

# Lead Poisoning Response

Public Safety & Health Committee  
File 181016 | March 22, 2019

City of Milwaukee Health Department  
Department of Public Works  
Department of City Development  
Information Technology Management Division  
Department of Neighborhood Services

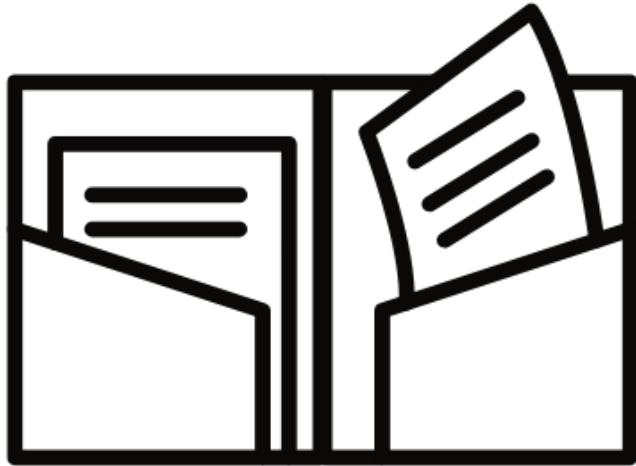


# Key Takeaways

- Lead Poisoning continues to be priority for the City of Milwaukee and there is a **coordinated response between City departments.**
- The City's response to lead poisoning is **evidence-based and grounded in science.**

# Included in this file....

- Written response to the 2/14/19 Steering and Rules Committee meeting.



- Electronic testimony from:
  - **Drs. Chesley and Meier**, University of Wisconsin-Milwaukee
  - **Dr. Meurer**, Medical College of Wisconsin
  - **Sixteenth Street Community Health Center**
  - **Dr. De La Cruz**, Sixteenth Street Community Health Center
  - **Darren Rausch**, Health Officer and Epidemiologist
  - **Dr. Bachanan**, University of Illinois at Chicago

# Today's Presentation

1. Response to FLAC and GTLO
2. Lead Poisoning in Milwaukee in Context
3. Testimony

Children's Hospital of Wisconsin

State of Wisconsin Department of Health Services, Division of  
Public Health

# Response to Freshwater for Life Action Coalition (FLAC) and Get the Lead Out Coalition (GTLO)



# FLAC and GTLO's Concerns

<p>Questions for the Common Council Related to Lead Contamination in Milwaukee's Drinking Water Supply.</p> <p><i>Get The Lead Out Coalition Fresh Water Life Action Coalition February 2019</i></p> <p><b>*CITY OWNED PROPERTIES</b></p> <p>-The vast majority of the 3,000 City owned properties do not have a year listed in the Master Property Database. City owned properties are listed as "Null" instead of an actual year they were built.</p> <p>-Why are the Years Built for city owned properties not provided in the Master Property Database (MPROP)?</p> <p>-Many of these city owned properties were built before 1951 and probably have a lead service line on the private side. When mapping properties built before 1951 to identify private lead service lines the vast majority of city owned properties that probably have lead service lines do not show on the map.</p> <p>-Please update the Master Property Database so we can identify City Owned Residential Properties that were built before 1951. This update to the database is needed so the community can identify the private lead service lines at city owned properties throughout the city.</p> <p><b>*CITY OWNED TAX FORECLOSED PROPERTIES AND HOUSEHOLDS ENTERING INTO LEASES WITH THE CITY OF MILWAUKEE</b></p> <p>"DCD real estate staff and DNS inspection staff jointly visit each occupied property. During the visit, the property is inspected to determine whether it is safe for continued occupancy, and the occupant is interviewed to determine whether the City will enter into a lease with the occupant. During this interview, occupants are asked whether the household includes pregnant women and young children".</p> <p>"The risk of lead exposure is greatest for households that have entered into a lease with the City of Milwaukee and include children under the age of six and/or pregnant women. The tenancy of these households is most likely to be significantly longer than those who are required to vacate. We recommend that evaluation of lead hazards and a program to stabilize lead hazards identified through evaluation be focused on that segment of occupied properties"</p> <p>(Lead Evaluation Plan for Occupied City-Owned Residential Properties Prepared for the Milwaukee Common Council July 1, 2018</p>	<p><a href="#">ID=6384413&amp;GUID=A940FCA4-1A97-4D27-</a></p> <p>to the The Re-Invest in City Homes program must be reviewed to make sure the citizens come without a private or public lead service</p> <p>efits-common-council-approves-program-that-</p> <p><b>ENTS AT CITY OWNED PROPERTIES</b></p> <p>ve had partial lead service line replacements</p> <p>ancy are the households with the greatest risk</p> <p>ctual year listed for when the property was blic, city owned lead service line as well.</p> <p>ements are occurring at city owned properties e greatest risk of lead exposure.</p> <p><b>INES</b></p> <p>cted to lead service lines either private or</p> <p>t of Public Works Milwaukee Water Works 02 it states under the section "Excavation for ovide all excavations required for the ce piping". It also states "Connections to lead d solder joints or approved "Compression</p> <p>tment of Public Works Milwaukee Water "Service Revised 2002, it states ""Unused ing or a moved building shall be capped at the s "Water can be supplied through existing</p> <p>in fact being reconnected to.</p>	<p>ates in their <i>Lead Service Line Program Semi-Annual Update Public Works ary 24, 2018</i> that "The last lead service line installed on the public side was in ximately 2,000 properties were built later and connected to them".</p> <p>ates on their Home Building Site <a href="#">aukeee.gov/HomeBuildingSites#.W4SuiX4nbFY</a>) that when a single family ) a former city owned vacant lot the new home owner is expected to factor in sts: \$5,000 to \$10,000 for additional excavation and soil disposal trucking fees lots contain old foundations and \$8,000 to \$12,000 for sewer and water lateral city utilities in the street.</p> <p>es have been reconnected to the public and the private laterals since 1951?</p> <p><b>APS TO MAKE LEAD POISONING APPEAR LESS SEVERE</b></p> <p>nt presented to the Milwaukee Common Council City of Milwaukee Health dhood Lead Poisoning Prevention Program Assessment of Operations and ons for Corrective Actions January 29, 2018, on page 10 Figure 1.6: Map of . Density by Aldermanic District, 2016 represents lead poisoning from Low to</p> <p>2018 this map was changed from Low to High lead poisoning to the number of are mile with lead poisoning. The first category of 1-9 children per square mile m the new map in order to make childhood lead poisoning in Milwaukee ere then it really.</p> <p>was presented in the document City of Milwaukee Health Department City of ad Dashboard at the Milwaukee Nutrition &amp; Lead Task Force Monday, May 7th Force, as well as in the document City of Milwaukee Health Department urses to Reduce Childhood Lead Exposure in Milwaukee at Data Day on May d by Data You Can Use.</p> <p>t require the maps to withhold data at the lowest category. The CDC verifies</p> <p>maps is highly unethical. Responsible parties must be held accountable for the that was done to give a false impression that the lead crises in Milwaukee is s it truly is.</p> <p><b>D SERVICE LINE REPLACEMENTS AT CHILDCARE FACILITIES</b></p>	<p>placements 2010-2016?</p> <p>and May 27th of 2014? Please 014</p> <p><b>AVENUE 2012-2016</b></p> <p>ng W. North Avenue from 2012-</p> <p>Coalition has concluded that</p> <p>h spike in infant deaths along W. ure through drinking water.</p> <p>ontamination in the drinking</p>
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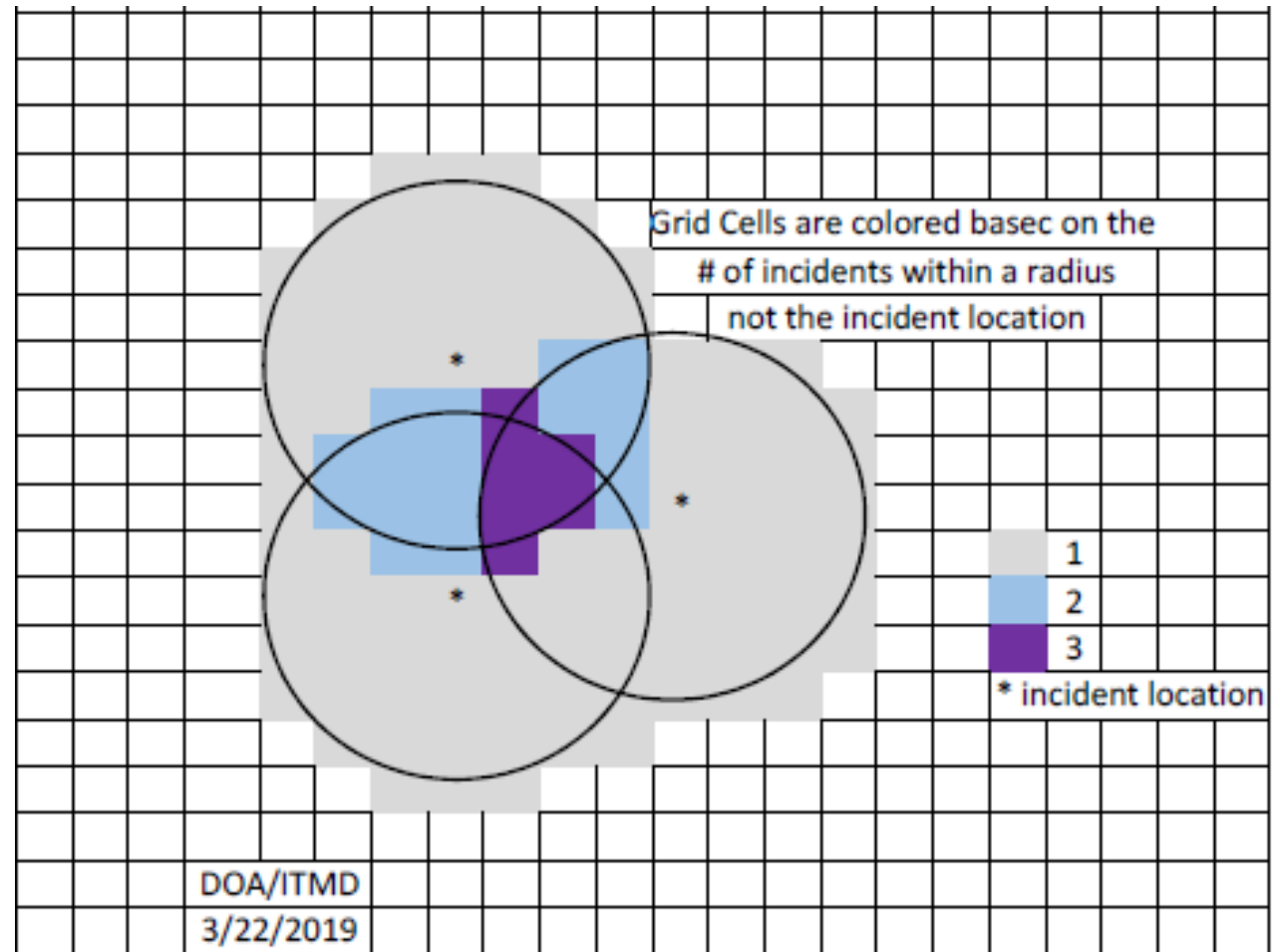
# Infant Mortality and Lead Poisoning

