadsafecle.org\)](#)

2020-2022 MetroHealth Lead Testing Rates and Results

	2022 (1/22-6/22)			2021			2020		
(ug/dL)	< 5	5 to 10	> 10	< 5	5 to 10	> 10	< 5	5 to 10	> 10
Race									
Black/African American	893 (45%)	55 (63%)	16 (76%)	2463 (42%)	117 (59%)	33 (73%)	2251 (42%)	103 (52%)	22 (54%)
White	782 (39%)	22 (25%)	3 (14%)	2420 (41%)	62 (31%)	7 (16%)	2116 (39%)	56 (28%)	10 (24%)
Other	89 (4%)	4 (5%)		238 (4%)	2 (1%)		182 (3%)	5 (3%)	
Unknown	227 (11%)	6 (7%)	2 (10%)	776 (13%)	17 (9%)	5 (11%)	832 (15%)	33 (17%)	9 (22%)
Ethnicity									
Hispanic	390 (20%)	17 (20%)	1 (5%)	1202 (20%)	28 (14%)	5 (11%)	1047 (19%)	28 (14%)	6 (15%)
Non-Hispanic	1,558 (78%)	67 (77%)	17 (81%)	4538 (77%)	164 (83%)	39 (87%)	4131 (77%)	159 (81%)	32 (78%)
Null & NA	43 (2%)	3 (3%)	3 (14%)	157 (3%)	6 (3%)	1 (2%)	203 (4%)	10 (5%)	3 (7%)

Lead Safe Cleveland Coalition



The Coalition is focused on preventing lead poisoning. The centerpiece of this effort is the Lead Safe Certification.

The Coalition also works on:

- Education and community engagement
- Increased screening and testing
- Early intervention for children and families
- Developing policy recommendations
- Creating the Lead Safe Home Fund
- Establishing the Lead Safe Resource Center
- Educating and empowering community members to make their neighborhoods lead safe.

<https://leadsafecle.org/about-coalition>

Sources, Signs & Symptoms of Lead Exposure

Sources

- Lead based paint dust or chips
- Occupational take home lead
- Water
- Food/Herbs/Spices
- Soil
- Toys
- Cosmetics
- Folk remedies

Signs & Symptoms



Irritability



Behavioral problems



Abdominal pain



Lethargy



Loss of appetite



Headaches



Memory loss



Seizures
(high lead exposure)

<https://ohioaap.org/wp-content/uploads/2021/09/Lead-Resource-Guide-for-Physicians.pdf>

Long Term Consequences & Effects

Long Term Consequences

- Speech and language issues
- Decreased Growth
- Hearing Loss
- Damage to nervous system and/or kidneys

Signs & Symptoms

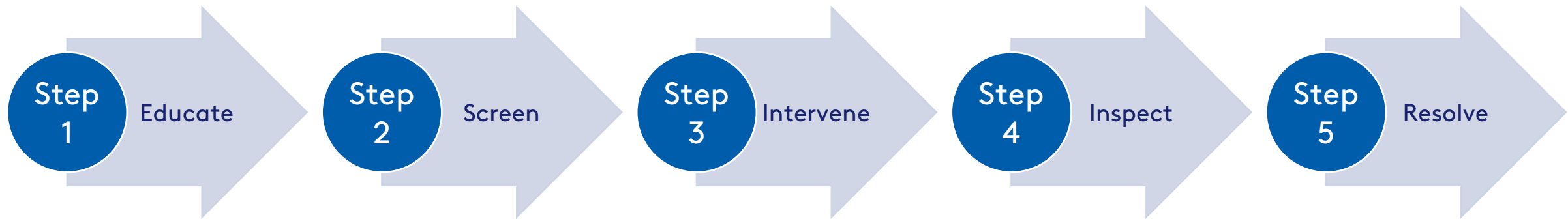
- Developmental Delays
- Cognitive Problems
- Decreased IQ
- Attention Deficit Disorder

A decorative graphic in the top right corner consisting of numerous circles of various sizes and colors, including orange, red, pink, purple, blue, teal, and green, arranged in a pattern that suggests movement or a cluster.

