Achieving Equity in Lead Poisoning Prevention Policy Making:

Proceedings from a Consensus Conference

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HUMAN IMPACT PARTNERS

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Primary Authors
Sukhdip Purewal Boparai
Lili Farhang

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Contact Information
Lili Farhang
Human Impact Partners
lili@humanimpact.org
www.humanimpact.org
510-452-9442, ext. 101

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Overview of Impacts and Recommendations

Across the United States, community members, advocates, and policy makers are designing and passing policies to prevent lead exposure and poisoning. As some of these policies are implemented, there is potential for unintended consequences, particularly for low-income communities and communities of color, who are often left out of decision-making processes.

In August 2018, nearly 40 experts from across the country came together at the *Equity Analysis of Lead Policies Consensus Conference* in Chicago. The goals of this consensus conference[1,2] were:

> To explore the extent to which policy makers are implementing housing- and water-related lead prevention policies in consideration of equity impacts in low-income communities and communities of color, and to make recommendations to improve equity considerations in those communities.

Participants were experts on lead exposure and prevention programs and policies (see Appendix 1 for a list of participants) and came from a range of organizations, such as:

- National and local advocacy groups (n=14)
- Community-based organizations (n=8)
- Utility agencies (n=6)
- Academic institutions (n=5)
- Federal and local health agencies (n=2)

The consensus conference drew upon the best professional judgment of participating experts and focused on understanding equity impacts and making recommendations in the following policy areas:

1. Residential lead service line replacement
2. Lead testing in water at schools and licensed childcare facilities
3. Testing and remediation of lead-based paint hazards in housing

This proceedings document represents the deliberations from the meeting and is being published to make the wealth of information that was generated publicly available to a wider community. It is not the product of technical research, but rather a synthesis of group discussions by convened experts on how lead policies, if they are not implemented with an eye toward equity, could impact low-income people and communities of color.

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[1] A consensus conference is a structured meeting involving a group of community members and stakeholders. The participants deliberate on information related to a topic and produce consensus findings on impacts and recommendations through open discussion. The process is structured through professional facilitation.

[2] The Joyce Foundation engaged and funded Human Impact Partners (HIP) to facilitate the project. The Kresge Foundation provided supplemental funding.

Consensus conference participants, August 16, 2018, Chicago

Summary of Impacts

Participants agreed that decision makers and advocates do not explicitly consider equity in lead prevention policy making. Invariably, this leads to unintended negative consequences for people of color and low-income communities, who already bear a disproportionate burden of lead exposure across the United States.

Equity Impacts Across All Prioritized Policies

Across all three prioritized policy areas, conference experts identified the following potential impacts:

- **Exacerbated inequities and mistrust resulting from poor community engagement:** Government policy- and decision-making processes often exhibit a lack of meaningful inclusion and engagement that leads to community members feeling undervalued, tokenized, misrepresented, and expendable.
- **Fragmented lead policy frameworks:** A patchwork of laws, regulations, and financing frameworks, along with a siloed programmatic approach, leads to piecemeal strategies and a climate of competition across sources of lead and the settings in which it can be found (e.g., water and paint, schools and homes), communities, and advocates. The fragmentation reduces the effectiveness of programs, dissipates resources, and continues to place communities at risk.
- **Disproportionate cost of unfunded remediation:** Communities that are already struggling financially are further impacted when they are required to bear the cost of implementing lead prevention policies. If they are financially unable to remediate exposure, people continue to experience health impacts.

- **Unfair stigmatization:** Parents and families, especially Black mothers, are implicitly and explicitly blamed in policy discussions about preventing exposure of children to lead because of assumptions about their housekeeping, parenting, or choices about where they live. And when children from low-income communities or communities of color are labeled as "lead poisoned," it can exacerbate stereotypes or convey that these children are irreparably damaged.

Equity Impacts of Lead Service Line (LSL) Replacement Policies

When discussing lead service line replacement policies, conference experts agreed that the following impacts would occur if policy makers don't explicitly consider equity:

- **Significant financial burdens threatening people and utilities:** Policies requiring residents to pay for all or part of the cost of LSL replacement are particularly challenging for low-income people who are already struggling economically. Further, if replacement costs are covered through utility ratepayer increases, those increases can challenge the economic stability of low-income people or make basic water service unaffordable. State and federal policies that require LSL replacement without including funding support can also disproportionately burden smaller utilities that don't have the rate base or other means to cover the costs.

- **Poorly implemented policies that exacerbate lead exposure:** Conducting partial LSL replacement is the default LSL replacement policy across the United States. This approach can increase the risk of acute lead exposure by disrupting pipes, especially if pipes are then not flushed on a regular basis to clear lead that was disturbed during and after construction. In addition, if residents deny utilities access to properties due to lack of trust, prolonged lead exposure may result.

Equity Impacts of Policies to Test and Remediate Lead in Drinking Water in Schools and Childcare Facilities

When discussing policies to test and remediate lead in drinking water in schools and childcare facilities, experts agreed on the following impacts:

- **Insufficient testing protocols, which create more problems:** With no federal requirement for lead testing or disclosure in schools or childcare facilities, *if* and *how* lead is detected varies, testing protocols are inconsistently applied, mitigation thresholds and strategies differ, and disclosure requirements are unclear. All of this makes it hard to monitor whether issues are adequately addressed and can create a false sense of security among families who are unaware of exposure risk.

- **Enormous financial challenges for local school districts and childcare facilities:** Testing and remediation recommendations or requirements often don't come with funding and vary by school district and facility. Moreover, affluent schools and facilities are both less likely to have lead issues because their buildings are newer

and more likely to be financially equipped to address them should they emerge. Implementing water testing and remediation can threaten the financial stability of smaller districts and childcare facilities that are already struggling with basic maintenance expenses.

- **Children falling through the cracks:** Gaps in drinking water testing and remediation policies leave children vulnerable — for example, testing policies that require only public schools to test water leave out children in private schools, and policies that cover only licensed facilities leave out children in unlicensed facilities.

Equity Impacts of Policies to Test and Remediate Lead-Based Paint Hazards in Housing

When discussing policies to test and remediate lead paint hazards in housing, experts agreed to the following impacts:

- **Few protections for low-income tenants:** Unless protective measures are in place, tenants who report the presence of lead paint hazards can face retaliation from landlords (e.g., eviction, increased rent), a false sense of safety from interim control measures that temporarily address hazards, and displacement during the abatement process. Ineffective enforcement of lead policies also allows landlords to continue to rent units with unabated lead hazards, with these “repeat offender” units exposing current and future tenants to lead.

- **Barriers to remediation for low-income homeowners:** Low-income homeowners may have a hard time complying with testing and remediation requirements due to barriers in accessing government funding (e.g., inadequate credit, owing back taxes). Many lead grant programs are set aside for rental units and unavailable to owner-occupied units, and there is often not enough equity in a home to pay for remediation. Given that few municipalities provide full funding for remediation, homeowners may be unable to cover the costs of remediation, which can lead to fines or, in the case of landlords, being forced to stop leasing units.

- **Threat of housing displacement among low-income communities:** Gentrification and displacement are risks when new policies don’t include implementation funds and there are inadequate tenant and eviction protections in place. Unfunded remediation requirements may result in the loss of affordable housing if property owners stop leasing or abandon homes that are too expensive to remediate. And, without measures to maintain housing affordability, low-income families may be unable to afford improved units if rents are increased to pay for remediation.

Summary of Recommendations

Conference participants agreed that there are practical and feasible solutions to address the aforementioned equity impacts, and there was enthusiasm and momentum to advance these recommendations collectively. Importantly, these recommendations are not a comprehensive list of all possible solutions to improve lead policies in the areas considered, but are intended as a starting point to inform policy makers and advocates.

Recommendations Across All Prioritized Policies

Across all policies, experts made the following recommendations:

- **Ensure meaningful community engagement and prioritize community needs in decision making:** Decision makers should structure their policy processes *with* affected communities, ensuring that those who are most impacted are prioritized and represented in all phases of policy development: problem and solution identification, policy development and implementation, and monitoring and evaluation. Policy makers and researchers should also value lived experience on equal footing with other forms of data used in decision making.
- **Implement a holistic lead remediation framework that addresses multiple sources of lead simultaneously and employs permanent remediation methods:** Policies to remediate lead should focus on prevention and systemic solutions that don't silo or separate lead sources for correction. Lead elimination efforts should shift to permanent solutions, particularly for low-income communities that lack resources to maintain interim solutions and may be exposed to recurring and new environmental hazards. The highest policy standard is to eliminate lead in homes, schools, and childcare facilities, with adequate implementation funding, along with full disclosure of any testing results and remediation actions.
- **Develop and implement a national public awareness campaign that elevates the need for comprehensive lead exposure reduction and compels policy action:** Lead must be framed as a national priority so that new standards and efforts compel action across all communities. This can be done through a national communications and policy campaign with funding from federal and private sources, with cross-sector leadership by community, public health, environmental, housing, and consumer organizations.
- **Prioritize funding for lead prevention and remediation programs based on communities that need it most:** There are many existing methods and indicators combining housing age, poverty, and other predictors of risk that can be used to prioritize funding. Where new data are necessary to predict risk, the focus should be on screening homes rather than children as a more preventive approach.