*“GIS mapping research conducted by the Get the Lead Out Coalition has concluded that these infants died due to lead contaminated drinking water. Unless a better hypothesis is put forward by the City, this high spike in infant deaths along W. North Avenue from 2012-2016 will be attributed to lead exposure through drinking water.” -FLAC and GLOC, February 2019*

**There is no evidence to support this claim.**

# Infant Mortality and Lead Poisoning

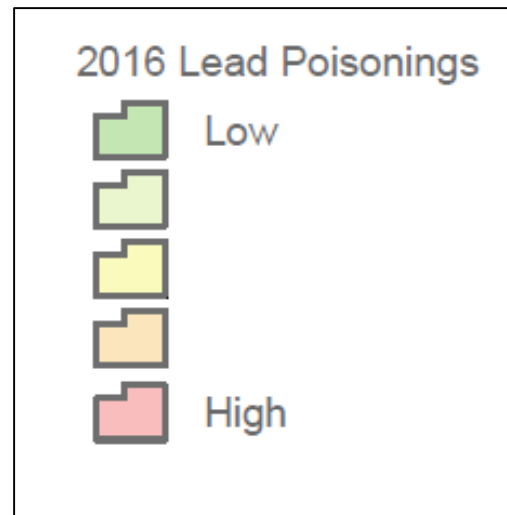
There were **not** 40-49.99 infant deaths within 1 to 2 blocks on either side of a stretch of North Ave in the 15<sup>th</sup> Aldermanic District.



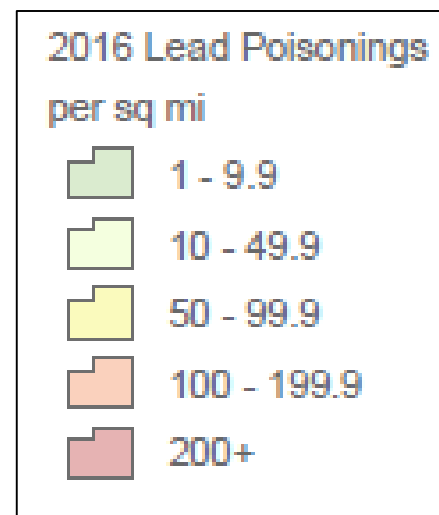


# Changes to Lead Poisoning Maps

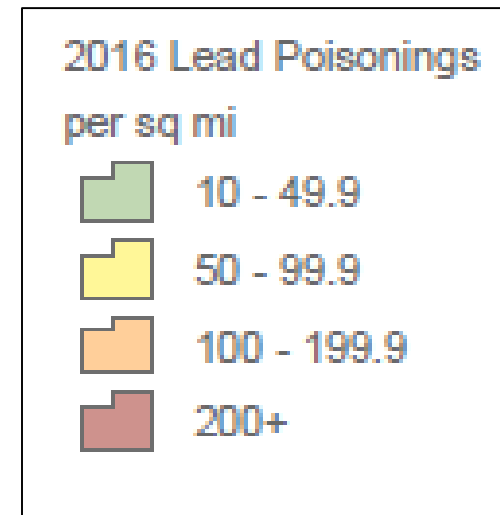
- Maps were **not changed** to make “lead poisoning appear **less severe.**”
- The legend on the maps did change to be more specific about the number of poisoned children within a square mile.



January 26, 2018



February 14, 2018

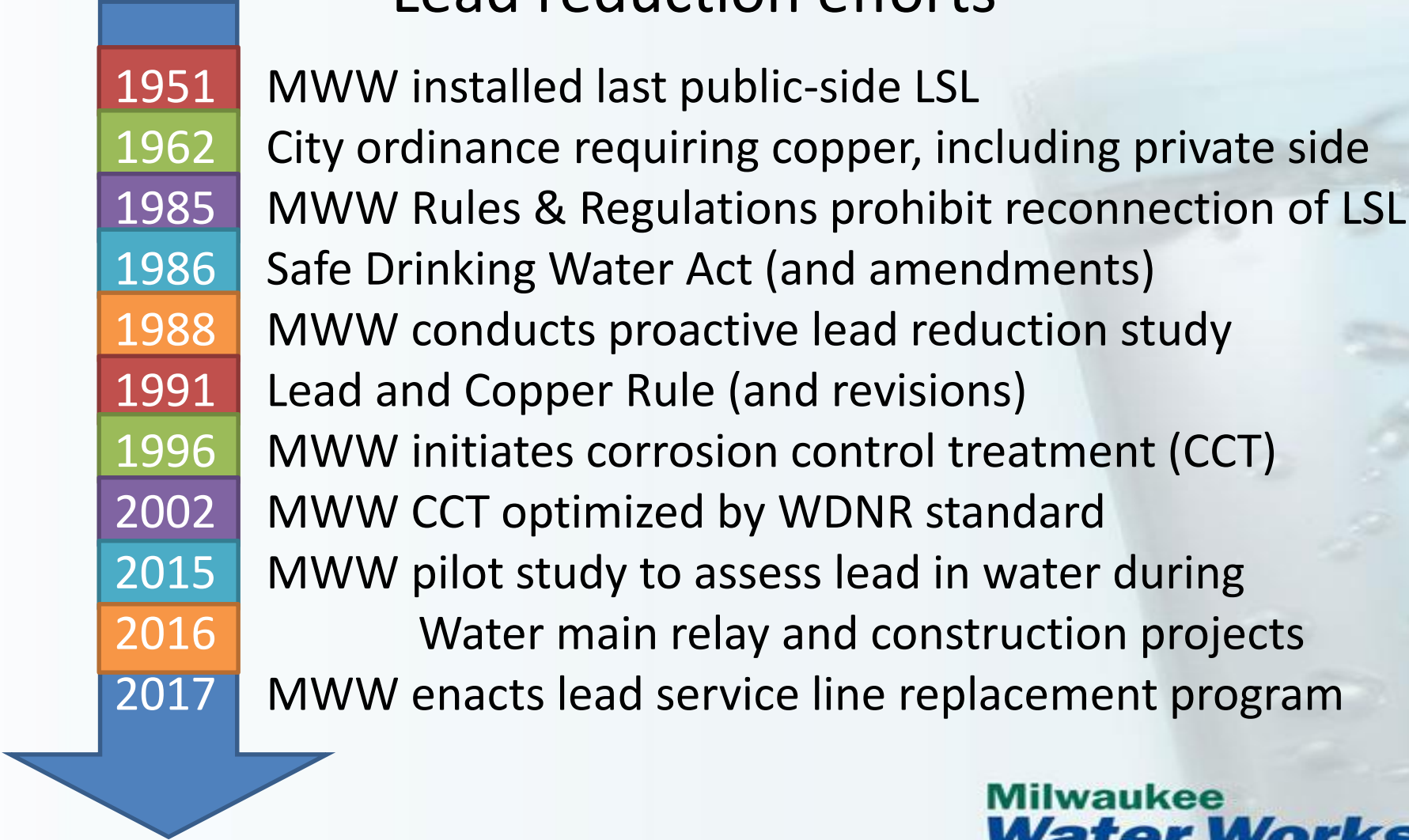


April 6, 2018

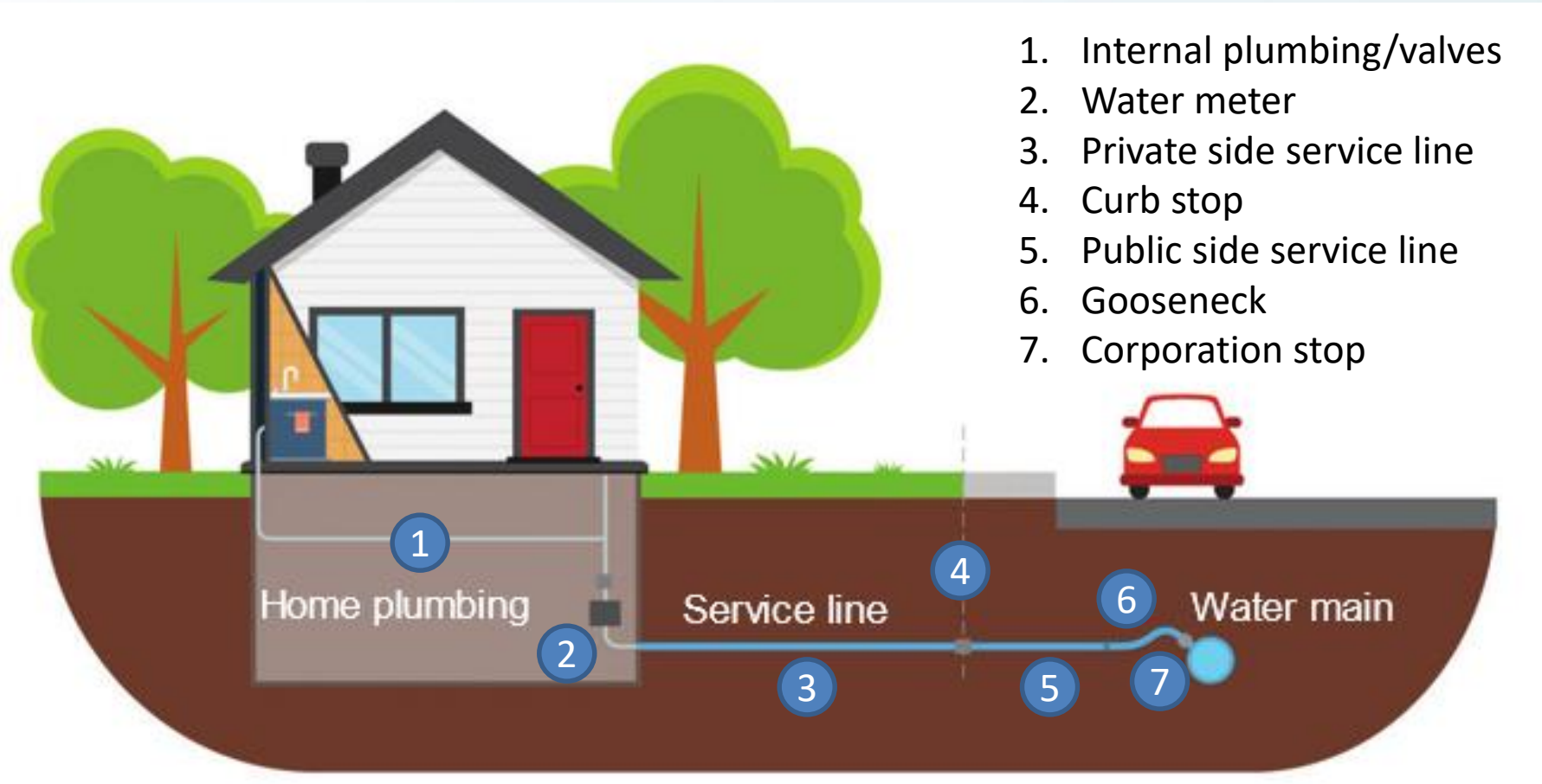
# HIPAA

- HIPAA protects your health information.
- The Health Department had concerns that a scale starting at less than 5-10 per square mile could violate HIPAA regulations.
- This change was based on national HIPAA privacy guidelines and well-established best practices.

