

# Reporting Results of Chatham County Well Water Tests



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**INSTITUTE FOR  
THE ENVIRONMENT**

**Chatham County  
Commissioners Meeting  
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# Our research goals

1. Measure contaminants in drinking water from private wells
2. Examine well water quality and recovery behaviors after Hurricanes Florence and Michael.

Funded by the US Environmental Protection Agency and the National Science Foundation.

# Sample collection



First draw sample

6+ hours of no  
water use



Flush sample

Run water for  
five minutes



**726** water samples collected  
from **242** residents



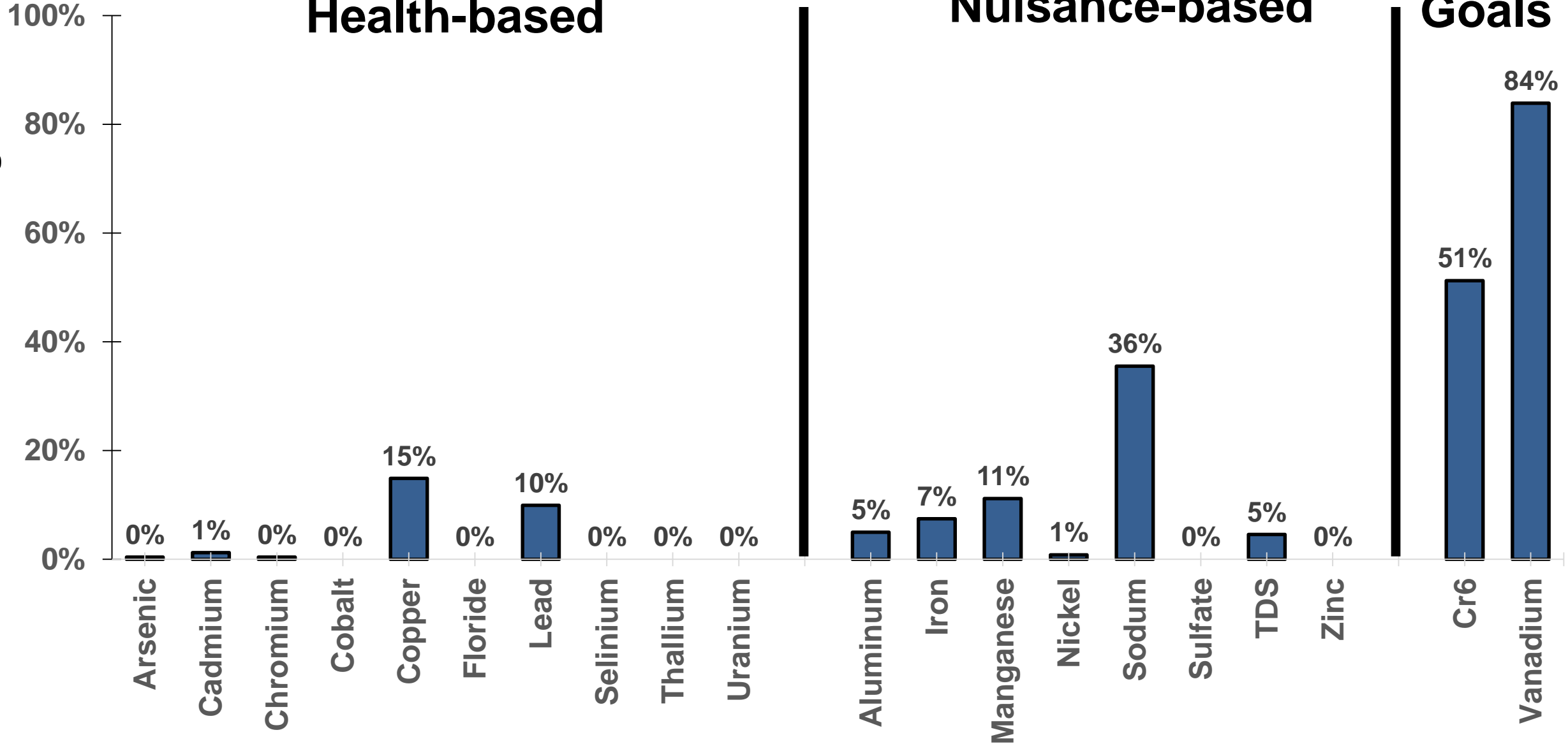
# Chatham County Results

Percent of wells exceeding standards

## Health-based

## Nuisance-based

## Health Goals



# Metals in Water

## Water Quality Concerns



## Plumbing & Appliance Concerns

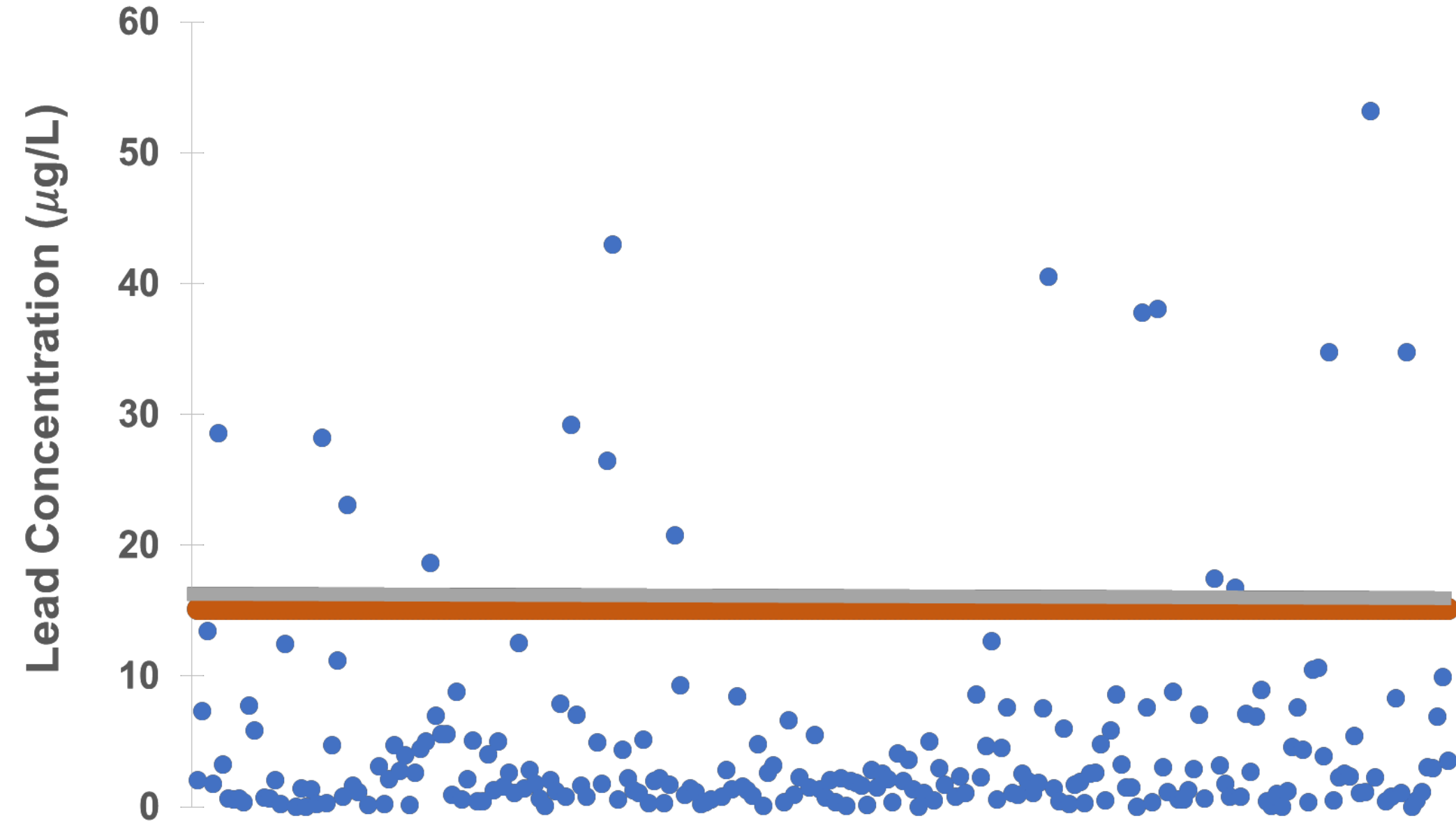