Recommendations for Lead Service Line Replacement Policies

In response to equity impacts that are specific to LSL replacement policies, experts agreed to the following:

- **Prioritize full LSL replacement and avoid partial replacement:** Any LSL replacement policies should always require *full* LSL replacement to ensure that lead pipes are removed from both private and public property. If this is not immediately viable, policy makers should pursue intermediate solutions to reduce the risk of lead exposure from drinking water, including providing water filters and timely and accurate information to residents. Short-term interventions should not be viewed as an alternative to the goal of full lead service line replacement.
- **Ensure that LSL policies have ample funding for all stages of implementation:** Prior to implementing LSLR policies, public and private entities should allocate sufficient funding to utilities to develop and implement replacement plans without jeopardizing water affordability for residents in their service areas.
- **Include implementation funding for low-income residents in any policies requiring full LSL replacement:** Utilities must implement comprehensive policies for low-income residents to minimize economic pressures and protect against the impacts of water rate increases, shutoffs, and residential property liens resulting from unpaid bills. Approaches could include avoiding regressive payment structures, basing any ratepayer increases on a tiered-income system, providing on-bill financing with zero percent interest tied to the property, and providing direct resources for bill payment and conservation assistance. Grant and loan programs should be designed with low-income consumers in mind.
- **Require that utilities invest in more effective and meaningful communications with communities:** Utilities should commit to mandated reporting of lead issues within a reasonable timeframe, reporting of compliance issues through multiple channels and languages, and providing a consistent point of contact for water quality questions. Utilities should also coordinate with public health agencies to educate communities about water quality broadly, and LSL replacement specifically, and to establish a clear understanding around the harm caused by lead in water. Accessible information about the presence of lead service lines in homes should be made available by utilities.

Recommendations for Policies to Test and Remediate Lead in Drinking Water in Schools and Childcare Facilities

In response to equity impacts that are specific to testing and remediation of drinking water policies in schools and childcare facilities, experts agreed on the following:

- **Provide financial resources to schools and childcare facilities to achieve the ultimate goal of remediation, along with support to properly install and maintain filtration systems:** Since schools and childcare facilities typically lack funding to address remediation, it is imperative that these sites receive the ample funding needed to carry out testing, disclosure, and remediation. They also need support to ensure they are: using the best technologies, following manufacturer requirements for installation and monitoring of filtration systems, and maintaining devices appropriately.

- **Improve and standardize testing and disclosure requirements:** Testing should be required — and not voluntary — at school and childcare sites, and protocols should ensure that tests demonstrate a tap is safe for drinking. Testing should reoccur routinely, on a public schedule. Following testing, schools and childcare facilities should disclose results and remediation plans in a timely fashion and in a way that is informative and clear for parents, families, and communities. In the absence of reliable test results, schools and childcare facilities should provide filtered water stations and refillable bottles.

- **Target prevention and remediation efforts at all places where children engage:** Policies should target all sites where children reside or engage, including unlicensed childcare providers and park and community facilities where summer programs, after-school programs, and sports activities take place.

Recommendations for Policies to Test and Remediate Lead-Based Paint Hazards in Housing

In response to equity impacts that are specific to lead paint hazard testing and remediation policies in housing, experts agreed on the following:

- **Protect the financial well-being of tenants and low-income homeowners during remediation:** Numerous strategies could mitigate the cost and disruption of lead paint inspection and remediation for low-income residents, including: exempting tenants from paying rent to noncompliant landlords; ensuring code compliance as a condition of occupancy; and, as with federal and state grant programs, requiring that programs offering funding for remediation have affordability criteria.

- **Include requirements for temporary housing during remediation to minimize household instability, and implement long-term anti-displacement strategies to ensure tenant protection:** Laws requiring remediation should provide funding for temporary relocation of low-income families to ensure economic and housing stability during remediation. In strong housing markets, municipalities should implement anti-displacement strategies, such as just cause eviction and rent control, to maintain affordability of the units after remediation.

Project Background

Project Genesis

In 2017, a report by the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts, identified 10 policy recommendations and 70+ tactics that federal, state, and local governments could pursue to address the lead crisis. Subsequent to publishing the report, the authors and others sought to complement it with a more thorough analysis of the equity implications of policies to inform state and local policy processes.

Based on this need, as well as the reality that many lead poisoning prevention advocates and policy makers were in active policy discussions that lacked an explicit consideration of equity, the Joyce Foundation and other experts initiated a project to assess the equity impacts of key lead prevention policies.

The Joyce Foundation engaged and funded Human Impact Partners to conduct the project. The goal was to use a consensus conference approach[3] to enhance the understanding of and make recommendations toward greater consideration of equity in lead prevention policy making. Funding from The Kresge Foundation supplemented the project.

Policy Selection

A Steering Committee of eight experts reflecting racial diversity as well as experience in different aspects of lead prevention (e.g., policy/advocacy, community outreach) guided the project. Starting with the Pew Charitable Trusts' report, they prioritized policies for the equity analysis by focusing on:

- State-level policies, because federal policy adoption could take longer and because the equity implications were more distal
- Policies being actively pursued in multiple states and municipalities, creating clear and direct opportunities to influence decision making
- Primary prevention, to have the broadest and most long-lasting impact
- Lead in water and paint as the primary sources of exposure, which meant de-prioritizing, for now, policies addressing air and soil exposure

Based on these criteria, the Steering Committee identified the following policy topics for the consensus conference:

- Residential lead service line (LSL) replacement
- Lead testing in water at schools and licensed childcare facilities
- Testing and remediation of lead-based paint hazards in housing

[3] A consensus conference consists of a structured, professionally facilitated meeting with a group of community members and stakeholders. The participants deliberate on information related to a topic and produce consensus findings on impacts and recommendations through open discussion.

Participant Selection

The Steering Committee identified potential participants for the consensus conference, and HIP did an explicit geographic and demographic analysis to ensure the invitees included a diverse group. For a topic as complex as an equity assessment of lead prevention and reduction policies, it was essential to engage stakeholders from various sectors and geographies, and particularly to include leaders/experts from the sectors that are most affected: low-income communities and communities of color.

Stakeholders included staff from water utilities, municipalities, public health agencies, nonprofit advocates of safe and clean drinking water and affordable housing, and community residents affected both by lead exposure and by policy interventions. See Appendix 1 for a participant list.

Equity Definition

Consensus conference participants used a structured equity analysis tool[4] to identify policy impacts and develop recommendations, and they used the following definition of equity to guide their deliberations.

> **Equity, defined as an outcome:** We achieve equity when identity no longer systematically exposes people to risks or grants people privileges with regard to socioeconomic and life outcomes, and when people who need them most are prioritized to receive the resources required to thrive.
>
> **Equity, defined as a process:** We achieve equity when those most impacted by historic and current structural biases and injustices are leading or meaningfully engaged in efforts to prioritize issues, to craft and implement solutions, to develop accountability measures, and to monitor progress.

Appendixes 2 to 6 include extensive documentation about the project, including additional background on participant and policy selection, a discussion of equity analysis tool development, the equity analysis worksheet, meeting agendas, meeting activities, and other materials.

[4] An equity analysis critically evaluates a policy, program, or plan (i.e., a decision) to assess whether there may be disproportionate burdens placed on marginalized communities, including people of color, low-income communities, and others. In line with many common equity definitions, these analyses look at equity as both a process and an outcome and ask questions about who is affected, how they are affected, and what role they've played in determining the course of action. These analyses also focus on identifying clear actions that decision makers can take to limit or mitigate potential adverse impacts.

Equity Impacts of Lead Poisoning Prevention Policies

This section describes the potential equity impacts of the three prioritized policies to reduce lead exposure in greater detail than in the overview. Expert participants identified these impacts through group deliberations, and the findings represent the collective perspective of the participants.

The findings are not the product of technical research, but rather a synthesis of group discussions. Citations are not included as the information represents the best professional judgment of participating experts. While thorough, these findings may not be exhaustive, given the many health and psychosocial impacts of policies to prevent lead exposure.