# Milwaukee Water Works Lead reduction efforts

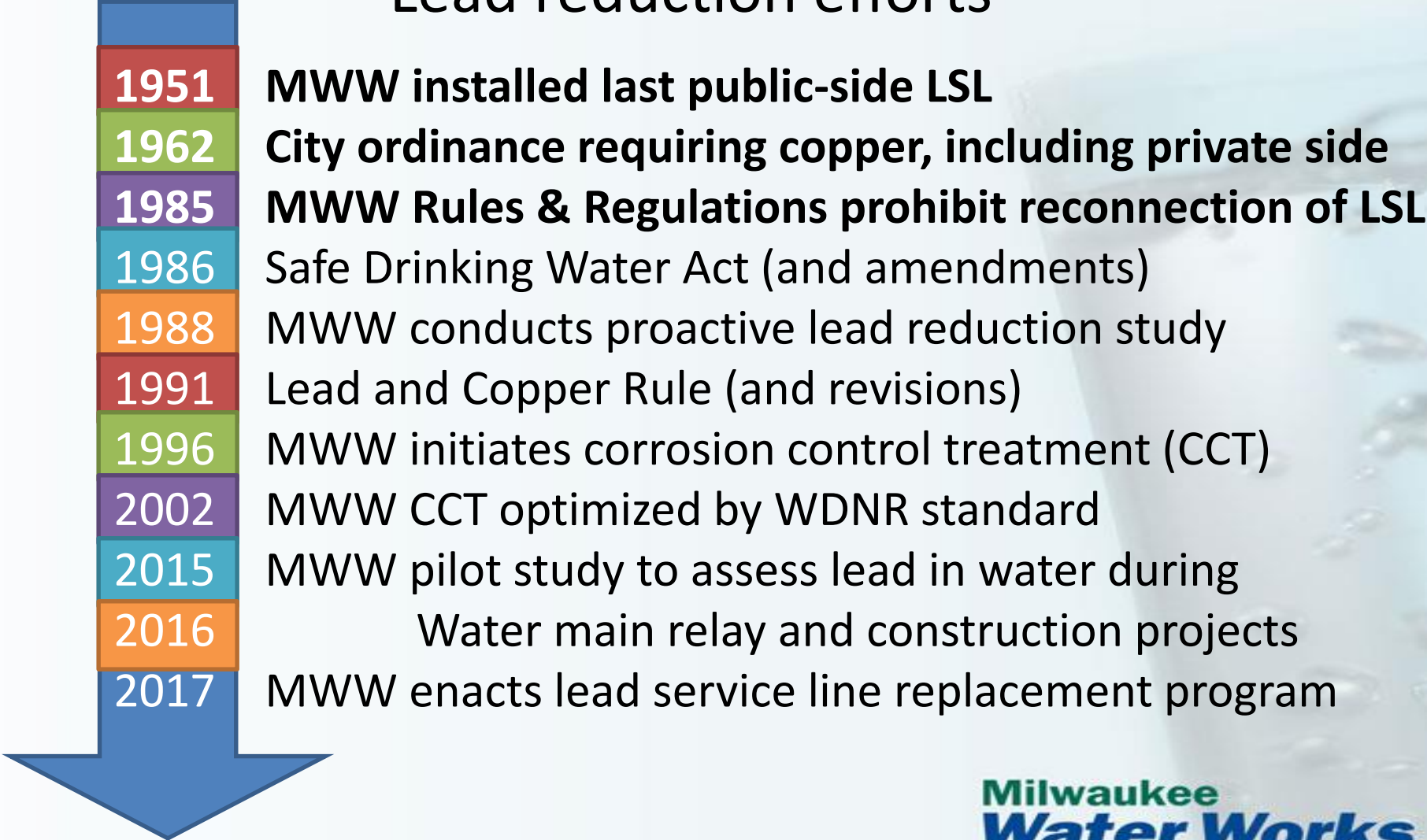


# What is a service line?

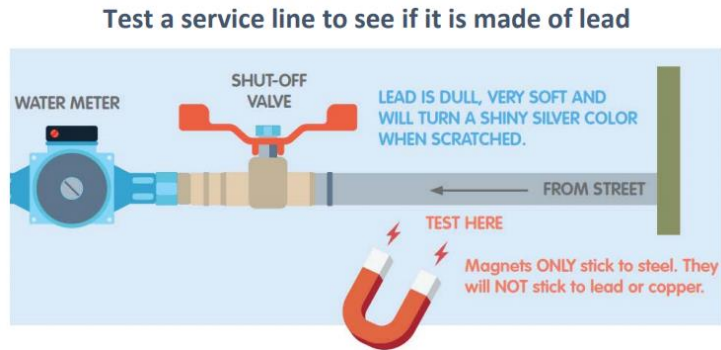


# Milwaukee Water Works

## Lead reduction efforts



# Lead service line inventory



- 31,706 properties **built between 1952-1962** (CCFN 170526)
- 2,062 properties identified as constructed between 1952 and 1962 are identified to have public side lead service lines.
- Letters sent out to help identify basement material; online also
- 5,917 (18.7%) replied to-date

Public Side	Private Side	<i>n</i> =	%
Copper	Copper	4,922	83
Copper	Galvanized steel	429	7.3
Copper	Lead	181	3.1
Lead	Copper	273	4.6
Lead	Lead	33	0.6
Lead	Galvanized steel	28	0.5
Iron	Iron or copper	34	0.6

# 1985 New Construction = New Copper Water Service

## *Milwaukee Water Works Rules and Regulations Governing Water Service*

- **Water can be supplied through existing water service piping, provided such piping conforms to the current specifications for the water service piping.** *Section 3.2.0 Existing Water Service Piping, 3.2.1: Use of Existing Water Service Piping for New Customers.*
- **Unused lead service piping shall not be connected or reconnected.** *Section 3.2.0: Existing Water Service Piping, 3.2.2: Unused Service Piping.*

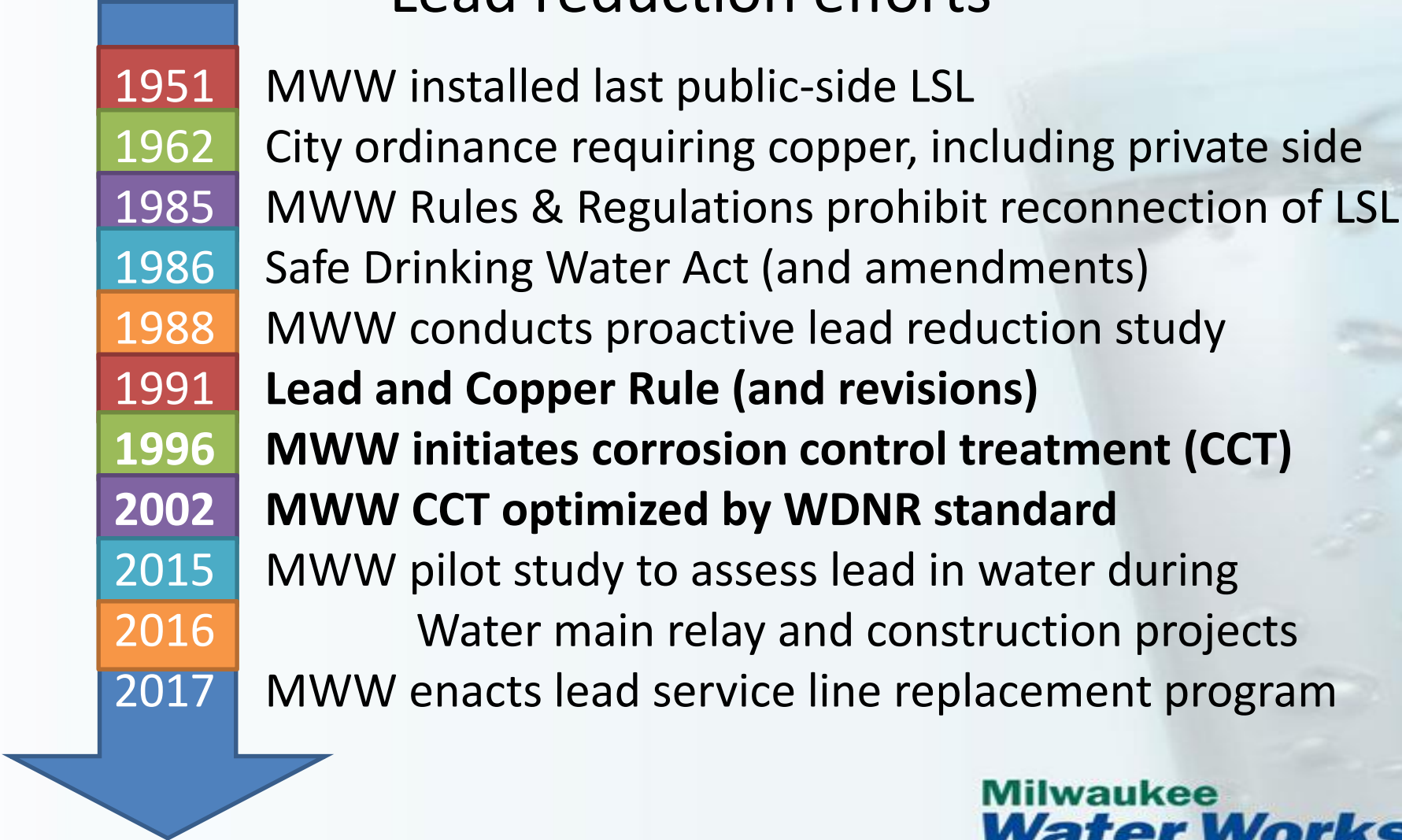
## *Milwaukee Water Works Water Service Piping Specifications*