# Lead First Draw

Max:  
1326.71  $\mu\text{g/L}$

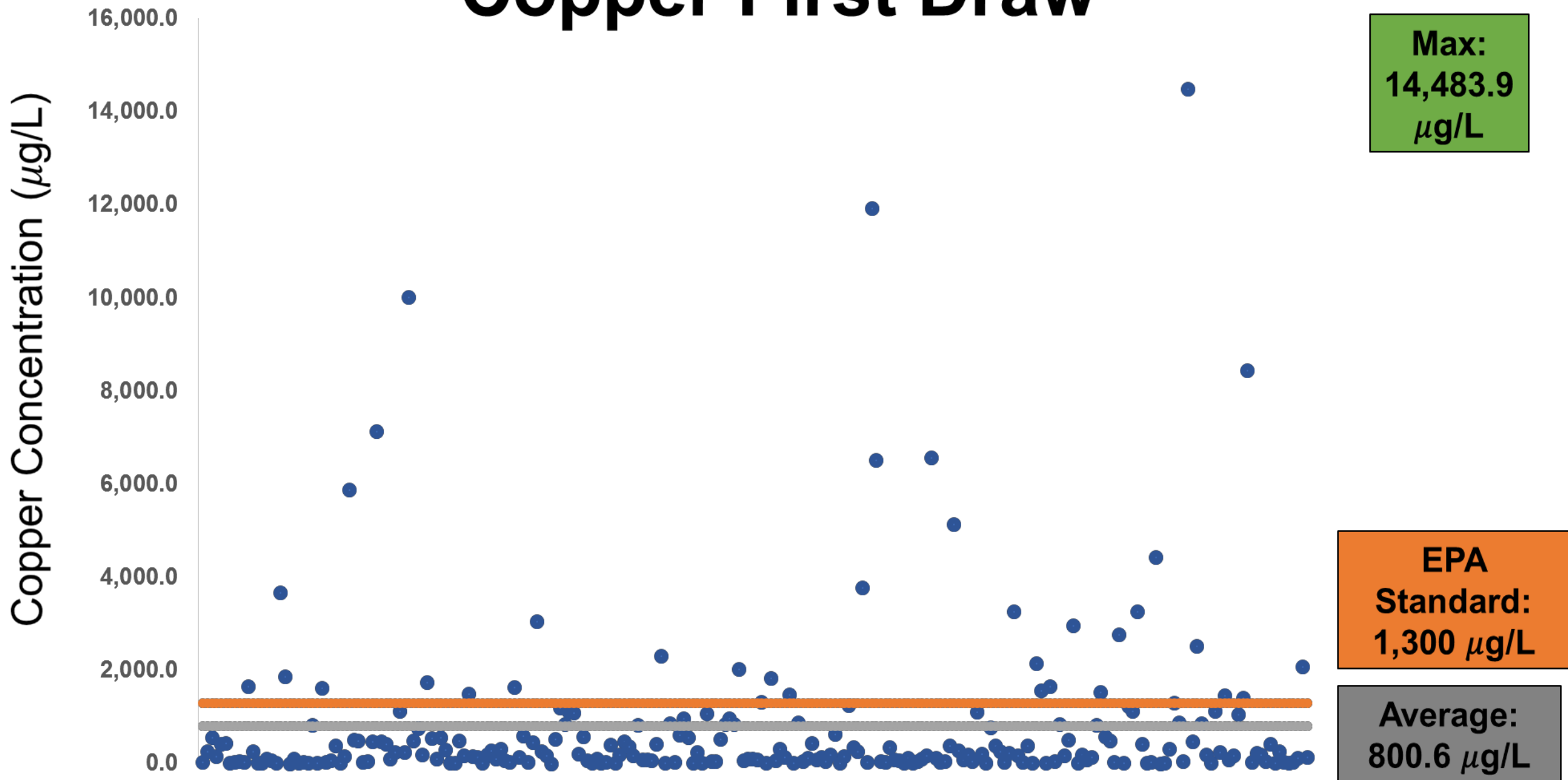
Average:  
15.1  $\mu\text{g/L}$

EPA Standard:  
15  $\mu\text{g/L}$





# Copper First Draw





# Total Chromium & Hexavalent Chromium (Cr6)

## **EPA**

Total Chromium = 100 µg/L