Impacts of policies are presented as follows:

1. Overall equity impacts of three lead poisoning prevention policies
2. Equity impacts of lead service line replacement policies
3. Equity impacts of policies on testing and remediation of lead in drinking water in schools and childcare facilities
4. Equity impacts of policies on lead paint hazard testing and remediation in housing

1. Overall equity impacts of three lead poisoning prevention policies

Impact 1.1. *When decision makers do not meaningfully engage the community in decision-making processes, inequities and mistrust are exacerbated.*

Lack of community members' meaningful inclusion in governmental policy-making processes, and the impacts of that exclusion, were two of the most pervasive themes in the consensus conference. Meaningful engagement would include intentional and thoughtful representation of all impacted groups, as well as attention to how input is solicited and how communication takes place, so that all voices are heard and impacted groups can actually influence decisions and processes.

There are four main points that participants raised in relation to this issue:

1. Community engagement is often viewed as a pro forma or box-checking practice rather than an integral part of good policy development
2. Community expertise is frequently not valued or recognized
3. Decision makers often rely on "influencers" who do not represent the full range of community perspectives
4. Decision makers can be well intentioned but are risk averse, concerned about

short-term gains and losses or rushed for time

Participants described most current community engagement processes as typically reflecting a box-checking or tokenizing approach, which stands in the way of genuine inclusion. Engagement may also happen too late in the process, after decisions are made.

Lack of appropriate and inclusive engagement leads to policies that do not meet communities' needs or that fail in implementation because they do not reflect circumstances on the ground. Just as important, they leave community members feeling disempowered and less likely to trust policy-making processes or to engage in the future.

Meeting participants named many communities as being undervalued and excluded in the policy-making process. These include:

- **Low-income people**
- **People of color**
- **Tenants**
- **Parents**
- **Teachers**
- **Immigrants and those whose primary language is not English**
- **Refugees**
- **Undocumented residents**
- **The homeless**
- **Disabled people**
- **LGBTQIA people**
- **First Nations, Native Americans, and American Indians** *(participants encouraged the explicit naming of all of these Indigenous identities as a way to ensure inclusivity.)*

What ties all these communities together is that **they are the ones most directly impacted by lead exposure** or are **on the receiving end of lead policy making but often are not included in policy conversations.**

Participants, particularly those representing communities impacted by lead, shared that when community input is sought out, it is generally not as valued as other sources of information. Decision makers might doubt the lived experiences of communities and rely too heavily on quantitative data, best practices, or case studies developed from interventions in more affluent white communities. Or they may evaluate policy based on academic return on investment and cost-benefit analyses. Some of these methods are limited, for example because of data gaps.

Participants also noted that policy makers may default to over-studying the problem in

search of "complete" data and not pursue solutions (due to gaps in data or imperfect models), leading to prolonged exposure to lead among residents and communities.

Meeting participants discussed the lack of transparency in decision-making processes and the role of influencers who are unknown to communities affected by new lead policies. The problem is that these selected individuals may not necessarily be accountable to communities most impacted by lead exposure. Participants talked about how some of these influencers may have monetary or corporate interests and pointed out that communities could not compete for "airtime" in the decision-making context. It is important to remember that while these influencers may be well-meaning advocates (either from inside or outside the impacted community), the rush to advance policy should not ignore the value of involvement from a wide range of community members.

Participants identified other factors that can sway well-intentioned decision makers and supersede community priorities and experiences. These factors may include:

- A desire to minimize risks and prevent communities from panicking
- A wish to avoid negative media coverage and bad publicity
- Perception of liability and litigation
- Upcoming elections and challenging timelines
- More vocal influencers
- A desire for a "policy win" for organizational or personal benefit
- Concern that inclusion will slow the process and delay new policies

Overall, a lack of strong community engagement creates an incomplete picture of the problem and a less than fully informed perception of risk, leading to flawed processes and decisions. Participants expressed that decision makers have failed to create systems to collect community data and that many decision makers do not trust data and evidence provided by community members.

> Meeting participants expressed that **inequitable decision-making processes could themselves lead to poor health** due to draining limited community resources and increasing psychosocial stress.

Impact 1.2. *Lead prevention policy efforts are implemented through fragmented, and often competing, legal and financing frameworks.*

Programs to address different sources of lead exposure lead to piecemeal strategies and a climate of competition across sources of lead and the settings in which it can be found (e.g., water and paint, schools and homes). This siloed approach has resulted in inconsistent laws and regulations and fragmented programs to address lead and has even impacted the

training and expertise of the staff who implement them. The lack of a holistic framework to address all sources of exposure, coupled with siloed decision making, means that policies are not as effective as they could be. Fragmentation also creates a climate of competition across policy domains, communities, and advocates. Disagreement about which source or setting is more important distracts policymakers and others from acting in ways that effectively prevent lead exposure and poisoning.

> **Piecemeal remediation strategies** — for example, replacing lead service lines at one time and addressing lead paint remediation at another time — **can be highly disruptive to the daily lives of already stressed and vulnerable households.**
>
> Additionally, meeting participants expressed that **addressing one hazard and not others may leave residents with a false sense of safety,** as risk for lead exposure could remain due to unaddressed sources of lead.

Another impact of this kind of fragmented policy making is an overemphasis on localizing lead issues and not making connections across geographies. For example, there is a perception that only those in Flint, Michigan, need to worry about lead in their community water system, or that only Detroit's public schools have lead in their drinking water, when these are just single illustrations of problems that exist in many communities nationwide.

This lack of emphasis on the national scale and scope of the challenges results in a loss of urgency and creates barriers to solutions. Participants were not advancing a "one size fits all" national strategy — as they did not want to lose an emphasis on local priorities and solutions — but they did find that too narrow a focus contributes to a continued climate of competition and lack of vision to solve local lead crises.

Impact 1.3. *The health and financial costs of unfunded remediation policies fall disproportionately on low-income communities and communities of color.*

Across all three policies, participants described low-income people and people of color as disproportionately burdened by health and financial impacts of unfunded remediation requirements. Communities that are already struggling financially and have limited resources are further impacted when they are required to bear the cost of implementing lead prevention policies in their homes, schools, and childcare facilities. If they are financially unable to remediate exposure, residents continue to experience impacts to their health. They also risk legal penalties, or even threats of losing their children to child protective services in some places, for failure to comply.

Participants expressed how policies can **perpetuate underlying racial and economic inequities in outcomes related to lead exposure.** For example, local policies often require residents to pay to replace their own lead service line without financial assistance. Many low-income residents, in both rural and urban jurisdictions, do not have the means to pay for replacement and are forced to continue drinking water from lead pipes.

On the other hand, **higher-income communities, which are more often White, have lower costs related to infrastructure needs** because of ongoing municipal investment in water infrastructure and housing stock in their jurisdictions. Those same jurisdictions also have better access to capital and less-expensive financing options.

Participants also noted that communities and individuals experiencing lead exposure often struggle with housing, education, employment, and safety issues, and resources to address these problems are typically stretched thin. As a result, they have less capacity to do the advocacy, strategizing, and partnership development necessary to hold decision makers accountable. Further, lead is just one of the environmental burdens communities experience. The situation may feel like a game of "whack-a-mole" in which they are constantly on alert for multiple and ongoing health and safety risks to their communities.

Impact 1.4. *The framing of the lead crisis unfairly stigmatizes low-income communities and communities of color and also excludes some who could be at risk.*

Consensus conference participants pointed out that that parents and families, especially Black mothers, are blamed in policy-making discussions about preventing lead exposure. Specifically, there is often an explicit or implicit judgment levied against parents and caregivers for being unable to prevent their children from being exposed to lead, arising from assumptions about their housekeeping, parenting, or choices about where they live (e.g., not being careful with chipped paint, using formula that is mixed with water rather than breastfeeding, or not moving to new housing to reduce exposure).

Certain ethnic, racial, and low-income communities already struggle against discrimination, prejudice, and structural oppression. When children from these communities are additionally labeled as "lead poisoned," it can exacerbate stereotypes that these are "throwaway kids" or that these children are irreparably damaged. In addition, such labels can cause parents to feel ashamed or afraid, creating extra burdens on already overwhelmed caregivers. Our participants stressed the need for decision makers to work with communities to identify language and goals that meet their own priorities and needs.

Finally, participants cautioned about an overemphasis on age groups in lead poisoning prevention efforts. While there is no question that children under age six are extremely vulnerable to the impacts of lead, the constant emphasis on age creates a false sense of security among adults and contributes to the lack of resources for children over age six and all others who may also face significant health impacts due to lead exposure. This is especially important when considering people of all ages who are ill or have compromised immune systems. Focusing on the risks among children can also exacerbate discrimination, such as on the part of landlords who avoid renting to families with young children.