- **Copper piping shall be used in all new water service piping installations two (2) inches or smaller.** *Chapter 2: Materials, Section 2.1.3: Copper Water Service Piping.*
- **Lead piping shall not be used.** *Chapter 2: Materials, Section 2.1.4: Lead Water Service Piping.*

## **Plumbing inspectors verify proper installation/materials.**

MWW is revising Rules and Regulation and Water Service Piping Specifications to reflect MCO Sec 225-22.5, *Lead Service Line Replacement* updates

# Milwaukee Water Works Lead reduction efforts





# US EPA Lead and Copper Rule Optimized Corrosion Control Treatment (OCCT)

- Actions:
  - Corrosion control
  - Public notice
  - Outreach and education
  - Additional monitoring
- CCT initiated in 1996
- **MWW in Compliance Continuously since 1997**
- Optimized in 2002 - highly regulated
- Routinely measure ancillary parameters for OCCT
- Report daily, monthly, and annually to WDNR

# Water Quality Sampling

- Every Treatment Step from Raw Water to Plant Effluent
- Distribution system
- Prior to and Post LSL Replacement

## Milwaukee Water Works

*Safe, Abundant Drinking Water.*

### 2018 Consumer Confidence Report

2018 Reporte de Confianza del Consumidor, página 9

The U.S. Environmental Protection Agency (EPA) and Wisconsin Department of Natural Resources (DNR) require drinking water utilities to provide an annual Consumer Confidence Report to help consumers understand where their drinking water comes from, so they can make informed decisions about their health and protection of the environment.

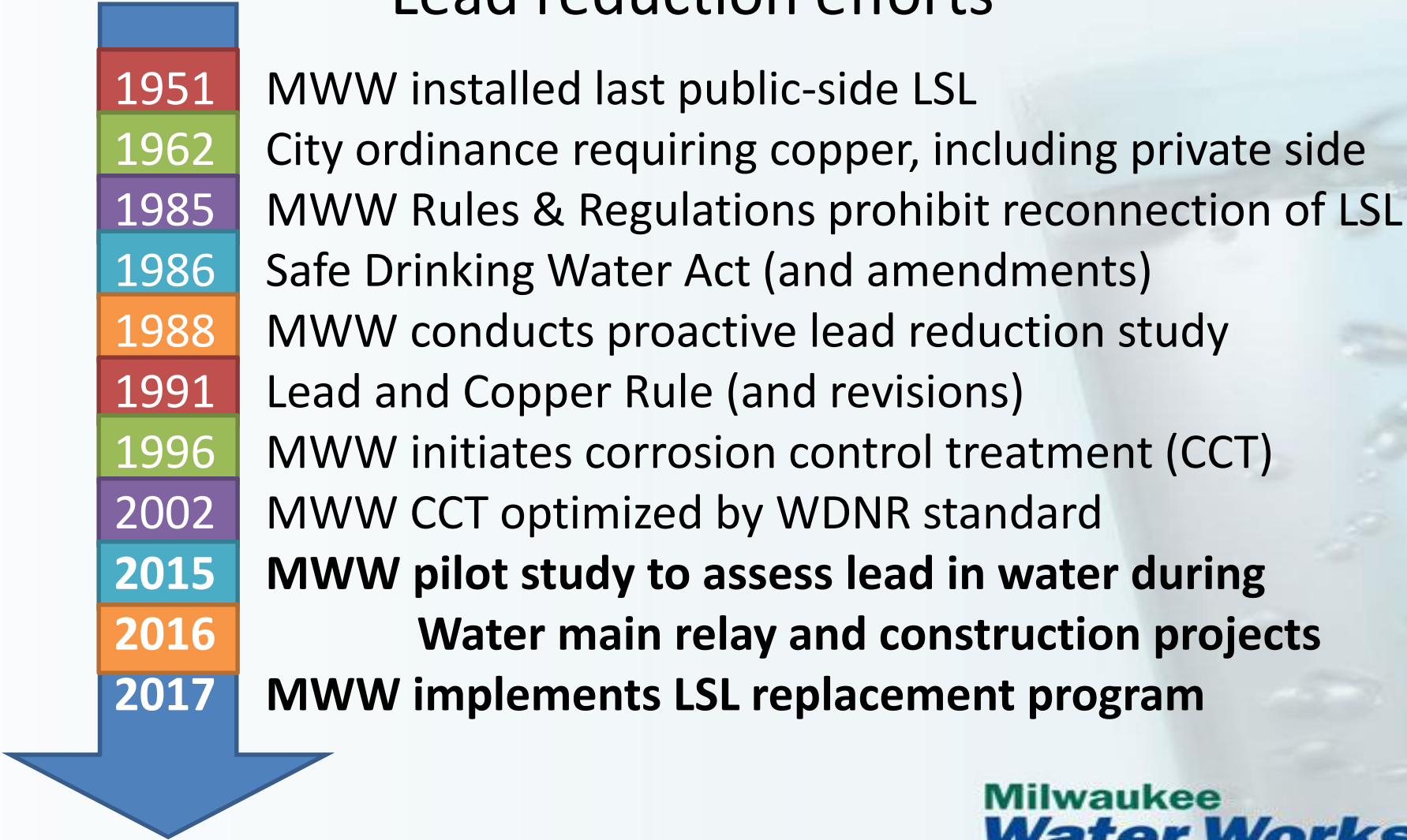
In this report, you will find:

- Information about the source of your drinking water
- The treatment process that ensures the highest quality water
- Results of 2018 water quality testing and compliance with water quality laws and standards
- Additional educational information and public health announcements



orks  
inking Water.

# Milwaukee Water Works Lead reduction efforts



# Lead service line replacement mandate

As of January 1, 2017, MWW requires full lead service lines replacement when:

- A lead service line has a leak or failure
- A lead service line is connected to a water main planned for construction
- A lead service line serves water to a (licensed or certified) child care facility or a private school
- An owner calls to initiate a replacement (no subsidy)

# Lead service lines replaced to-date

Reason for LSL Replacement	2017	2018	3/18/2019
Leak or failure	438	544	106
Licensed child care** and schools	149	204	3
Water main relay project	18	143	0
Owner initiated	10	40	4
Other utility work	6	0	1
Total LSL Replacements	621	931	114



**Milwaukee  
Water Works**

*Safe, Abundant Drinking Water.*

# MWW Utilizes Resources

- American Water Works Association
- Lead Service Line Replacement Collaborative
- Water Research Foundation
- Wisconsin Department of Natural Resources
- Wisconsin Department of Health Services
- US Environmental Protection Agency

Continued partnership with Milwaukee Health Department

# City-Owned Properties

- The Department of City Development and Department of Neighborhood Services inspects each city acquired property to identify visible lead hazards.
- If vulnerable populations live in the house and we enter into a lease, hazards are addressed.
- There is **no evidence** that City property ownership has any impact on the lead risks faced by vulnerable populations.

# Re-Invest in City Homes (RICH) Program

- Six city-owned properties fully renovated with RICH finances provided to Habitat for Humanity.
- Water service lines replaced at all 6 properties.
- Health Department had issued lead clearance for all properties.