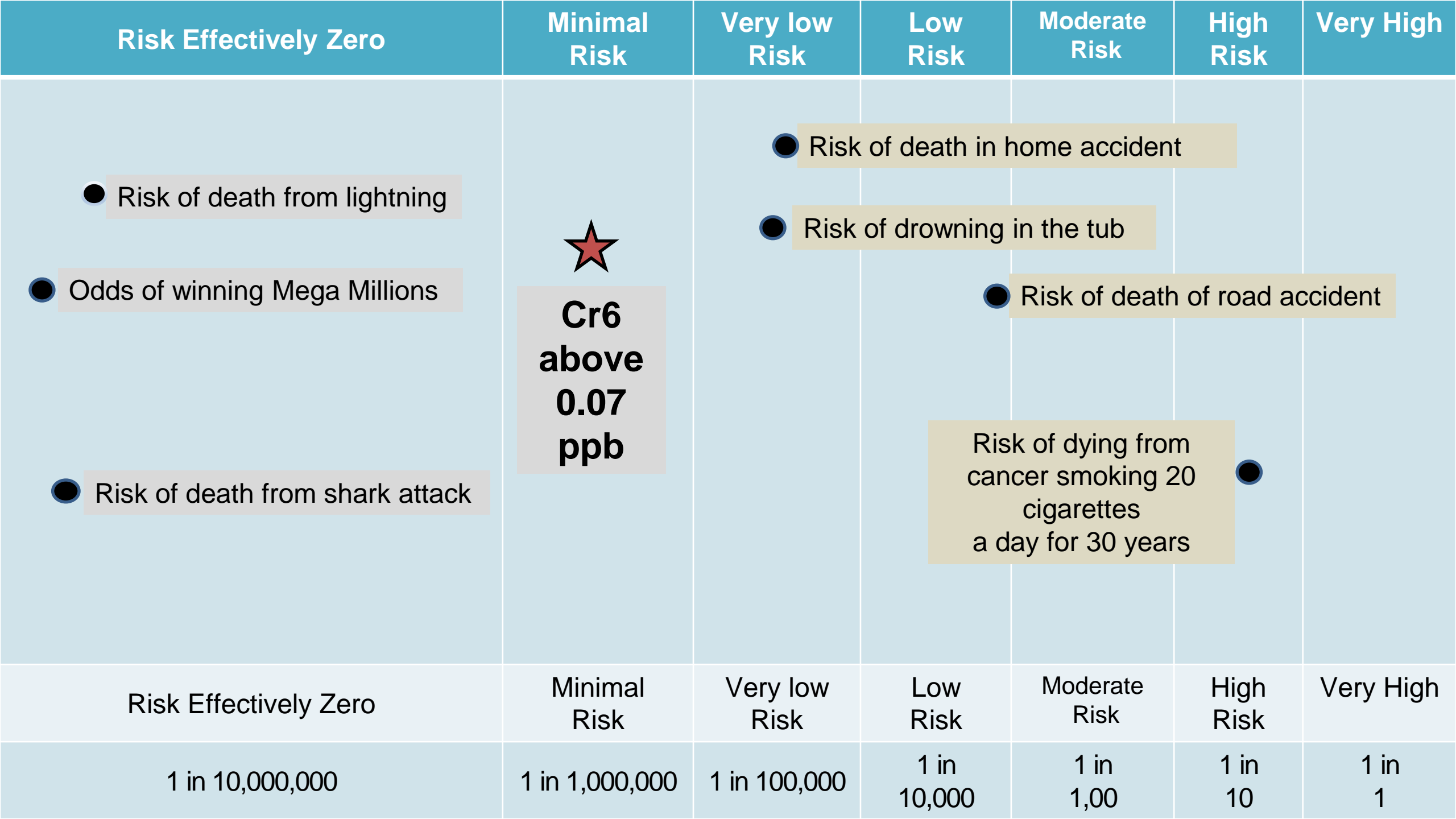
Cr6 = No health based standards

## **NC**

Total Chromium = 10 µg/L  
Cr6 = No regulatory standards

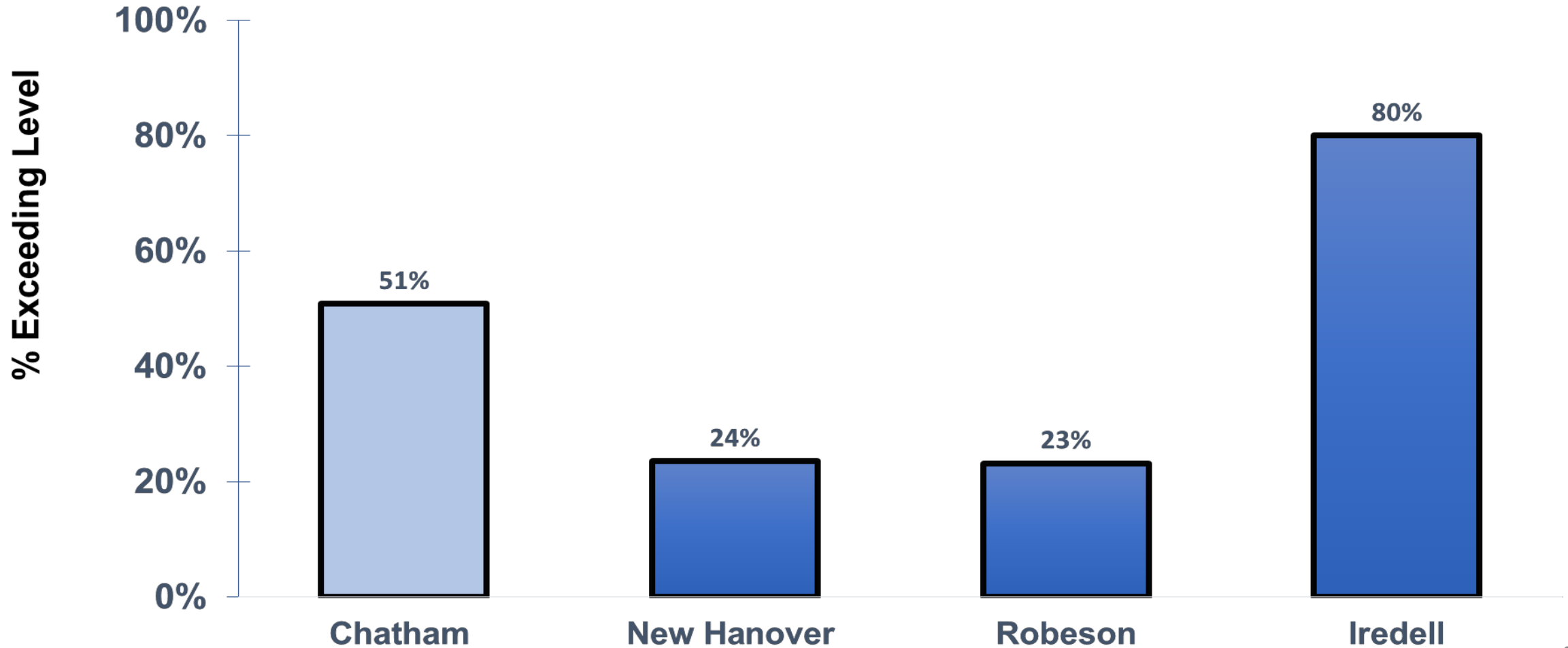
## **NC**

Cr6 Screening Level = 0.07 µg/L





# Percent of wells with Cr6 above Health Screening Level (0.07 ppb)





# Vanadium

**EPA**

No regulatory standard