Preventing Lead Exposure in Newborns through Intervention During Pregnancy

Goal: Every baby born at MetroHealth is discharged to a lead-safe environment

Project Workflow



Education, Screening and
Intervention provided by
MetroHealth Clinical and
administrative staff

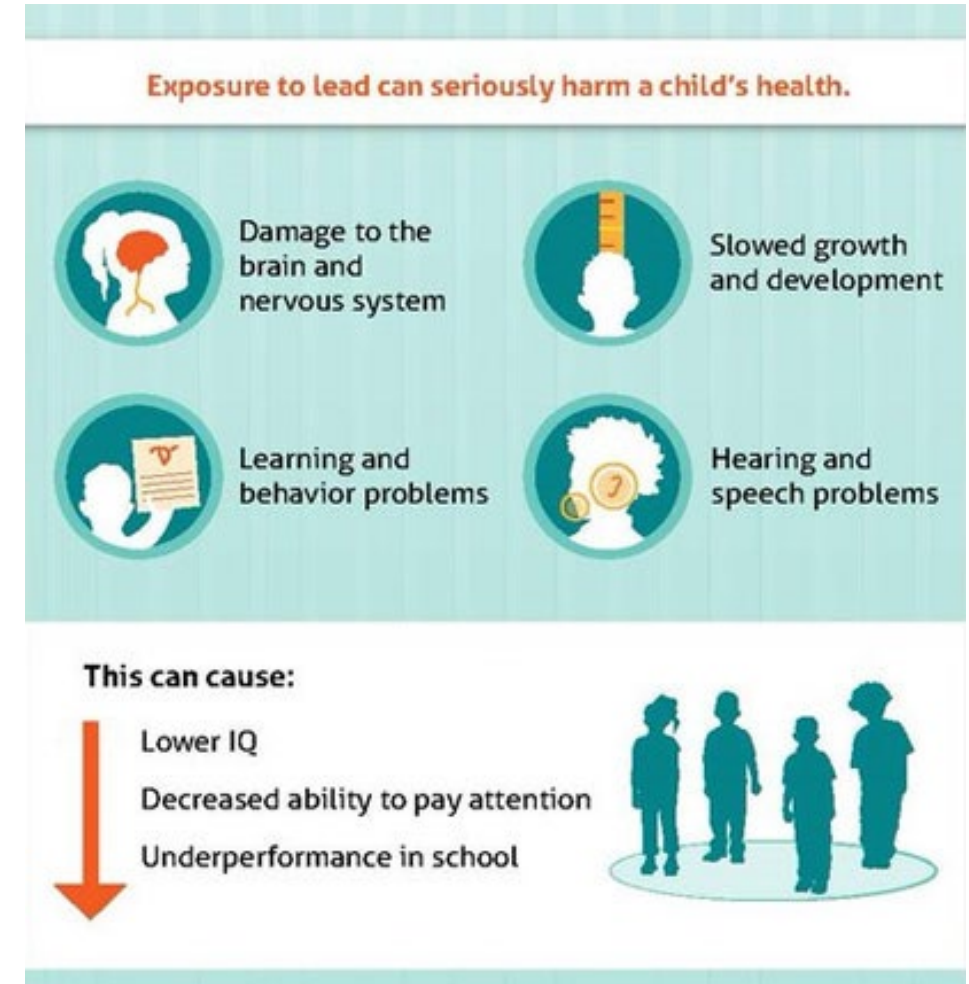
Inspection and Resolution
provided by trusted
community-based
organization(s)

Educate

Basic Education

Basic Education is provided at the first OB Nurse visit.

- Sources of lead exposure
- Health effects of lead exposure
- Lead exposure prevention



Screen

Questionnaire

3 Question Survey given at the first OB Nurse Visit

- Do you have children in your home with lead poisoning?
- Do you have a history of lead poisoning?
- Do you live in, or regularly visit a house built before 1978 that either has chipped or peeling paint, or has been remodeled or renovated in the past five years?