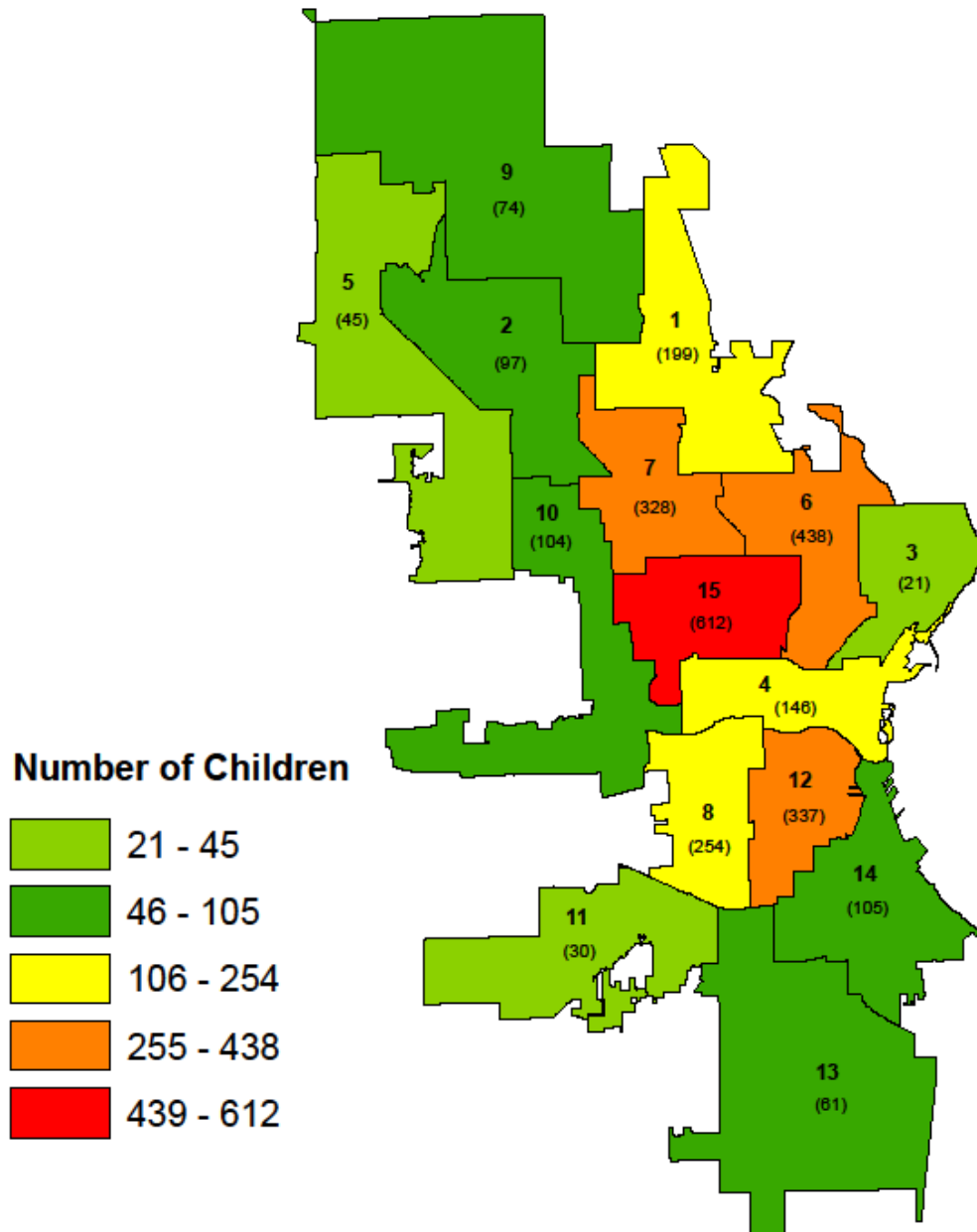
# Lead Poisoning in Milwaukee

– *In Context* –

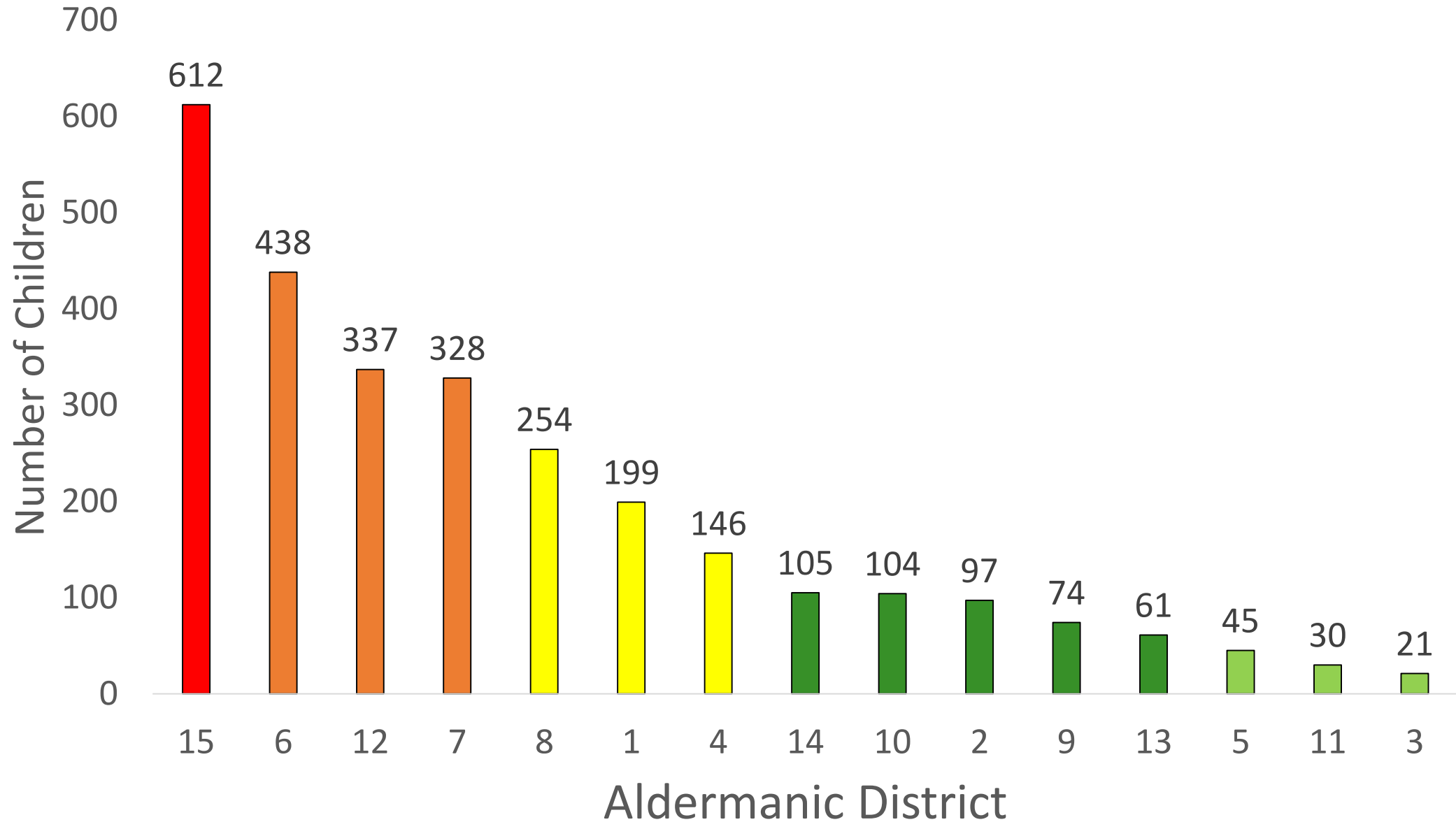


Number of children under 6 who had blood lead levels greater than 5 ug/dL by Aldermanic District, 2016

# Burden of Lead Poisoning in the City of Milwaukee



# Number of children under 6 who had blood lead levels greater than 5 ug/dL by Aldermanic District, 2016

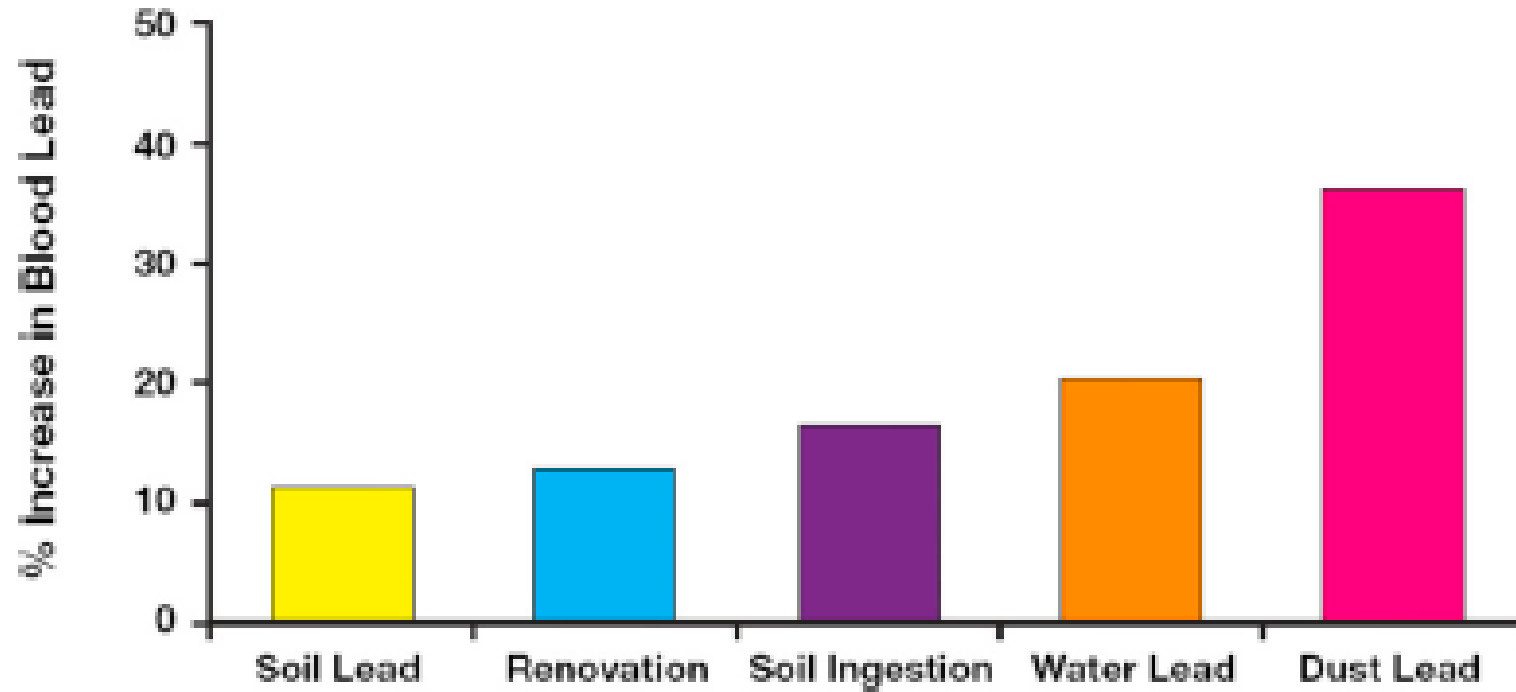


All sources of environmental lead exposure are important, but some contribute to childhood lead poisoning more than others.

Nationally, we know that deteriorating lead-based paint is the primary source of lead exposure in children.

But is that true in Milwaukee?

*“Lead-based paint is the most common, highly concentrated source of lead exposure for children who live in older housing.” –American Academy of Pediatrics*