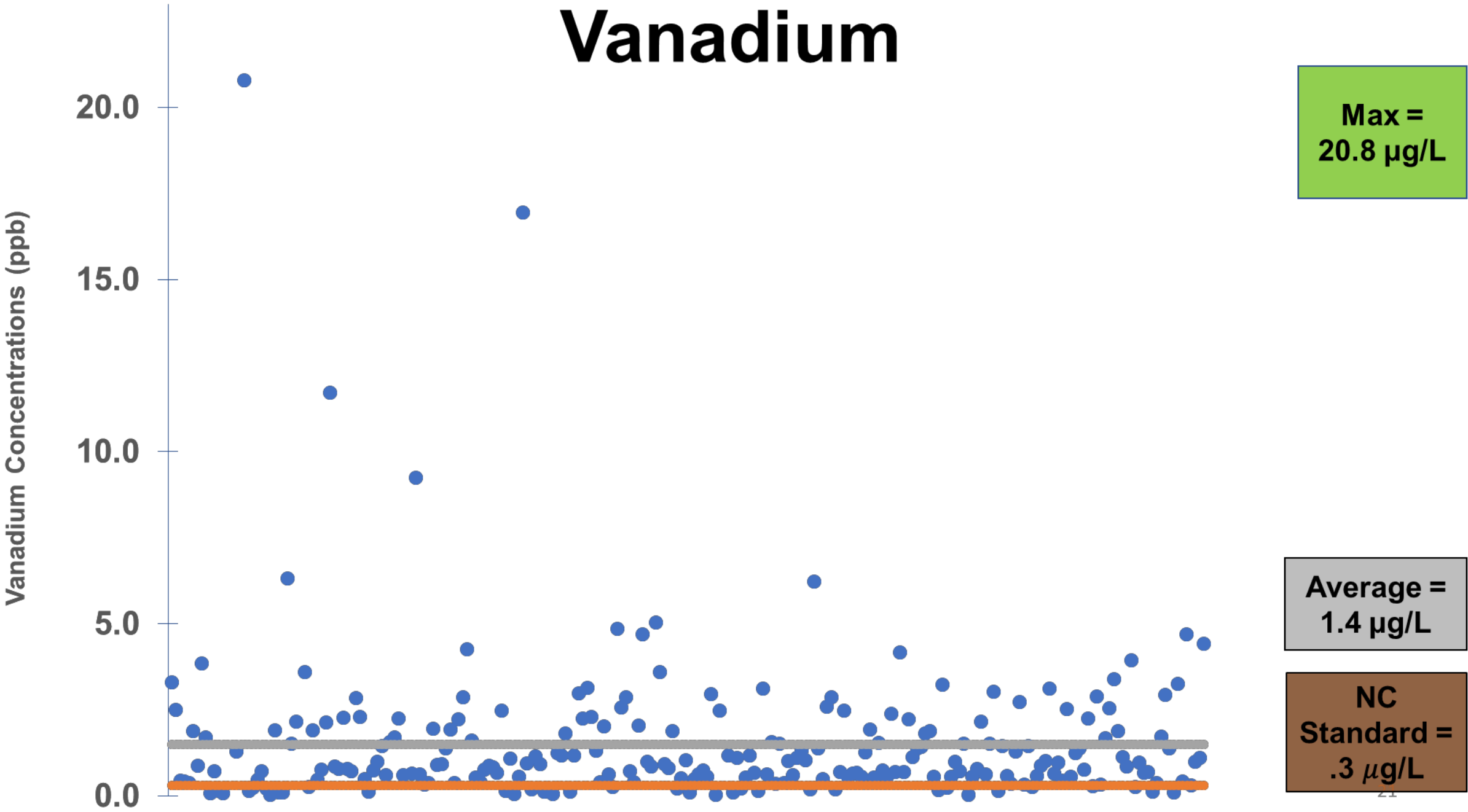
**NC**

No regulatory standard

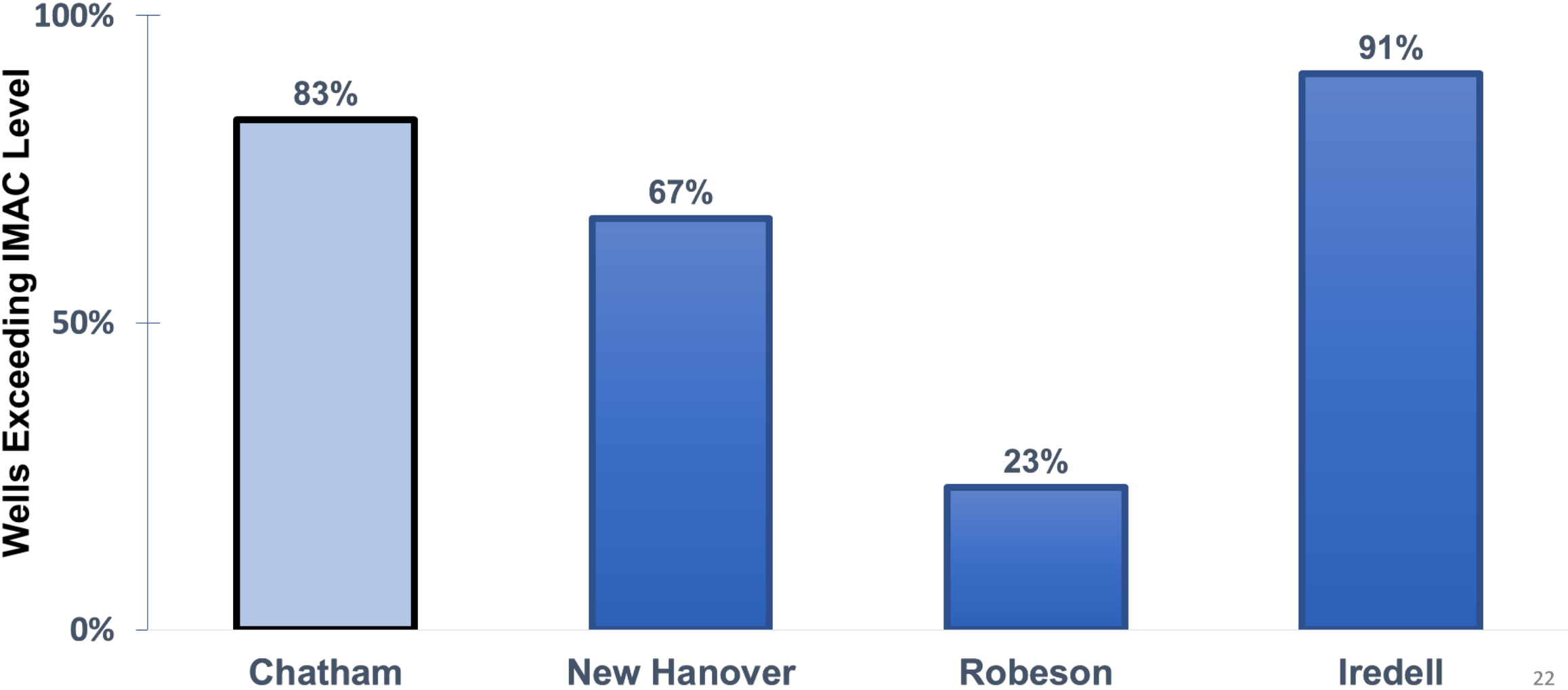
**NC**

Interim Maximum Allowable Concentration = 0.3  $\mu\text{g/L}$

# Vanadium



# Percent of wells with Vanadium above State Limit (0.3 ppb)



# How