The screenshot displays a medical software interface for a patient named Christy OBDX, 49 years old, born 5/5/1972, with MRN 6011583. The patient is noted as 'Not on file (no ACP docs)'. The interface includes a sidebar with various medical history sections like 'Vaccine: Unknown', 'Cvg: Medical Mutual', 'Insurance: Not on File', 'Insurance Date: None', 'Insurance Agreement: Not on File', 'QUAL STATUS', 'OFFICE VISIT', 'ALL CANCER SCREENING', and 'VISITS'. The main content area is titled '12/7/2021 visit with Caril, Sarah M., MD for NEW OB PATIENT'. It features a navigation bar with tabs for 'Snapshot', 'Chart Review', 'Results', 'Launch OB...', 'Demo...', 'Health...', 'Medic...', 'Curren...', 'OB Episode', 'OB Rooming', 'MAR', and 'OB/GYN'. Below this, there are tabs for 'Episodes', 'Dating', 'OB History', 'History', 'Gyn Hx', 'Sexuality and Gender Identity', 'Infection Hx', 'Lead Screen', 'Drug/Alc Screening', and 'Genetic History'. The 'Lead Screen' tab is active, showing a 'Lead Screening' section with the following questions and response options:

- Do you have children in your home with lead poisoning?
☒ 1=Yes ☐ 0=No
- Do you have a history of lead poisoning?
☒ 1=Yes ☐ 0=No
- Do you live in, or regularly visit, a house built before 1978 that either has chipped or peeling paint, or has been remodeled or renovated in the past five years?
☒ 1=Yes ☐ 0=No
- If possible, are you interested in having your home inspected by a lead expert?
☒ Yes ☐ No

Screen cont.

Maternal Blood Test

Ordered by the physician

- Narrative comment and ACOG Chart in Lead Lab Result.
 - If ≥ 6 mcg/dL, patient will receive a letter from the applicable health department

Table 1. Frequency of Maternal Blood Lead Follow-up Testing During Pregnancy ↩	
Venous Blood Lead Level* (micrograms/dL)	Perform Follow-up Test(s) [†]
Less than 5	<ul style="list-style-type: none">• None (no follow-up testing is indicated)
5–14	<ul style="list-style-type: none">• Within 1 month• Obtain a maternal blood lead level[‡] or cord blood lead level at delivery
15–24	<ul style="list-style-type: none">• Within 1 month and then every 2–3 months• Obtain a maternal blood lead level[‡] or cord blood lead level at delivery• More frequent testing may be indicated based on risk factors
25–44	<ul style="list-style-type: none">• Within 1–4 weeks and then every month• Obtain a maternal blood lead level[‡] or cord blood lead level at delivery
45 or more	<ul style="list-style-type: none">• Within 24 hours and then at frequent intervals depending on clinical interventions and trend in blood lead levels• Consultation with a clinician experienced in the management of pregnant women with blood lead levels in this range is strongly advised• Obtain a maternal blood lead level or cord blood lead level at delivery
<p>*Venous blood sample is recommended for maternal blood lead testing.</p> <p>[†]The higher the blood lead level on the screening test, the more urgent the need for confirmatory testing.</p> <p>[‡]If possible, obtain a maternal blood lead level before delivery because blood lead levels tend to increase over the course of pregnancy.</p> <p>Modified from Centers for Disease Control and Prevention. Guidelines for the identification and management of lead exposure in pregnant and lactating women. Atlanta (GA): CDC; 2010. Available at: http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf. Retrieved March 7, 2012.</p>	

Screen cont.

Weekly Report

Time and Date	Question #1	Question #2	Question #3	FIRST LEAD VALUE	FIRST LEAD RESULT DATE	FIRST LEAD TEST DESC	LAST LEAD VALUE	LAST LEAD RESULT	TEST DESC	MH OR EXTERNAL
9/22/2022 09:25 AM	No	No	No	4	2/14/2000	LEAD, BLD	2	7/24/2000	LEAD, BLD	MH
8/29/2022 10:11 AM	No	No	No	2	6/22/2001	LEAD, BLD	2	6/22/2001	LEAD, BLD	MH
9/22/2022 10:36 AM	No	No	No	7	2/1/2000	LEADL	17	11/27/2003	LEAD, BLD	MH
9/1/2022 03:57 PM	No	No	No	3	11/1/1999	LEAD, BLD	3	11/1/1999	LEAD, BLD	MH
8/30/2022 01:25 PM	No	No	No	<1.0	9/3/2022	LEAD	<1.0	9/3/2022	LEAD	MH
8/31/2022 10:39 AM	No	No	No	1.2	9/8/2022	LEAD	1.2	9/8/2022	LEAD	MH
8/29/2022 08:58 AM	No	No	No	4	1/13/2004	LEAD, BLD	1.2	10/6/2022	LEAD	MH
9/13/2022 09:50 AM	No	No	No	<1.0	9/18/2022	LEAD	<1.0	9/18/2022	LEAD	MH
9/12/2022 08:49 AM	No	No		<1.0	10/7/2022	LEAD	<1.0	10/7/2022	LEAD	MH