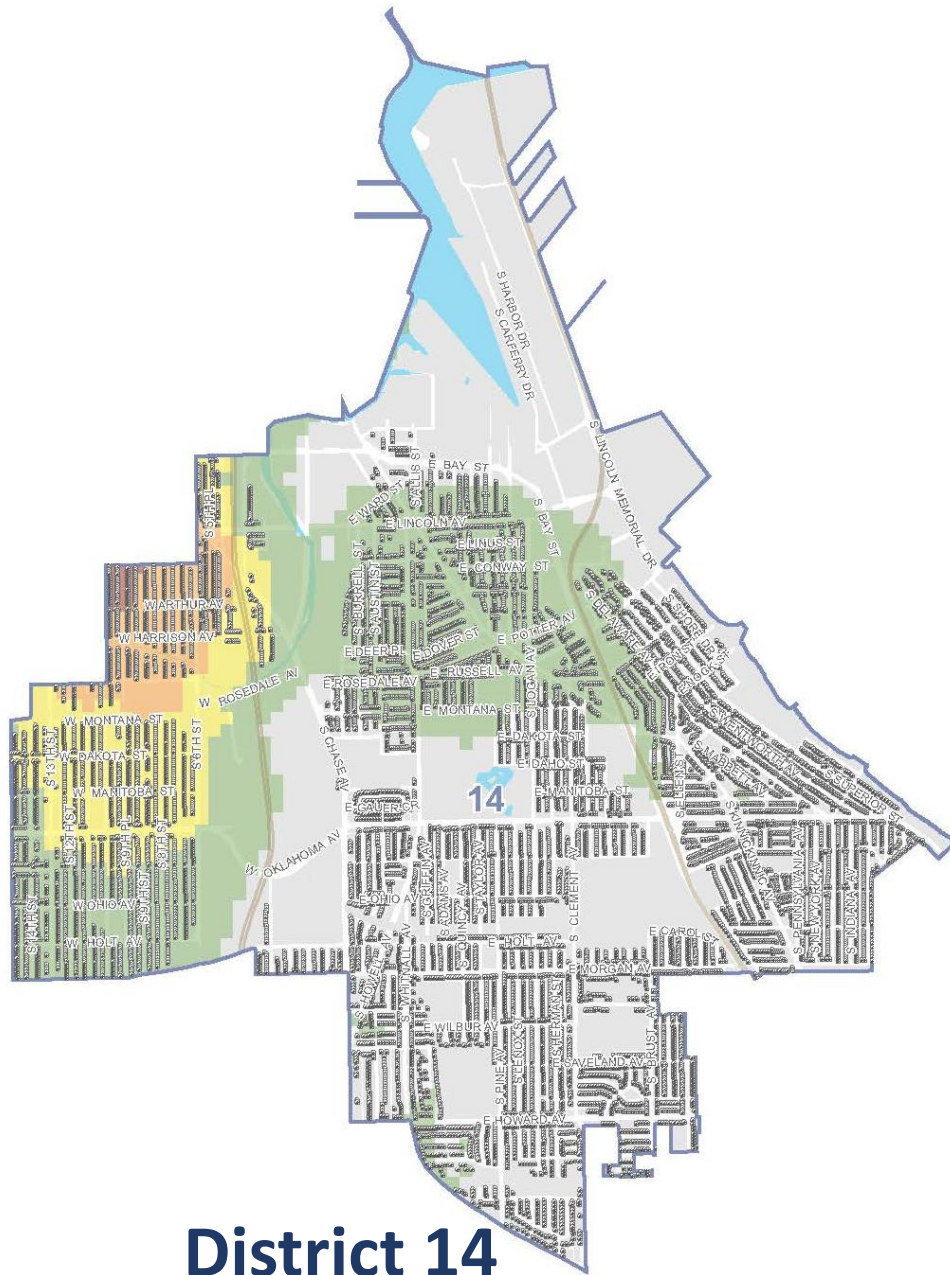


**FIGURE 3**

Contribution of lead exposure to children's blood lead concentrations. Adapted from Lanphear et al.<sup>31</sup> and Spanier et al.<sup>45</sup>

The presence of **lead-based paint** may or may not be correlated with lead poisoning.

# Buildings built before 1978

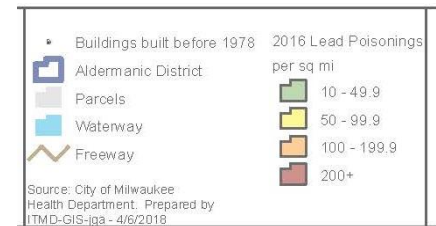
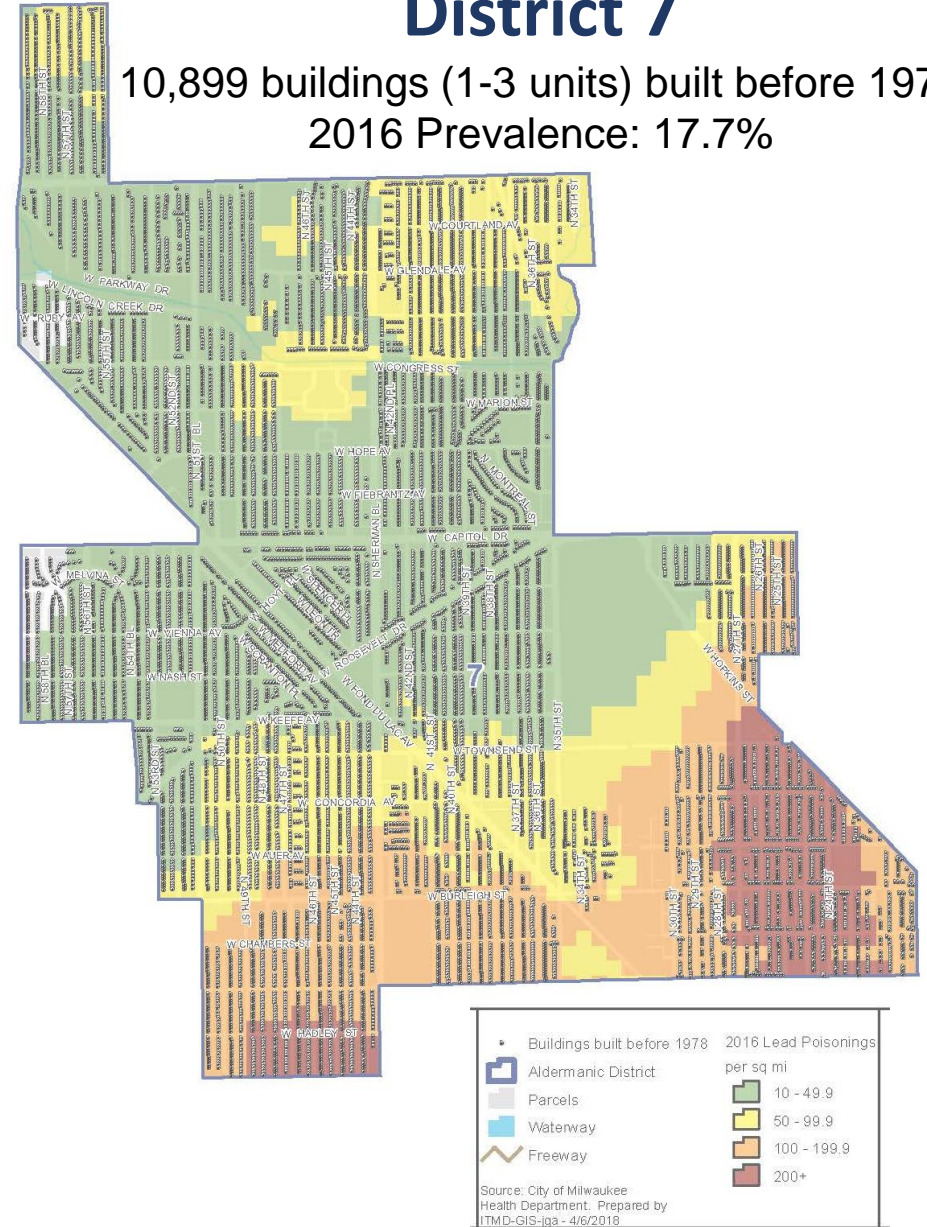


## District 14

10,846 buildings (1-3 units) built before 1978  
2016 Prevalence: 6.9%

## District 7

10,899 buildings (1-3 units) built before 1978  
2016 Prevalence: 17.7%

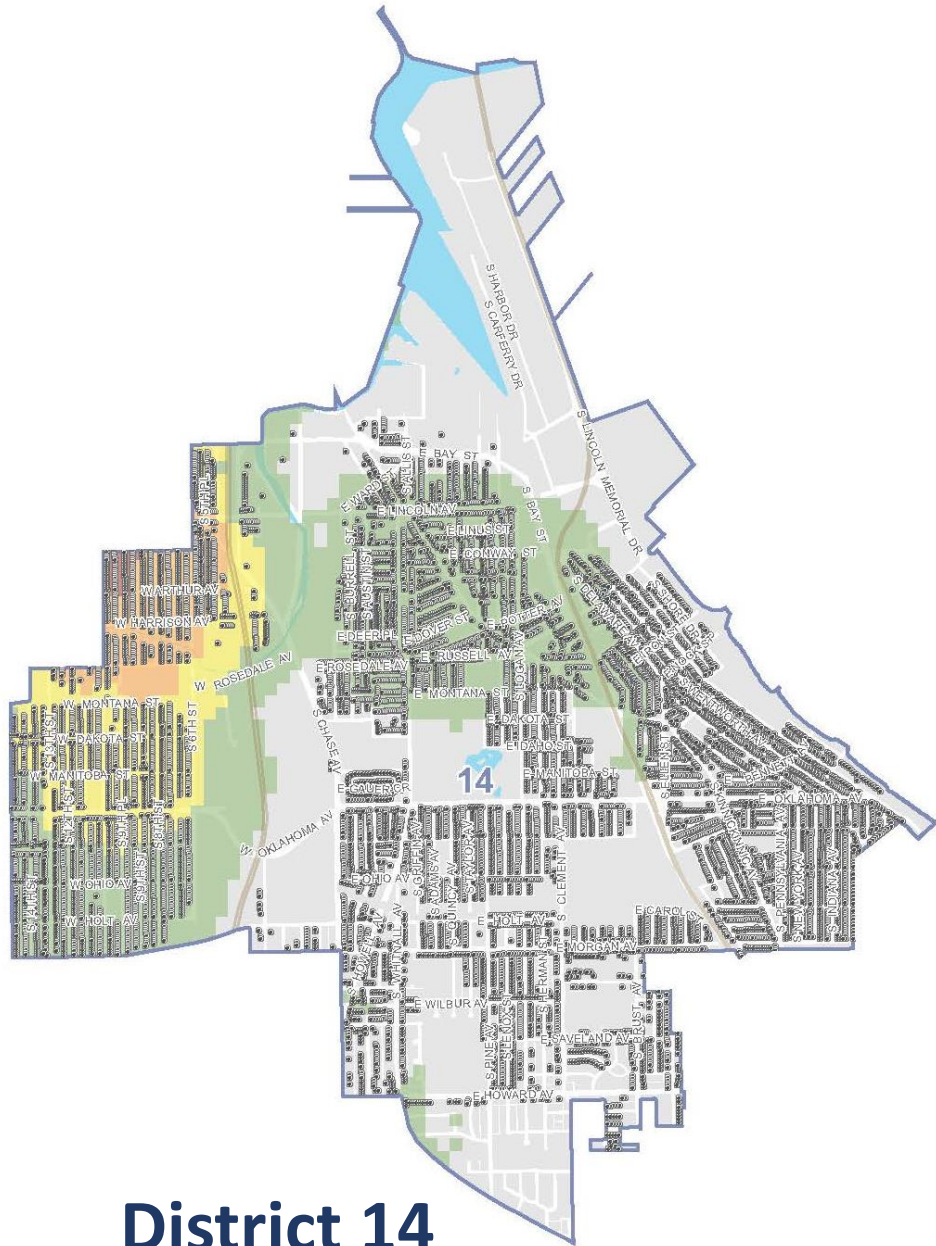


2016 City Prevalence: 11.6%

The presence of **lead service lines** may or may not be correlated with lead poisoning.