to Treat Metals in Water

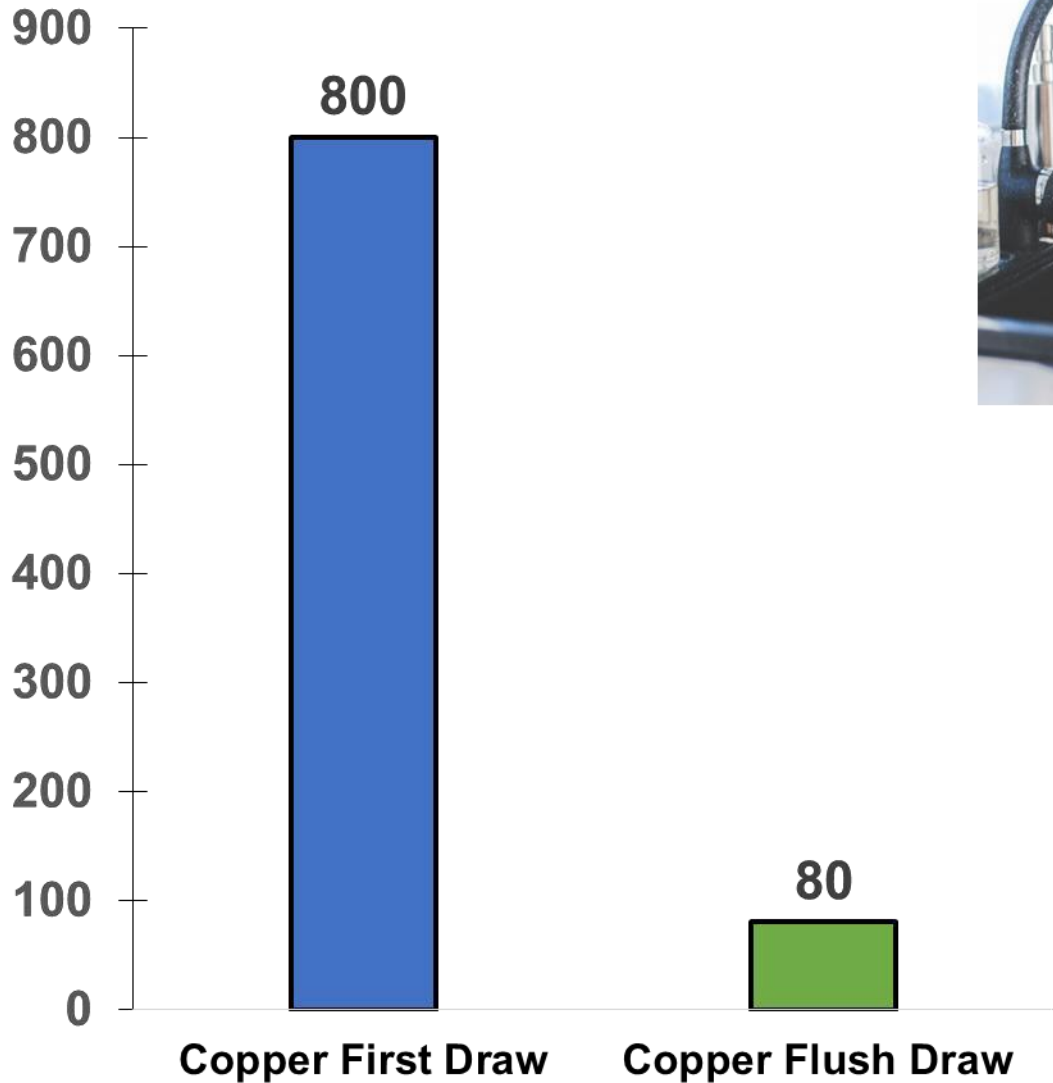


\*NSF 53 Certified

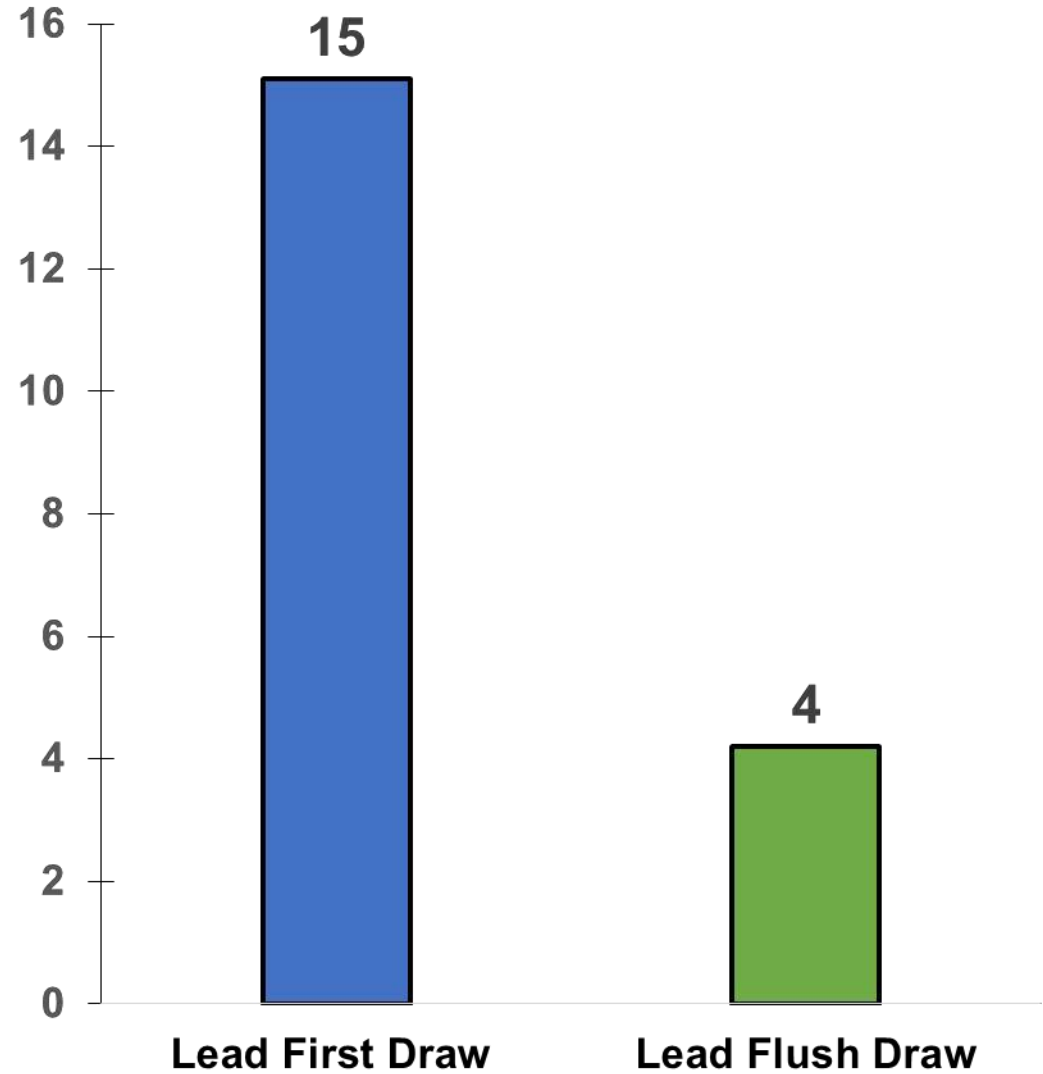


# Flushing

## Copper



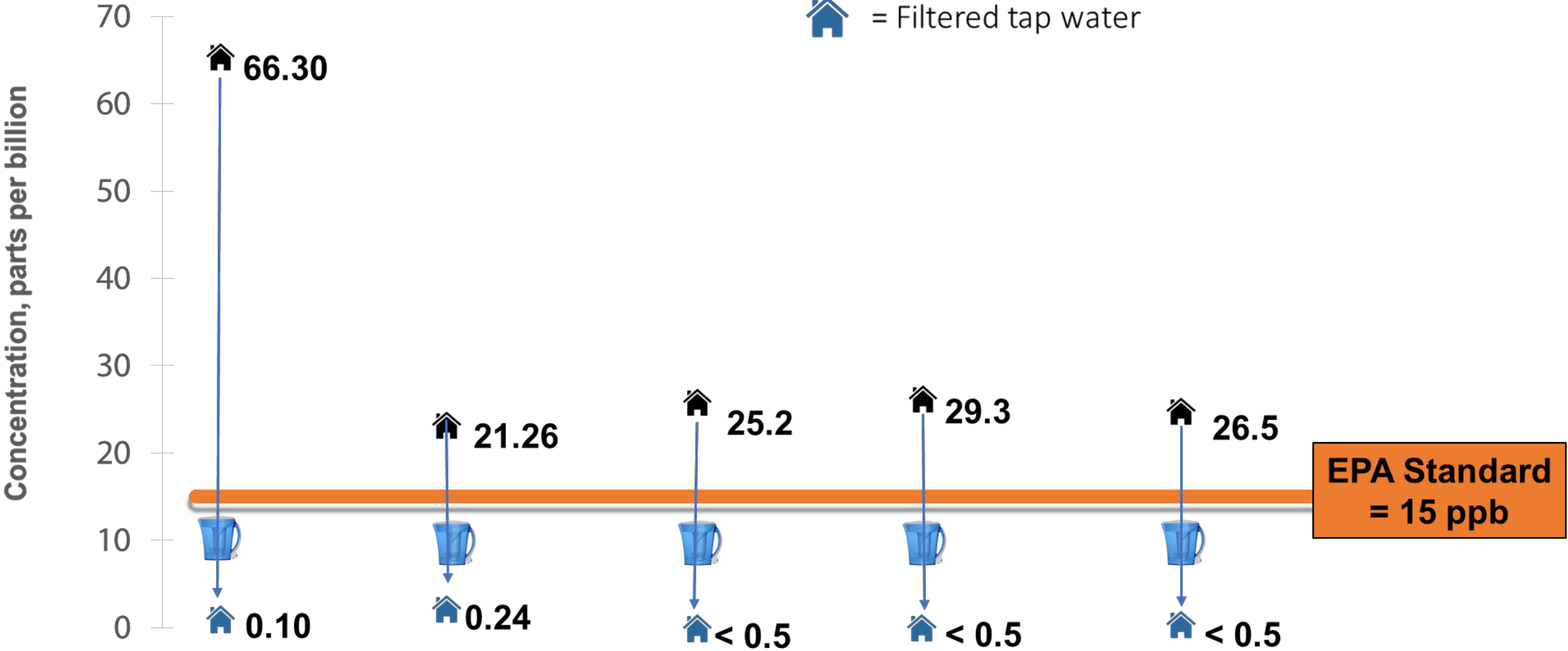
## Lead



# Lead Filter Summary

 = Kitchen tap water before filtering

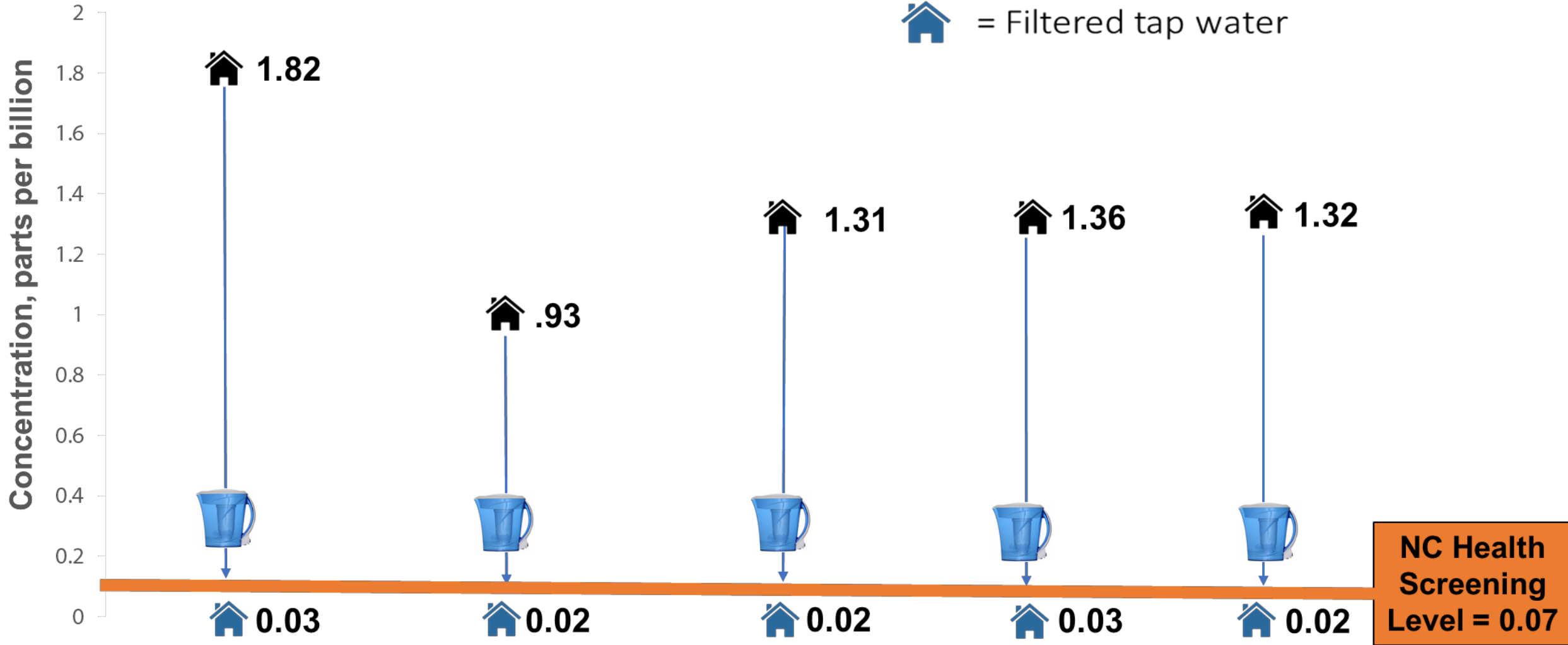
 = Filtered tap water



# Chromium 6 Filter Summary

 = Kitchen tap water before filtering

 = Filtered tap water



# Treat water at the kitchen tap



# Treat water in the whole house





# Special thanks to

**Study participants & community mentors!**

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