Intervene

Risk Assessment

The Community Health Worker (CHW) will follow up with patients that screen at risk

- Answering “Yes” to one of the three survey questions and/or having an elevated blood lead level
- CHW Interviews patient, provides lead education and a lead cleaning kit as appropriate
- CHW schedules lead screens for children in the home as appropriate

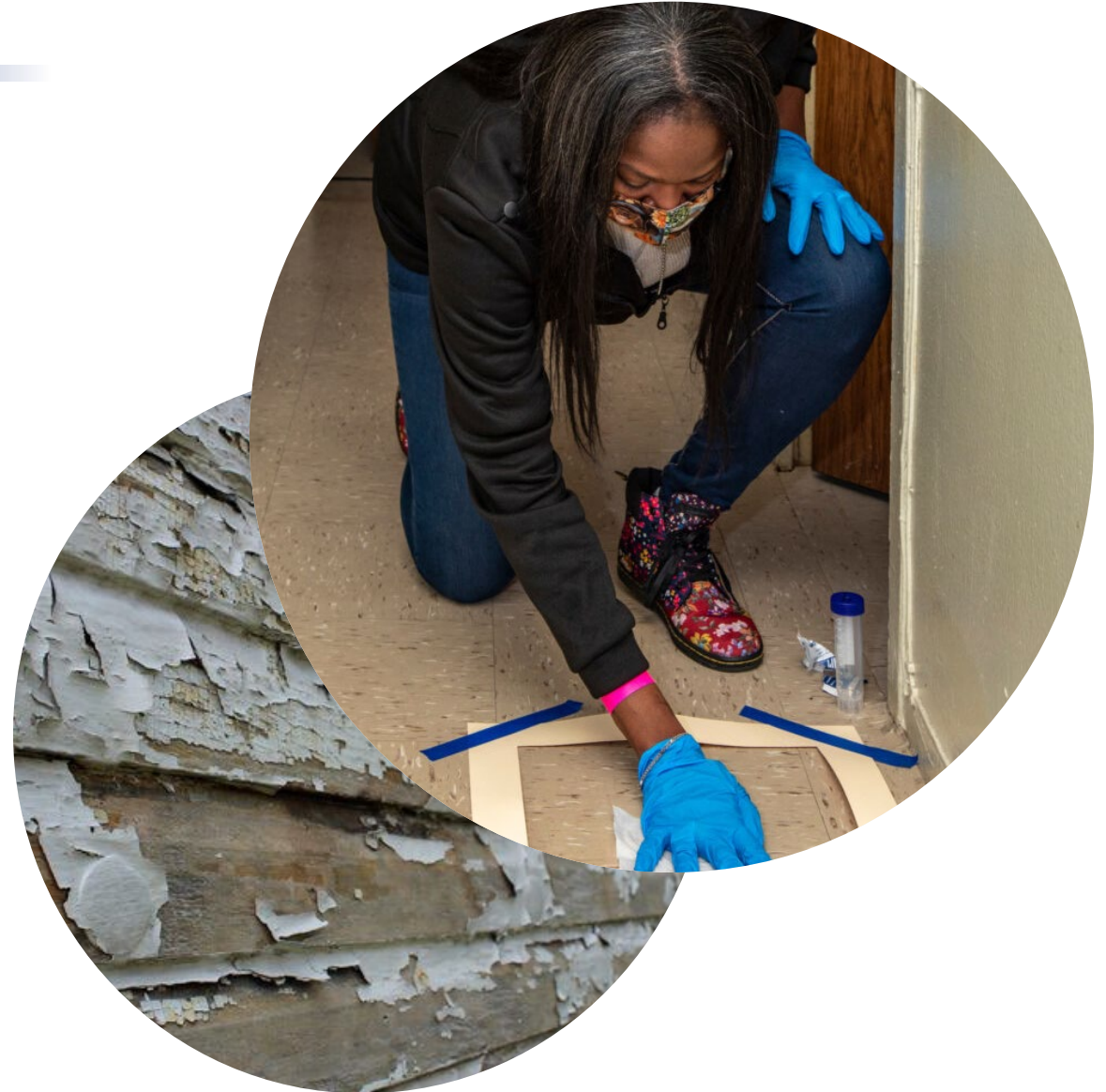


Inspect

Eligibility and Referral

The Community Health Worker (CHW) will determine eligibility for inspection

- In-depth interview to assess the patient's current environment and previous lead exposure
- Obtain consent to refer to a Metro West CDC to complete the inspection