> While understanding the special risks of lead exposure for very young children, participants expressed concern that messaging and policies aimed primarily at specific age groups (e.g., age 0–6) can create a false sense of safety and neglect others who may also be at high risk. **They asked, "What about the seven-year-olds, as well as adults and the elderly?"**

2. Equity impacts of LSL replacement policies

Impact 2.1. *LSL replacement policies often place a significant financial burden on low-income communities and utilities.*

Participants discussed how policies that require residents to pay for all or part of the cost of lead service line replacement are challenging for low-income people who are already struggling economically. LSL replacement costs vary significantly, from $1,200 to $15,000, depending on location, service line length, and other factors. Municipalities may not provide any financial assistance for LSL replacement or may offer financing options that are not affordable for low-income people.

If replacement costs are covered through utility ratepayer increases, those increases can challenge the economic stability of low-income people, or make basic water service unaffordable. Rapidly rising water rates can be particularly challenging for households that include extended family members. Without thoughtful implementation, these interventions create financial impacts that can be consequential for people who live on limited fixed incomes, such as the elderly.

> Participants deliberated about **short-term and less costly ways** to address lead in drinking water, including the use of water

filters or bottled water. Some felt that **these interventions can actually translate into additional costs for households and are less likely to be sustained.**

State and federal policies that require LSL replacement without including funding support can also jeopardize the viability of local utilities that serve rural and low-income communities. Specifically, in places where utilities and municipalities do not have the rate base to cover the costs of LSL replacement, those water systems become much more vulnerable to privatization or to long-term noncompliance, with no viable and sustainable options to manage the water system. At times, depending on how the privatization process plays out and the effectiveness of local accountability systems, unequal power dynamics can be heightened and privatization can further drive inequity through limited transparency.

Impact 2.2. *LSL replacement programs, if not well implemented, can exacerbate lead exposure and negative health outcomes.*

LSL replacement policies can worsen health in some cases. The current default policy nationally is to pursue partial LSL replacement, which can increase the risk of lead exposure and other environmental risks (such as other inorganic and microbial contamination) by disrupting the pipes. Immediately after partial LSL replacement, and continuing for months afterward, there is significant risk of acute exposure. Pipes must be flushed on a regular basis for months after partial replacement to clear lead that was disturbed during and after construction until the pipes reach a new equilibrium.

Participants emphasized that while full LSL replacement is a critical step, it may not completely eliminate the risk of lead exposure in tap water. Lead can still exist:

- In faucets, fixtures, pipes, and solder in older homes and apartments where renovation has not addressed the entire plumbing system
- In plumbing components containing lead sold in recent years
- Even after full LSL replacement, as flushing taps is not always a reliable means of removing lead from tap water.

When full LSL replacement is prohibitively expensive, even adding filters to drinking water can come with risks related to long-term maintenance and sustainability.

Participants noted that if water shutoffs occur as a result of rising and unaffordable utility rates, there may be health consequences for residents, such as increased levels of water-related skin and soft tissue diseases, as in Detroit. They also noted that loss of access to water in a household can jeopardize parents' legal right to their children. Further, reductions in water use due to shutoffs can result in an overall decrease in water quality as water stays stagnant in the water mains and pipes for longer periods.

Participants representing communities across Michigan highlighted how **loss of water could also mean losing a child to protective services.** For example, Michigan's Child Protective Services lists lack of running water as an indication of physical neglect and the potential basis of a complaint against parents. National guidance published in 2006 by the U.S. Department of Health and Human Services also lists lack of running water as a hazard and an indicator of a lack of proper supervision.

Lack of resident trust in utilities may also prolong exposure. For example, residents may be concerned that utility staff working to address lead issues will report code violations or be in communication with immigration enforcement or other agencies. As a result, they might refuse to allow utility staff to access their property for testing and remediation. As a more general matter, since the Flint water crisis, public trust in the truthfulness and transparency of water agencies has eroded, particularly in communities of color. At every level, the lack of trust makes it much more challenging for water systems to reduce the risk of lead exposure in drinking water.

Participants expressed frustration that **despite decades of lead crises** (including Flint in 2014–2015 and Washington, D.C., in 2003), **policy makers have not acted with urgency** in developing health-protective updates to federal water safety and quality regulations like the Lead and Copper Rule.

3. Equity impacts of policies on testing and remediation of lead in drinking water at schools and childcare facilities

Impact 3.1. *Insufficient testing protocols can create more problems than solutions.*

There is no federal requirement for lead testing in schools or childcare facilities. As a result, the manner in which lead is identified and addressed — if at all — can vary from state to state or school to school, even between schools in the same jurisdiction. The protocols for testing lead in drinking water in schools and childcare facilities are inconsistently applied, and identified mitigation thresholds and strategies vary broadly. This variance in testing protocols and action levels makes it hard to monitor and track whether lead issues are being adequately addressed. When testing protocols are applied ineffectively or incorrectly in school and childcare settings, the risk that children and staff will be exposed increases.

Moreover, although lead is present in a lot of the plumbing in older schools, most schools do not take any action to notify parents of the risk of lead exposure until sampling data are available. When no sampling is completed in low-income schools, no action is taken. This further widens the divide between affluent and low-income schools and the exposure risks for the children they serve.

> **Without thoughtful implementation and funding, mitigation and communications strategies can also exacerbate inequities.** For example, communications provided only in English, or only through digital platforms can miss certain communities. Funding for mitigation that is provided exclusively through rebates may be inaccessible to low-income schools and childcare facilities that lack up-front funding to cover the costs until the rebate is provided.

Because of lack of clarity around testing protocols, schools sometimes provide reassuring but unsubstantiated language about water quality based on limited data. Improper testing, along with inadequate disclosure, can lead to a false sense of security or complacency among families. Also, policies focused solely on lead in water may mean families and staff are unaware of the risk of lead exposure in paint, soil, and toys at facilities.

Moreover, limited understanding of testing data by staff and parents can hinder parents' ability to protect their children from lead exposure by, for example, having a child bring water to school or supplying premixed formula for a baby in childcare. If facilities fall behind in testing and remediation, families are burdened with the stress of not knowing what the situation is or how best to respond.

Finally, when testing is not mandatory or not funded, more affluent communities are more likely to be able to afford to test, access expertise, and mitigate concerns. Their schools may be advertised as "safe" while others are labeled as "poisoned" or unsafe, exacerbating biased attitudes about facilities in low-income areas. At the same time, children and staff in facilities that cannot pay for testing, expertise, or repairs remain at risk of exposure. The equity implications of testing policies at childcare facilities and schools are evident at each point in the testing, notification, and mitigation process.

Impact 3.2. *Local school districts and childcare facilities, particularly those in low-income communities, face enormous financial challenges when lead issues arise.*

Testing and remediation recommendations or requirements for schools and childcare facilities often do not come with funding and can be quite expensive. Remediation strategies are inconsistent and under development, and therefore the solutions implemented vary by school district. Participants stated that affluent schools are more likely to replace old plumbing, while schools in poorer districts simply turn the water off. Without potable water, children are more likely to consume sweetened beverages, compounding the health challenges faced by children from low-income communities.

Most schools are responsible for covering their own costs, which poses significant burdens on entities that have limited financial resources. Many of these schools are already struggling with basic maintenance expenses, and the costs of educating staff on water quality issues, communicating with parents, and identifying consultants to test and remediate add up quickly. As schools and childcare facilities with limited funding fall behind in water testing and remediation, their financial stability can be threatened. Families in these communities can then be impacted both by the loss of local institutions and by the ongoing risk of lead exposure.

Further, when facilities cannot afford to install filters, provide bottled water, or replace old plumbing and fixtures, they resort to closing taps. Then families must find ways to provide the water children need at school or daycare. Finally, the new trend of foundations funding filters for low-income school districts (as in Flint and Detroit) is not a sustainable strategy and can result in lower-profile low-income areas getting no assistance at all.

> In worst-case scenarios, policies can place schools in financial distress, which can lead to accusations of mismanagement and the imposition of outside administrators or other loss of control. These designations can lead to reduced democratic decision making and less-accountable leadership of these public assets and services.

With respect to schools specifically, different school types within the same district (e.g., private, charter, and public) may also have different testing and notification requirements. For example, public charter schools may not be subject to the same requirements as the others, and so their students may continue to be exposed.