# Lead Service Lines

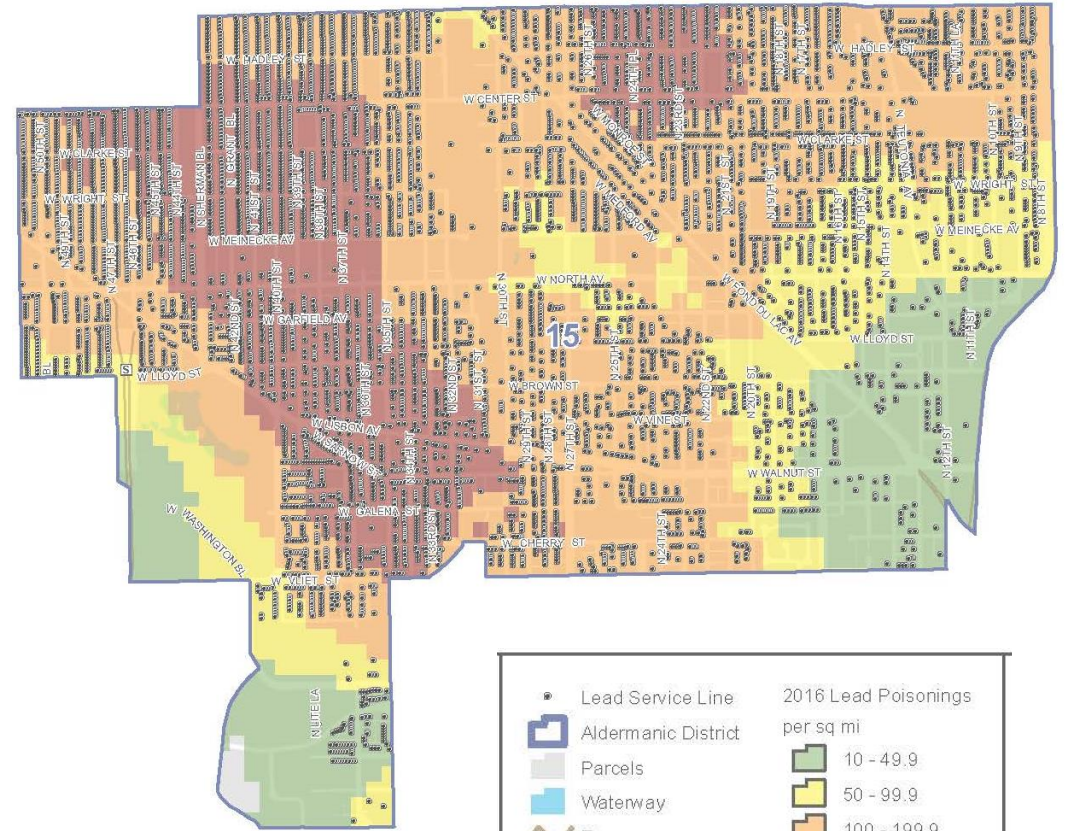


## District 14

9,995 Lead Service Lines  
2016 Prevalence: 6.9%

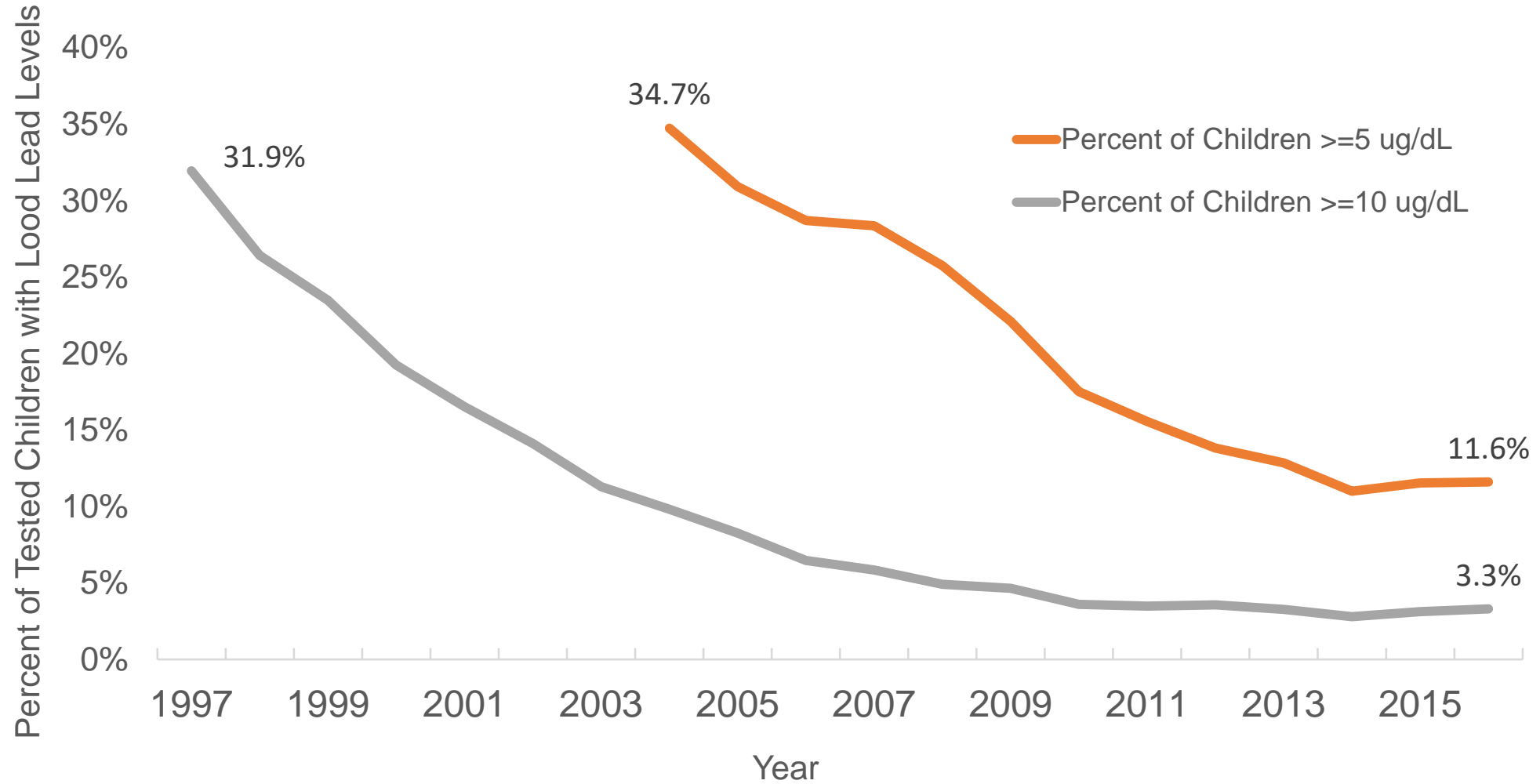
## District 15

7,354 Lead Service Lines  
2016 Prevalence: 27.4%



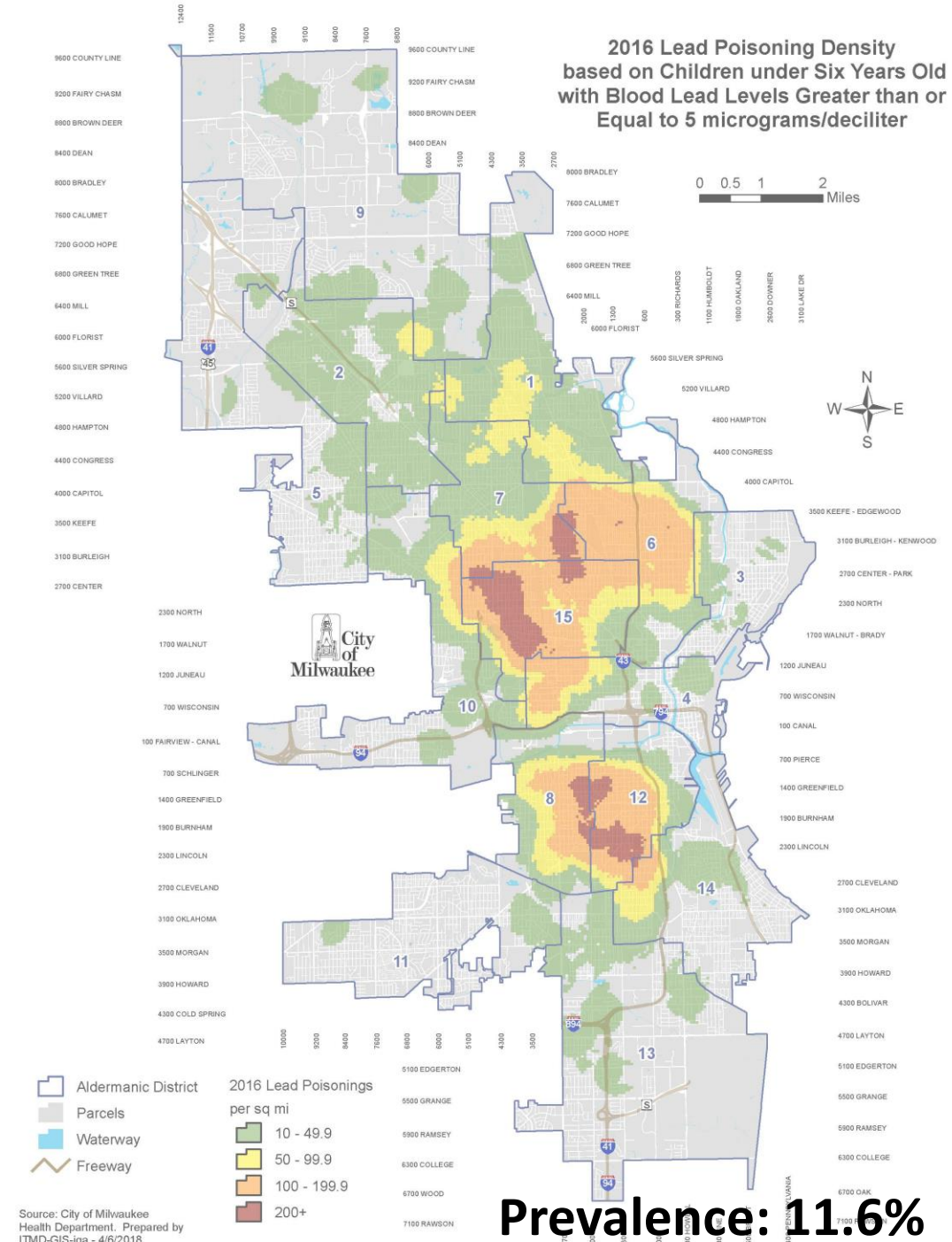
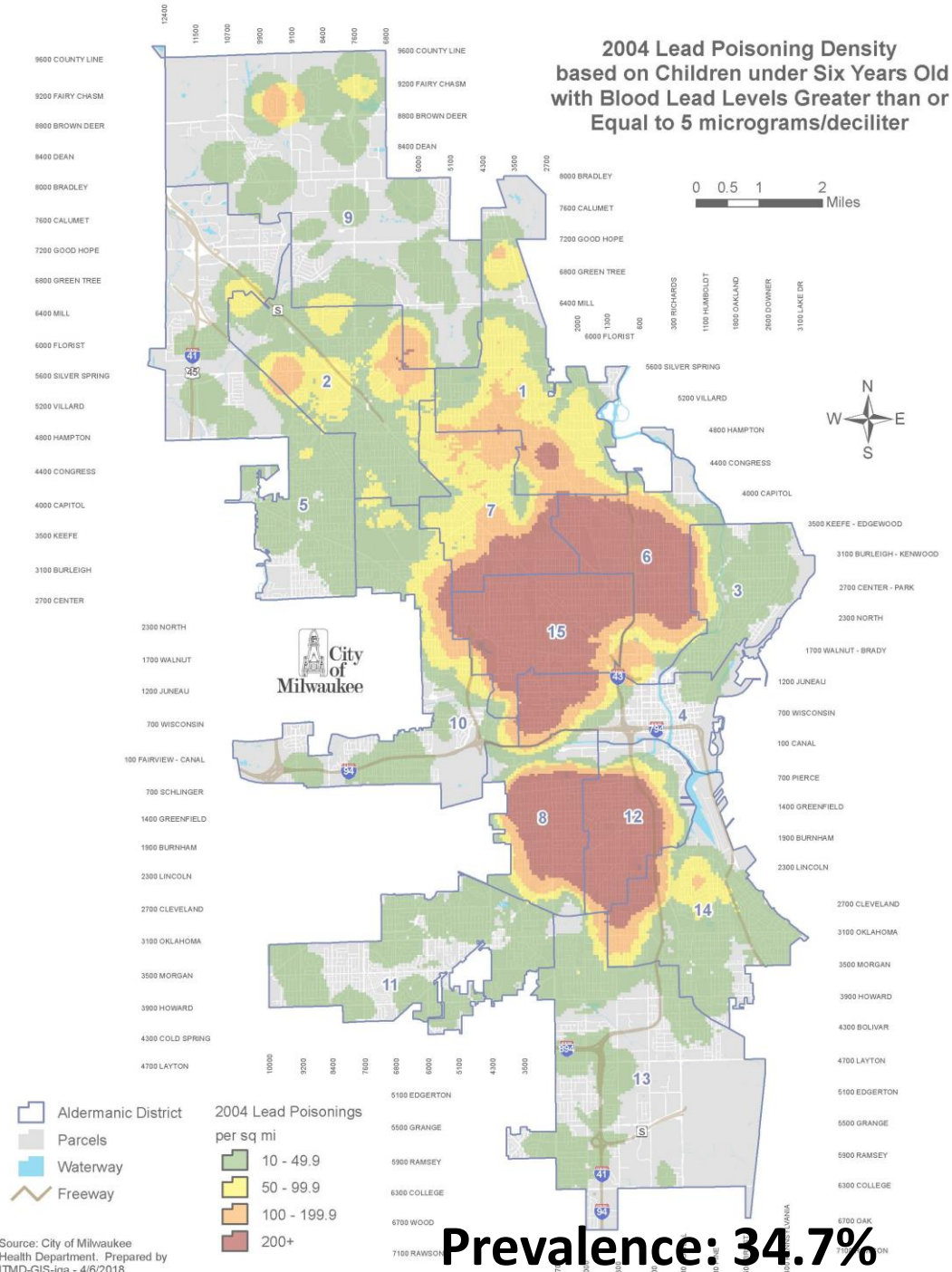
2016 City Prevalence: 11.6%

# Rates have been declining in Milwaukee. Why?



City of Milwaukee Blood Lead Level Prevalence for Children Less Than 6 Years Old

# 2004 vs. 2016



Aldermanic District  
 Parcels  
 Waterway  
 Freeway

**2004 Lead Poisonings per sq mi**  
 10 - 49.9  
 50 - 99.9  
 100 - 199.9  
 200+

Aldermanic District  
 Parcels  
 Waterway  
 Freeway

**2016 Lead Poisonings per sq mi**  
 10 - 49.9  
 50 - 99.9  
 100 - 199.9  
 200+

# City of Milwaukee Blood Lead Level Prevalence for Children Less Than 6 Years Old

## What we know:

(2004-2016)

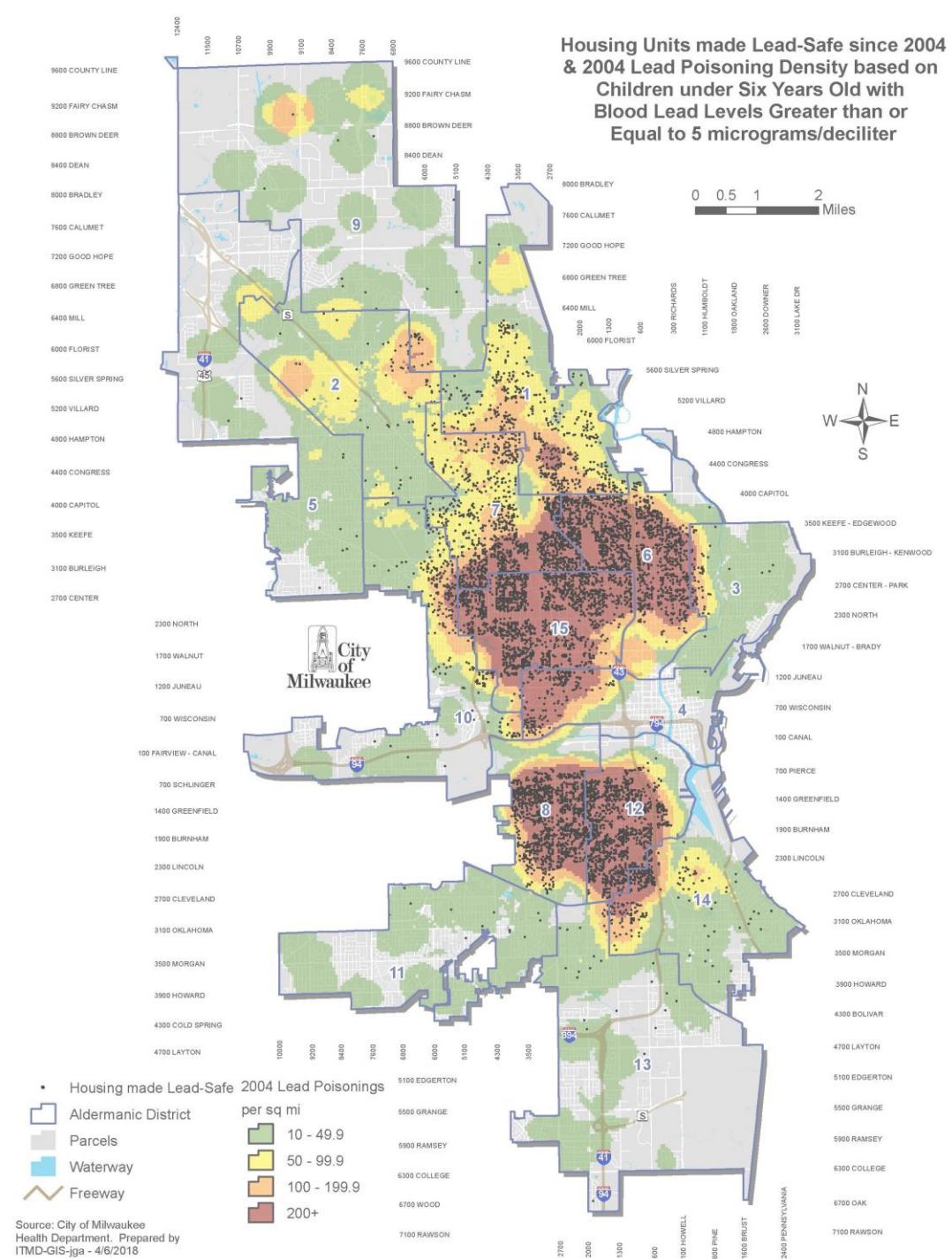


- MHD's aggressive testing recommendations have been consistent since before 2000.
- No major federal lead-related legislation.
- Water quality and treatment practices have been consistent.
- Lead service line removal began in 2017.
- City's primary intervention was around lead-based paint in the highest risk areas.