Resolve

Access Resources

The Community Health Worker (CHW) will work with Institute for H.O.P.E.TM staff to access resources.

- Help patients explore their tenant's rights and responsibilities.
 - Negotiating with Landlords
 - Explore legal options
- Explore internal and external resources to alleviate lead hazards.
 - Environmental cleaning
 - Moderate home repairs



The
Legal Aid Society
of Cleveland
Since 1905
Preserving Rights.
Maintaining Dignity.
Ensuring Justice.



Community Health Worker Role

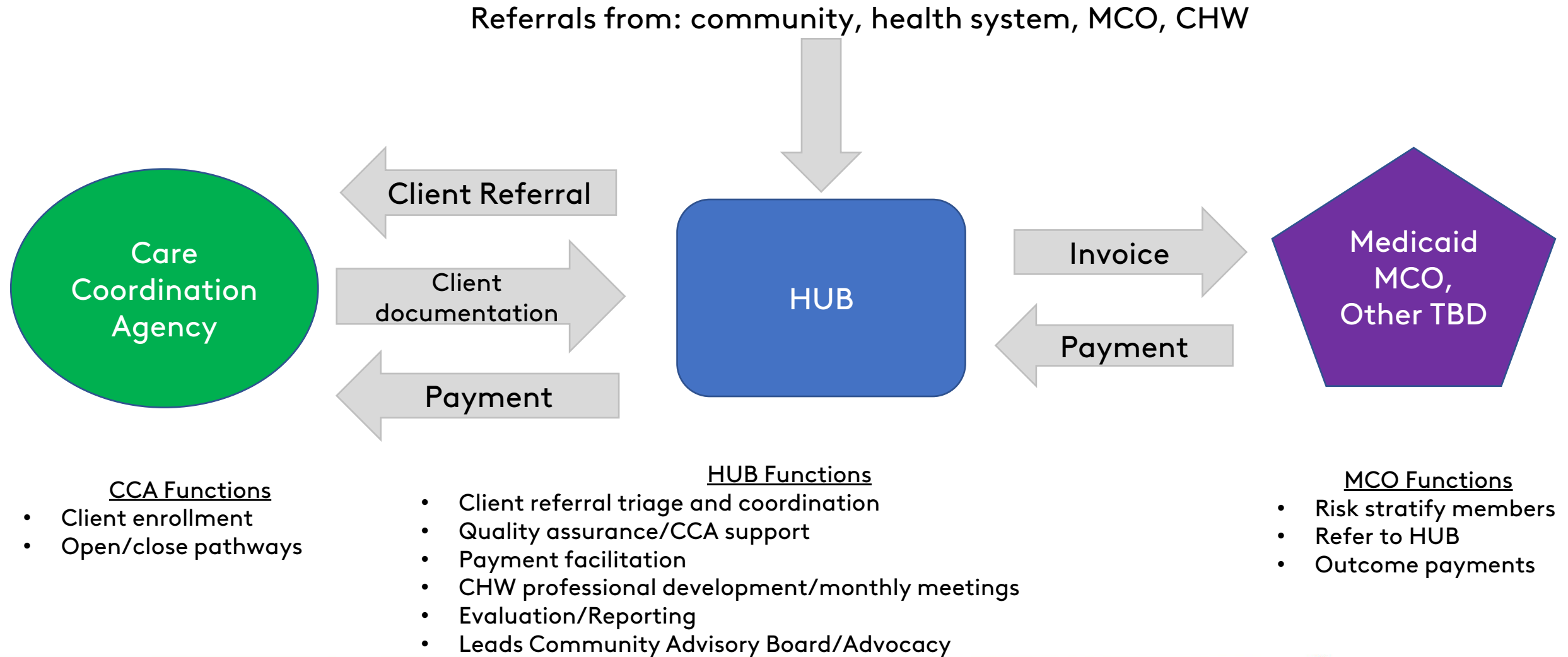
Our MetroHealth Health worker is a vital part of our entire lead program.