If childcare facilities raise enrollment fees to cover compliance expenses, the cost of services may become out of reach for low-income families. Families can also lose access to services if licenses are revoked because providers cannot afford to comply. Closure of facilities also can create a cascade of negative effects because of the loss of jobs and income to providers and their staffs. Providers operating in rented properties could face consequences from landlords, including financial costs, displacement, or forced closure of their businesses.

> Families in Native communities often rely on family-based childcare providers, who play an important role in developing cultural identity among children. **Poorly resourced and implemented childcare lead policies can jeopardize this important source of cultural development in Native communities.**

Impact 3.3. *Children fall through the cracks because of gaps in drinking water testing and remediation policies.*

Gaps in drinking water testing and remediation policies can leave groups of children vulnerable to lead exposure. For example, policies for water testing in schools and childcare facilities are generally restricted to certain categories of facilities. Where they exist, most school testing policies require only public schools to test the water, and most childcare facility testing policies apply only to licensed sites, meaning that children in unlicensed facilities or less formal settings are not covered. Low-income children are more likely to face lead exposure risk at home (as they are more likely to live in older homes), and these gaps in testing policy can increase their overall exposure risks. Urban park districts and community centers, which are typically not covered by water testing policies, can also be a source of lead exposure. The cumulative impact of these exposures contributes to and exacerbates the inequitable differences in health status and outcomes between low-income children and their more affluent peers.

4. Equity impacts of policies on lead paint hazard testing and remediation in housing

Impact 4.1. *Low-income tenants have few protections to address lead paint hazards in their homes.*

Policies to address household lead paint can create serious risks for tenants. Unless protective measures are in place, tenants who report the presence of lead paint hazards can face retaliation from landlords (e.g., eviction, increased rent). The fear of displacement or detention, in the case of undocumented residents, may keep families from tapping government programs to address lead paint, so they continue to be exposed. Also, ineffective enforcement of lead policies allows landlords to continue to rent units with unabated lead hazards. These "repeat offender" units expose both current and future tenants to lead. They are especially problematic because low-income families are more likely to move relatively frequently, which results in increased opportunities for multiple families to inhabit them and be exposed to lead hazards over time.

Additional issues that can result from inspection and abatement policies include these:

- Displacement can occur during the abatement process, especially if it is not conducted in a timely manner with support available for inhabitants who need temporary housing
- Testing and abatement policies can be invasive, particularly for families who already experience distrust government and enforcement agencies
- Increased costs can be passed on to tenants
- Families may experience a false sense of safety from interim control measures that temporarily address lead hazards, as well as from actual lead abatement when there are other environmental hazards in the home that still require attention
- If not conducted using proper precautions and best practices, abatement can expose people to increased lead through the dispersal of lead paint dust within the unit, in other units in the same building, and among workers conducting abatement

Impact 4.2. *Low-income homeowners with few resources face barriers to remediation.*

Participants described low-income homeowners as having a harder time complying with testing and remediation requirements due to barriers in accessing government funding (e.g., inadequate credit, owing back taxes). Many lead grant programs are set aside for rental units and unavailable to owner-occupied units, and there is often not enough equity in a home to pay for remediation. Given that few municipalities provide full funding for remediation, these homeowners may be unable to cover the costs of remediation, which can lead to fines or, in the case of landlords, being forced to stop leasing units. The resulting loss of income for homeowners and affordable housing stock can have ripple effects across the community.

Landlords and enforcement agencies may outsource household lead paint remediation and not rely on the local workforce for these tasks. In some instances they may hire contractors who are not trusted by community members or not trained in proper techniques. **These scenarios have negative impacts for the community.** There may also be also barriers to obtaining the proper certification for members of disadvantaged communities (e.g., lack of EPA or state training in certain languages). This is a missed chance to provide more equitable economic opportunity through the remediation process.

Impact 4.3. *The threat of housing displacement looms large for low-income communities.*

Lead paint testing and remediation policies can mean an increase in costs for the wider community as well. Gentrification and indirect displacement are significant risks when new policies do not include implementation funds and there are few tenant and eviction protections in place. As noted above, unfunded lead remediation requirements may result in the loss of affordable housing if property owners stop leasing or abandon homes that are too expensive to remediate or are subject to liens for abatement costs. Alternatively, the costs might prompt a wholesale rehabilitation of a property that is then converted to more expensive housing types (e.g., condominiums).

Without measures to maintain housing affordability, low-income families may not benefit from housing quality improvements and may be displaced if gentrification occurs.

Recommendations to Address Equity Impacts of Lead Poisoning Prevention Policies

To address the potential equity impacts of lead policies (discussed in the previous section), the convened experts developed a number of recommendations. These are organized as follows:

1. Recommendations to address the equity impacts of prioritized lead poisoning prevention policies
2. Recommendations to address the equity impacts of LSL replacement policies
3. Recommendations to address the equity impacts of policies to test and remediate lead in drinking water in schools and childcare facilities
4. Recommendations to address the equity impacts of household lead paint inspection and abatement policies

As with the summary of possible impacts, these recommendations are not a comprehensive list of all possible solutions to improve lead policies in the areas considered, but are intended as a starting point to inform policy makers, implementers, and advocates. Appendix 6 describes how we applied the equity analysis tool to generate these recommendations.

1. Recommendations to address the equity impacts of prioritized lead poisoning prevention policies

Recommendation 1.1. *Ensure that decision-making processes prioritize meaningful community engagement along with the needs of communities most impacted by lead exposure.*

Many of the equity impacts of lead policy identified by the conference participants can be prevented with meaningful community involvement. Decision makers should structure their policy processes *with* impacted communities, ensuring that those who are most impacted are prioritized and represented in all phases of policy development: problem and solution identification, policy development and implementation, and monitoring and evaluation. Care should be taken to create processes that give community representatives genuine opportunities to participate and influence, with as much shared decision-making authority as possible. It is critical for residents to have access to data so they can be fully informed participants in the decision-making process.

Meeting participants emphasized that in order to create equitable processes and policies, it is critical for policy makers to value lived experience on equal footing with other forms of data. The academic science and research communities must start to include lived experience as data to inform decision making. Equitable policies and decisions cannot be made or successfully implemented unless they are informed by the lived experience of the people who are to be impacted or protected by the policy.

Funding and training mechanisms to advance effective community engagement include:

- Building the capacity of, and providing funding for, trusted community groups to effectively represent, organize, and convene community members and support their participation and advocacy
- Providing community groups with technical and financial support, if appropriate, so they can respond to experts who participate in the decision-making process
- Funding community organizations to conduct research and collect data (i.e., engage in citizen science) that can be used to drive policies
- Promoting opportunities for trusted community groups to receive technical training, receive education, and/or to do research and policy work
- Increasing employment opportunities in communities by hiring local workers for implementation, funding youth training and apprenticeships, and recruiting local workers for certification programs

Outreach mechanisms to advance effective community engagement include:

- Holding policy development convenings in local neighborhoods on evenings and weekends to make them more accessible to working people and families
- Advertising and promoting engagement events in languages appropriate to local communities, providing appropriate translation of materials at events that are likely to include people whose first language is not English, and accommodating people who need sign language translation
- Using community engagement events to build trust, create relationships, and invest in struggling neighborhoods by using local caterers, renting local venues, and working with local partners to promote the event
- Engaging with existing community resources like community health workers or promotores to act as messengers and to support implementers to decrease fear and distrust

Sustained and authentic community participation and support for local voices are essential for equitable policy development. Partnerships between utilities (and other implementing agencies) and trusted community groups can help overcome distrust and eventually improve transparency. Specific roles for the community organization might include reporting issues or testing results back to the community.

Participants also called for transparency about which agencies, policy makers, and corporations are unwilling or unable to support authentic and meaningful community engagement. Having this type of clarity is important for community members so they can be prepared when engaging with these individuals or institutions and can look for ways to hold decision makers accountable and put pressure on actors to change their practices. Each community will have its own unique context and priorities, so sharing information and working with local leaders will be important for outsiders.

Recommendation 1.2. *Implement a holistic lead remediation framework that addresses multiple sources of lead simultaneously and employs permanent remediation methods.*

Policies to remediate lead should ideally focus on prevention and systemic solutions that do not silo or separate lead sources for correction. This recommendation includes addressing multiple lead exposure pathways through simultaneous infrastructure upgrades. In all cases, it is paramount to avoid blaming or stigmatizing parents, families, and communities when lead exposure issues arise.

> To help alleviate the competition between programs and people for resources to deal with different sources of lead, **cross-agency, interagency, and intra-agency collaboration should be fostered.** Representation of community members in these collaborations is key to identify priorities and remediation strategies.

