Lead In Drinking Water: A Public Health Threat Revisited

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The City of Milwaukee – “A Fresh Coast City”

- The Water Council
- University of Wisconsin – Milwaukee School of Freshwater Sciences
- Growing hub of water related industry and technologies
- Ground zero for 1993 Cryptosporidium Outbreak (lessons learned)
- Great Lakes Water Compact (historic water diversion request)
Flint, MI – A teachable moment?

Need for:

- Active public health oversight of drinking water quality
- Reinforcement of environmental health in public health practice
- Strategies to address environmental inequities
- Improved transparency, accountability & coordination across all levels of government
- Health in All Policies
- Highly successful childhood lead poisoning prevention program focusing on lead-based paint hazards
- Lead in water generally considered a secondary source exposure
- Change in CDC reference level to >5 ug/dL (2012)
- No “safe level” of lead

**Background (Public Health)**

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- City of Milwaukee source water derived from Lake Michigan (<2 ppb lead)
- Orthophosphate addition to drinking water in 1996 for corrosion control
- Milwaukee Water Works in full compliance with USEPA Lead and Copper Rule (LCR)
- City undergoing replacement of water distribution mains in coming decade (>100 miles)
- Partial LSL replacement standard operating practice by other regional municipal water utilities
Considerations

- Studies suggesting partial lead service lateral (LSL) replacement association with increases of lead in drinking water
- Estimated 70-80K residential properties with lead service lines in City (built before 1951)
- Current water utility protocols not calibrated against health risks and LSL disturbance
- Pilot water testing results by water utility showing transient increase in lead levels after water main work
- Federal, State and Local Advisory Workgroup formation
- Mayoral moratorium on non-emergency water main replacement involving LSLs
- Joint PH and Water utility emergency repair protocols addressing:
  - Notification of residents
  - Vulnerable populations
  - Water testing
  - Flushing instructions
  - Filter and bottled water distribution

City of Milwaukee & Lead Laterals
- City, Health Department, Water utility citizen hotlines
- Development of public educational packet and door hangers
- Meetings with policymakers and citizens
- Integration of other City departments (Neighborhood Services, Budget Office, City Attorney)
- National survey of other water utilities and practices (risk messaging, funding mechanisms, protocols, field data)
Next Steps

- Development of Public Outreach Campaign (Lead Safe Milwaukee)
- Funding and incentives for LSL replacement on private property
- Establish monitoring & response algorithms for:
  - Other utility and public works construction activities
  - Schools and Daycares
  - Restaurants and Food Service
- Public website with LSL database
- Increase water testing capacity
Lessons Learned

- Public Health and Water Utility collaboration essential on all fronts!
- Immediately engage public, community and policymakers
- Involve federal, state and local agencies in discussions and problem-solving
- Do not wait for media to contact you
More Lessons Learned

- Share information with other regional LHDs and Water Utilities
- Notify and engage commercial and industrial water utility customers
- Integrate strategies with LHD Childhood Lead Poisoning Prevention Program
- Involve local community leadership and networks
- Public transparency at all times!
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Thank you!

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