# Properties made lead paint-safe since 2004

*Concentration of elevated blood lead levels in children under the age of 6 in 2004 and properties made lead-safe through city programming*

- Most of the City's work was concentrated where the greatest need was located



We know that deteriorating lead-based paint is the primary source of lead exposure in children.

No source of lead is safe, but we must invest our resources in proportion to the relative risks of various sources.

And we must not confuse Milwaukee residents about what is putting their children at most risk for lead poisoning.

# Expert Testimony





Keep it Lead-Safe, Milwaukee!

SAFE PAINT • SAFE WATER • SAFE KIDS

## Lead-Safe Milwaukee Resource Fair

**Wednesday, April 3, 2019**

5:30 – 7:30 pm

**Bradley Tech High School**

700 S 4th Street

Milwaukee, WI 53204

**Thursday, April 4, 2019**

5:30 – 7:30 pm

**North Division High School**

1011 W Center Street

Milwaukee, WI 53206



*Lead-safe fun activities for the entire family!*

*Lead testing for children.*

*Free **Lead-Safe Home kits** (while supplies last)!*

*Free **water filters** for eligible families (while supplies last)!*



**For more information, please contact:**

**City of Milwaukee Health Department**

**(414) 286-2165**

Sponsors:





# Thank You!

[www.milwaukee.gov](http://www.milwaukee.gov)