Lead elimination efforts should shift to permanent solutions, particularly for low-income communities that lack resources to maintain interim solutions (e.g., paint repair) and may be exposed to recurring and new environmental hazards. A more holistic framework would mean that policymakers take a harm-reduction approach or use a policy continuum that is transparent about the potential for compromises and does not create a false sense of complacency. For example, the highest policy standard would be to eliminate lead in homes, schools, and childcare facilities, with adequate implementation funding and full disclosure of testing results and remediation actions. A less optimal policy would, for example, test and disclose, and provide information on protective action (i.e., interim controls) that can be taken to avoid exposure. Decision makers should acknowledge the highest policy standard while pursuing interim controls that are needed to make progress as political will is being developed.

Permanent removal of housing components painted with lead-based paint, such as trim, windows, and doors, as well as replacement of lead service lines and renovation of plumbing systems, reduce the need for ongoing maintenance or management of lead, which is often less likely to be performed in low-income homes and communities. Some of these strategies have co-benefits. For example, window replacement can also help with energy efficiency, improved comfort and health, and reduced energy costs, providing benefits that go beyond removal of the lead hazard.

> A key strategy in policy making could be to develop and share a cost-benefit assessment that explicitly highlights **the cost of "doing nothing" and the co-benefits of implementing the highest policy standard of remediation.**

Risk assessment and remediation for lead in both water and paint should be integrated, universal, and comprehensive. This recommendation includes focusing on people that could fall through gaps—for example, residents in rent-to-own housing, rental units, and community centers. Lead remediation efforts should consist of a comprehensive set of activities, including public outreach, LSL removal, lead paint hazard remediation, and water filter provision. Policies such as rent control could also protect families and communities against consequences of remediation, including displacement and rising property values.

Educational efforts should also be comprehensive. For example, existing federal requirements for landlords to notify residents of lead-based paint should be expanded to also include the presence of lead service lines if a landlord has determined a LSL is present.

Recommendation 1.3. *Develop and implement a national public awareness campaign that elevates the need for comprehensive lead exposure reduction and compels policy action.*

Meeting participants proposed that lead be framed as a national priority so that efforts and standards influence communities across the country. One suggested mechanism is to develop a national communications and policy campaign with funding from federal and private sources, with cross-sector leadership by community, public health, environmental, housing, and consumer organizations. A successful and inclusive campaign should ensure that local and underrepresented voices are present from the very beginning, not brought in once funding is secured by large national organizations.

In addition to a call to action to remove lead, the campaign should include information on:

1. the threats of lead and negative impacts posed by lead exposure
2. the signs of lead poisoning (e.g., similar to the American Heart Association), and the fact that children might not exhibit any signs
3. water quality issues (e.g., cold water, flushing, aerator clearing, lead-free plumbing)

Participants also suggested a number of communications frames that could be used:

- Lead is a health issue. Some participants suggested that prevention and remediation efforts should be primarily the responsibility of the Centers for Disease Control and Prevention, not the U.S. Department of Housing and Urban Development or the U.S. Environmental Protection Agency
- Lead is an issue we can conquer, given how far we have come already
- Access to clean, safe drinking water is a human right
- Water is connected to other issues including health improvement, infrastructure investment, jobs, energy conservation, water conservation, and educational success

Additional communications suggestions included focusing on children, seniors, and healthy families.

Regardless of the message frame or campaign focus, it is particularly important to avoid the blaming and shaming of under-represented groups. Communities should steer development of the communications frames and messages to ensure that families and communities are not stigmatized through messaging that is dehumanizing, derogatory, or discriminatory.

Recommendation 1.4. *Prioritize funding for lead prevention and remediation programs more equitably, targeting communities that need it most.*

Participants created a list of populations who need help most and/or are most vulnerable to lead exposure, and whose needs should be prioritized in funding decisions for lead programs:

- Historically disadvantaged/disenfranchised communities
- Communities facing the highest health risks, which could include:
    - Zip codes with high numbers of children with elevated blood lead levels and/or with history of exposure
    - Areas with a history of environmental injustice and exposure to contaminants
    - Block grant areas or areas that serve significant percentages of students on free and reduced price lunch programs
- Low-income schools and/or low-income school districts
- Native communities, with an express recognition of specific rights guaranteed in treaties and the historic inequities created by the taking of Native lands and imposition of the reservation system

Where new data are necessary to predict risk, the focus should be on screening homes rather than children as a more preventive approach. For example, participants recommended creating a new metric for identifying priority communities that combines elevated blood lead levels (BLLs), social vulnerability index, and other variables, such as age

of housing stock. Such indexes have been created by the Washington State Department of Health, the Chicago Department of Public Health, and New York University's City Health Dashboard.

Participants were reluctant to emphasize BLL screening results as the sole factor to consider in prioritizing funding, for reasons including these:

- Screening for child BLLs is mandatory in some states, but not all
- Screening practices in different regions are inconsistent and may miss affected children
- Screening may cover a narrow age window (e.g., 1- to 2-year-olds)
- It is nearly impossible to get the timing of screening right even when lead exposure has taken place. The half-life of lead in the blood is 28 days. If blood samples are not taken within this window after exposure, elevated BLLs may be missed.

For these reasons, BLL data can be limited and misleading in identifying areas with high risk of lead exposure. If used, BLL data should be understood within the broader context of risk factors and not be the sole criterion for prioritizing interventions. Moreover, once a child has an elevated blood lead level, the damage has been done. **Therefore, the ultimate goal is for policy makers to create and use other metrics that allow them to intervene in communities before exposure occurs. For those that have already been exposed, policies and solutions should be developed in partnership with the affected groups.**

Participants proposed ideas for sources of lead remediation funding, including federal block grants and progressive (rather than regressive) taxation of both businesses and individuals.

Specific recommendations for funders include:

- Creating a funders collaborative that focuses on remediation, education, technical assistance, and testing; includes all types of lead exposure; and allows collaboration across different sectors (environment, public health, affordable housing, etc.)
- Combining public funding sources from various programs to remediate all sources of lead exposure based on specific community exposures and needs
- Committing to long-term grants for completing lead remediation projects (e.g.,10+ years, if needed) so contractors can plan for long-term implementation with some flexibility for local implementation

2. Recommendations to address the equity impacts of LSL replacement policies

***Recommendation 2.1**. Prioritize full LSL replacement and avoid partial replacement.*

Meeting participants expressed broad agreement that LSL replacement policies should always require *full* LSL replacement to ensure that lead pipes are removed from both private and public property. Whenever a utility disturbs a service line (e.g., during water main improvement or repair), it should work with property owners to gain permission to replace the entire lead service line, regardless of ownership. Full LSL would also ensure more modern infrastructure that adds up to greater efficiency and less financial cost to ratepayers.

If full LSL replacement is not an immediately viable option, participants recommended that intermediate solutions to reduce the risk of lead exposure from drinking water be pursued, including distributing water filters and providing timely and accurate information to residents. Short-term interventions should not be viewed as an alternative to full service line replacement.

Lead service line replacement efforts should be accompanied by a robust public education process that clearly communicates risks, timing, and costs. In communities where distrust of the government or the utility exists, there may be a need for deeper engagement and perhaps partnership with local organizations to build rapport and relationships regarding the purposes of the remediation efforts.

> Meeting participants from all sectors — including community advocates and utility managers — **emphasized the importance of using safe, suitable materials** when lead service lines are replaced to avoid creating new issues with drinking water safety or service line reliability.

***Recommendation 2.2.** Ensure that LSL policies have ample funding for all stages of implementation.*

More funding is needed to pay for full LSL replacement. Prior to implementing lead service line replacement policies, sufficient funding should be made available to utilities so they can carry out replacement plans that include low-income residents without jeopardizing water affordability in their service areas. Attention should also be given to ensuring that municipalities and utilities have the staff capacity and communications support needed to comply with mandated policies and programs. While participants agreed that increased federal funding for LSL replacement was ideal, they recognized that federal sources would

likely be insufficient and that diverse sources would need to be brought together to fulfill this recommendation.

As highlighted previously, participants stressed that community-based organizations could play an instrumental role in engaging communities around LSL replacement, specifically by developing and carrying out proactive outreach plans.