Her role includes:

- SDOH assessment
- Help with resources; grants, paperwork etc..
- Assistance with appointments and transportation
- Education about lead prevention
- Diet and Nutrition Education
- Assistance with helping patient find housing and financial resources



HUB Model Roles and Information Exchange



Screenshots from Care Coordination System

Client Screen

CARE COORDINATION SYSTEMS

CaseloadAdminReporting

Help Center

WELCOME JLEVER1 | Log out

CLIENTBack

Demographic Information

Last	Client	First	Test
Duplicate Status	Original	Type	20 years Adult
Active	Active	Enroll Status	Referral
Coordinator	CHW1A	Program	Minority Health
Funder	Paramount	Primary Insurance	Medicaid
Date of Birth	DEC 01, 1999	Address	123 Disney PLace
Contact Telephone	(111) 222-2222 Contact	Medical Record #	
PW Initiated	4	PW Completed	1
PW Completed %	25	Profile %	Partially Complete
Initial Checklist %	Does not exist	PAM Level	
RiskQ			

TEST CLIENT

REASSIGN CLIENT
Assigned To: CHW1A
[Reassign this client](#)

ContactsChecklistsPathwaysToolsArchiveCentral NotesClient Messages (0 new)TasksCare TeamConsult NotesTimelineDocuments

Add Tool

Tool	Start Date	Last Signed	% Complete	Action
Food Security	12/19/19			Archive Remove
Reproductive Life Plan	12/18/19			Archive Remove

Tools

Patient Health Questionnaire (PHQ-9)

1) Little interest or pleasure in doing things

Over the last 2 weeks - how often have you been l

☐ Not at all

☐ Several days

☐ More than half the days

☐ Nearly every day

X

2) Feeling down - depressed or hopeless

☐ Not at all

☐ Several days

☐ More than half the days

☐ Nearly every day

X

3) Trouble falling or staying asleep - or sleeping too much

☐ Not at all

☐ Several days

☐ More than half the days

☐ Nearly every day

X

4) Feeling tired or having little energy

☐ Not at all

☐ Several days

☐ More than half the days

☐ Nearly every day

X

5) Poor appetite or overeating

☐ Not at all

☐ Several days

☐ More than half the days

☐ Nearly every day

X

6) Feeling bad about yourself - or that you are a failure or have let yourself or your family down

☐ Not at all

☐ Several days

☐ More than half the days

☐ Nearly every day

X

Checklist

Visit Information

Visit Type:

Visit Location:

Visit Other:

Current Issues

Have you had any changes in these areas? Select all that apply

☐ Living arrangements

☐ Marital status

☐ Caregivers

☐ Education / School

☐ Employment

☐ Legal issues

☐ Other

☐ No Changes

Other change:

Do you have problems providing transportation for you or your family?

☐ Yes ☐ No

Do you need help with child / adult dependent care?

☐ Yes ☐ No

Do you have problems meeting your basic needs (select all that apply)?

☐ Yes ☐ No

Select all that apply:

☐ Housing

☐ Food

☐ Clothing

☐ Utilities

☐ Other

Other:

Have you been in prison / jail?

☐ Yes ☐ No

Have you recently (12m) been in prison / jail?

☐ Yes ☐ No

Are you currently on probation or parole?

☐ Yes ☐ No

Probation / Parole Officer name:

How do you rate your health?

Have you had any changes in your Health Insurance:

☐ Yes ☐ No

Insurance changes:

Insurance Details:

Outcomes

Findings: March 2022 – September 2022

Maternal Lead Levels are not indicative of lead in the residence.

- Behaviors
- No EBLL above 5 mcg/dL

Preventative Inspection Report

- Inspection #1: No lead detected
- Inspection #2: Lead levels are exceptionally higher than accepted levels
 - Existing Conditions exacerbated lead hazards
 - Renovations in process (unsafe practices)
 - Visible dust on floors, railings, steps, furniture

992 Patient Encounters

633 Questionnaires Completed

432 Blood Lead Levels*

25 Lead Kits Distributed

2 Inspections Completed

*Lead levels for year 2022 to date



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