Participants proposed that utility companies expand the benefits of LSL replacement by creating opportunities for local workforce development. Some utilities have apprenticeship programs that could be extended to LSL replacement efforts. Utilities could also develop programs that focus on recruiting and training local workers and expand contracting with locally owned businesses. **These partnerships can serve as models for other communities.**

Recommendation 2.3. *Include implementation funding for low-income residents in any policies requiring full LSL replacement.*

LSL replacement programs should be affordable for all low-income residents required to comply with them. Meeting participants recommended that utilities implement comprehensive policies for low-income residents to minimize economic pressures and protect against the impacts of increases in water rates. Potential water shutoffs and liens on residential property resulting from unpaid bills were of particular concern. Grant and loan programs should be designed with low-income consumers in mind. Recommendations included:

- Avoiding any regressive payment structures, such as increases in costs to ratepayers
- Ensuring that any ratepayer increases to pay for LSL replacement be based on a tiered-income system
- Providing on-bill financing with a zero percent interest rate
- Tying on-bill financing to the property and not the individual
- Providing direct resources for bill payment and water conservation assistance (e.g., repairing leaks and installing low-flush toilets to reduce water use and water bills)

Participants called for collaboration between water utilities and other municipal agencies to avoid water shutoffs and prevent families from being unable to access the amount of clean water necessary for basic health and sanitation.

Recommendation 2.4. *Require that utilities invest in more effective and meaningful communications with communities.*

Because community members may have misconceptions about what water testing means (e.g., believing that a single test result can indicate a lack of risk), utility companies have an important role, in coordination with public health agencies, in educating communities about water quality broadly, and LSL replacement specifically. As part of this, they should also work to establish a clear understanding and message around the harm caused by lead in water. There is an opportunity for utilities and public health agencies to fill this need more proactively, educating communities before lead is measured in drinking water.

In addition to promoting general awareness and understanding of lead in drinking water and regulations that address it, participants agreed that utilities' communications with communities should incorporate the following:

- Mandated reporting of compliance issues within a reasonable time frame
- Accessible information about the presence of lead service lines in homes, made available by utilities through a variety of means (e.g., mail, town halls, local and ethnic media outlets, local city offices, social media, and places of worship)
- Reporting of issues in layman's terms and in several languages, especially those of relevance to the community Provision of a consistent point of contact for water quality questions over time (e.g., a customer-support representative, ideally someone hired from, or with connections to, underrepresented groups)

> Participants discussed the fact that utilities and communities could work in partnership on communications and community benefits agreements and could explore options to improve water overall. Community members could also support utilities in identifying how landlords are selected for testing and remediation.
>
> **These collaborative activities could remedy gaps and injustices in historic decision-making processes that often result in poor policy outcomes.**

Participants also suggested two ideas to improve existing educational efforts:

- A "bill of rights" on the Lead and Copper Rule (LCR)
    - Participants suggested that a document be written for consumers in lay terms and in multiple languages. Some participants felt that this bill of rights

should be broader than the LCR and provide an overarching framework on federal policies related to water safety and quality.

- American Water Works Association (AWWA) best practices
    - Stakeholders suggested that relevant best-practices documents (e.g., the AWWA *Replacement and Flushing of Lead Service Lines* standard) be reviewed through a community-informed, equity-based lens and expanded with examples and case studies of best practices for implementation. The resulting document would be circulated widely in the sector as an example standard for community engagement on water quality practices.

> Several meeting participants said that the current policy material on water quality has been written largely by engineers and **without community input. These materials also are written in ways that are reassuring about water quality and minimize questions people ask about lead.** As a result, many residents and communities have not been given the information they need to understand the basics of water-related lead exposure risks.

3. Recommendations to address the equity impacts of policies to test and remediate lead in drinking water in schools and childcare facilities

Recommendation 3.1. *Schools and childcare facilities should receive financial resources to achieve the ultimate goal of remediation, along with support to properly install and maintain filtration systems.*

Participants placed a very high priority on schools and childcare facilities receiving the funding needed to immediately carry out testing, disclosure, and remediation.

Schools and childcare facilities also need support to ensure they are:

- Following manufacturer requirements for installation and monitoring of filtration systems, and assessing the best technologies to treat water containing lead
- Seeking qualified assistance to test for lead leaching prior to installation of new plumbing materials
- Budgeting, planning for, scheduling, and assigning responsibility for maintenance of point-of-use filtration devices in sinks and fountains, with the caveat that point-of-use devices may not be appropriate for every setting

- Clearly marking taps that are safe for drinking water and those that are designated for hand washing and other nonpotable uses only, and establishing a culture change in the school so that children can recognize safe drinking water sources

Childcare facilities also need to partner with licensing agencies to build mutual clarity and understanding about water testing, disclosure, remediation, and communication requirements, as well as funding assistance. Home-based or unlicensed childcare facilities are in particular need of funding, likely from external sources, to implement LSL replacement along with testing and remediation policies. These providers may require more support than licensed providers, notably education and awareness-building and communication support in languages other than English

> In addition to financial resources, training, and guidance, **participants noted that schools and childcare providers need social support through connections with other schools and childcare providers and providers of other services.**

Recommendation 3.2. *Improve and standardize testing and disclosure requirements.*

Conference participants noted that existing water testing protocols are inadequate and had specific recommendations for improving them:

- Testing should be required and not voluntary at school and childcare sites
- Testing protocols should not imply that a single test can demonstrate a tap is safe for drinking
- Testing should reoccur routinely, on a public schedule
- In the absence of reliable test results, schools and childcare facilities should provide filtered water stations and refillable bottles; the maintenance of the filter stations should be built into the routine operating procedures of these facilities

> Participants indicated that to demonstrate true transparency, information about the specific fountains and sinks that are tested within a school should be publicized with results, **to raise awareness about where it is safe to drink (tested fountains and taps) and where it isn't (locker room showers, utility sinks, outdoor hoses, etc.).**

Following testing, schools and childcare facilities should disclose results and remediation plans in a timely fashion and in a way that is informative and clear for parents, families, and communities. Participants provided the following recommendations around what disclosure should entail:

- Test results should be publicly released using multiple communication strategies that reach diverse stakeholders
- Disclosure reports should be clear about what test results mean; they should also warn that there is no safe level of exposure to lead and that higher exposures are worse for health
- Reports should include information about the testing policy, dates, and procedures.
- Specific locations within a school that do and don't have contamination should be publicized with appropriate signage/labeling
- If remediation plans are not yet available, disclosure should identify the steps being taken to protect students and staff

> Participants generally emphasized that the p**eople reporting results should always be honest** and let families know what they can do themselves to address lead in drinking water at schools and childcare facilities, especially when remediation is not (yet) a viable option.

Recommendation 3.3. *Target prevention and remediation efforts at all places where children engage, while recognizing different capacities and needs to address lead.*

Meeting participants noted that to be effective in preventing lead exposure, policies should target all sites where children reside or spend time, including unlicensed childcare sites and park and community facilities where summer programs, after-school programs, and sports activities take place. Participants agreed that it is essential to acknowledge differences among sites in terms of capacity, resources, and policy enforcement.

4. Recommendations to address equity impacts of household lead paint inspection and abatement policies

Recommendation 4.1. *Protect the financial well-being of tenants and low-income homeowners during remediation.*

Lead paint inspection and remediation in homes can be costly and can cause disruption to the everyday lives of families. Meeting participants recommended the following mitigations to protect the financial well-being and health of community members:

- If landlords are noncompliant with inspection and remediation policies, tenants should be exempt from paying rent to landlords
- Code compliance should be a condition of occupancy
- Landlords, particularly those with limited income, should receive subsidies or direct funding to hire certified firms to carry out abatement
- Similar to federal and state grants, programs offering remediation funding should have affordability criteria to ensure those who need funding most can access it
- Grant programs should require property owners, as a precondition of receiving remediation funds, to either maintain lower rent for a period of time or repay the grant
- A percentage of revenue from enforcement policies (i.e., funds from citations) should be set aside as a source of financial assistance for low-income landlords to carry out abatement
- Tenants should know their rights and should have access to resources and support throughout the inspection and abatement process, possibly through proactive outreach or education programs delivered in specific settings (e.g., in clinics upon receiving results of a child's blood test)

Recommendation 4.2. *Include requirements for temporary housing during remediation to minimize household instability, and implement long-term anti-displacement strategies to ensure tenant protection.*

Meeting participants recommended that any laws requiring remediation also provide a funding source for temporary relocation, when needed, of low-income families to provide economic and housing stability during the remediation process.

In strong housing markets, municipalities should implement anti-displacement strategies including just-cause eviction guidelines and rent control to maintain affordability of the units after remediation. These policies help ensure that low-income families benefit from housing quality improvements and protect tenants from retaliation.

Participants also discussed efforts to minimize household disruptions during inspection and remediation, including work taking place when housing is vacant (e.g., during gaps between tenants' leases) and safe and appropriately contained demolition and waste removal practices to avoid contamination of nearby units and homes.

> According to meeting participants, **preventing household disturbance and displacement should be be obligatory responsibilities for landlords** during lead paint inspection and abatement.

Conclusion

According to participants, the consensus conference was one of the first times that lead poisoning prevention stakeholders came together across institutional sectors and areas of expertise to exclusively discuss the impacts of lead policy on equity. Experts collectively envisioned solutions that centered on the value of equity in policy making and bridged their traditional silos. The deliberations yielded rich information that will undoubtedly support decision makers and advocates in advancing more equitable public policy.

The success of the consensus conference was visible in the desire of many participants, particularly those from impacted communities, to reconvene and widen the group to include others from their communities. While the meeting was initially structured around the three prioritized policies, the fact that the group was able to identify and prioritize cross-cutting recommendations — specifically around the need for meaningful community engagement, a holistic lead remediation framework, a national public awareness campaign, and funding for communities that need it most — demonstrated that participants could transcend their areas of expertise to identify solutions for the lead prevention ecosystem more widely.

What Comes Next

At the conclusion of the meeting, participants suggested next steps for Human Impact Partners and the Steering Committee to take, as well as additional strategies that the lead policy-making field should pursue to address lead exposure holistically and equitably.

HIP and Steering Committee members agreed to the following deliverables:

- A report detailing meeting proceedings (represented by this document)
- Companion materials for priority audiences, including:
    - A summary of recommendations, call to action, and talking points for communities to use in advocacy
    - A summary of recommendations designed to reach decision makers specifically and to influence policy advocacy nonprofits

In addition, HIP and the Steering Committee agreed to carry out the following activities:

- **Coordinate a process for organizational review, sign-on, and endorsement.** Not all participants could necessarily commit their organizations to support the findings and recommendations in the report. Therefore, HIP agreed to create a process by which participants could sign on as organizations for the companion materials.
- **Consider how the group can continue the conversation.** Many participants encouraged meeting organizers to reconvene the group, continue the conversation, and consider additional participants, avenues, and settings.

More broadly, meeting participants suggested that efforts to reduce lead exposure at a national scale could be strengthened with the following actions, initiated through leadership of stakeholders in the field:

- **Build a community of practice** to provide support for all practitioners working to reduce lead exposure and facilitate shared learning from different localities.
- **Develop a coordinated funding strategy** around lead, which would require:
    - A strategic vision and action plan for a national lead campaign
    - A communication strategy around lead and equity
    - A national alliance/network/partnership to develop and share resources
    - Convening of community-based organizations specifically, to consider the equity implications of lead policy

The consensus conference and resulting proceedings reflect and endorse a different way of collaboration and decision making that shows deep respect and a desire to act comprehensively and equitably to eliminate lead from communities across the country. With commitment and compassionate engagement from all stakeholders, access to lead-free water and housing can indeed be an attainable human right.

Appendixes

Appendix 1: Consensus Conference Participants

Name	Affiliation	Location
Elin Betanzo	Safe Water Engineering, LLC	Royal Oak, MI
Susan Buchanan	Great Lakes Center for Children's Environmental Health at the University of Chicago	Chicago, IL
Elizabeth Cisar	The Joyce Foundation	Chicago, IL
Wesley Epplin	Health & Medicine Policy Research Group	Chicago, IL
Maria Estlund	Illinois Action for Children	Chicago, IL
Anne Evens	Elevate Energy	Chicago, IL
Lili Farhang	Human Impact Partners	Oakland, CA
Kristi Pullen Fedinick	Natural Resources Defense Council	Washington, DC
Kim Foreman	Environmental Health Watch	Cleveland, Ohio
Ludovica Gazze	University of Chicago Energy and Environment Lab	Chicago, IL
Jennifer Gonda	Milwaukee Water Works	Milwaukee, WI
Wayne Jernberg	City of Grand Rapids	Grand Rapids, MI
Darrell A. King	Water Production Bureau, City of Evanston	Evanston, IL
Amber Lenhart	Spokane Regional Health District	Spokane, WA
Monica Lewis-Patrick	We the People of Detroit	Detroit, MI
Melissa Mays	Water You Fighting For	Flint, MI
Heather Miller	American Indian Center of Chicago	Chicago, IL
Rebecca Morley	Consultant, the Robert Wood Johnson Foundation	Washington, DC
Howard Neukrug	The Water Center, University of Pennsylvania	Philadelphia, PA

Ruth Ann Norton	Green & Healthy Homes Initiative	Baltimore, MD
Jeremy Orr	Environmental & Climate Justice, Michigan NAACP	Detroit, MI
Jacqueline Patterson	NAACP Environmental and Climate Justice Program	Baltimore, MD
Juliana Pino	Little Village Environmental Justice Organization	Chicago, IL
Andrea Pugh	Charles Stewart Mott Foundation	Flint, MI
Sukhdip Purewal Boparai	Human Impact Partners	Oakland, CA
Adrianna Quintero	Energy Foundation	San Francisco, CA
Michelle Rashad	Imagine Englewood if . . .	Chicago, IL
Amanda Reddy	National Center for Healthy Housing	Columbia, MD
Cynthia Reyes-Revilla	Avenue Community Development Corporation	Houston, TX
Yeri Shon	Human Impact Partners	Oakland, CA
Debra Taylor	We the People of Detroit	Detroit, MI
Maureen D. Taylor	Michigan Welfare Rights Organization	Detroit, MI
Jumana Vasi	Independent consultant; formerly CS Mott Foundation	Ann Arbor, MI
Steve Via	American Water Works Association	Washington, DC
Gina Wammock	Lakeview Strategic Services, LLC	Chicago, IL
Anita Weinberg	Loyola University Chicago School of Law	Chicago, IL
Nsedu Obot Witherspoon	Children's Environmental Health Network	Washington, DC

Appendix 2: Notes on Project Background

In 2017, a report by the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts, identified 10 policy recommendations and 70+ tactics that federal, state, and local governments could pursue to address the lead crisis. Subsequent to publishing the report, the authors and others sought to complement it with a more thorough analysis of the equity implications of policies to inform state and local policy processes.

Based on this need, as well as the reality that many lead poisoning prevention advocates and policy makers were in active policy discussions that lacked an explicit consideration of equity, the Joyce Foundation and other experts initiated a project to assess the equity impacts of key lead prevention policies.

The Joyce Foundation engaged and funded Human Impact Partners (HIP) to conduct the project. The goal was to: 1) understand the potential consequences of a set of housing and drinking water–related lead prevention policies for low-income communities and communities of color, and 2) identify potential policy mitigations to address these impacts. Funding from The Kresge Foundation supplemented this project.

In this appendix we describe:

- Project approach
- Participant roles
- Policy selection
- Consensus conference participant selection
- Equity analysis tool development

Project approach

HIP used a two-part model to undertake the project, employing an equity analysis and a consensus conference.

An equity analysis critically evaluates a policy, program, or plan (i.e., a decision) to assess whether there may be disproportionate burdens among marginalized communities, including people of color, low-income communities, and others. Equity analysis tools provide a structure for *how to* consider equity in decision making and help develop strategies to reduce inequities. Equity tools typically include multiple questions around process and outcomes.

A consensus conference typically consists of a structured meeting with a group (or panel) of community members and stakeholders who develop a set of recommendations on a topic that is of value and relevance to them. The set of recommendations is sometimes presented in the form of a consensus document.

The consensus conference approach relies on the active participation of a set of individuals to confer with subject matter experts, review evidence, and produce consensus findings on impacts and recommendations through open discussion. The process is structured through professional facilitation.

This document provides a description of the consensus conference process as a guide for policy advocates, funders, and others who may be unfamiliar with this tool for assembling and synthesizing knowledge from academic, clinical, and community-informed experts.

Participant roles

Human Impact Partners was responsible for:

- Managing the overall project approach and timeline
- Designing the equity analysis tool and Consensus Conference agenda
- Facilitating the Steering Committee and the Consensus Conference
- Drafting this report and related communications materials

HIP worked with Rebecca Morley (project consultant) and Elizabeth Cisar (the Joyce Foundation) to identify additional members of and establish a Steering Committee. The roles of steering committee members were to:

- Guide the project approach and timeline and provide feedback on project materials
- Decide on lead poisoning prevention policies on which to focus the equity analysis
- Provide guidance on consensus conference structure and agenda, identify and recruit meeting participants, and participate in the consensus conference

Steering Committee members included:

- Elizabeth Cisar, Joyce Foundation
- Anne Evens, Elevate Energy
- Kim Foreman, Environmental Health Watch
- Rebecca Morley, consultant, Robert Wood Johnson Foundation
- Juliana Pino, Little Village Environmental Justice Organization
- Kristi Pullen Fedinick, Natural Resources Defense Council
- Jumana Vasi, independent consultant; formerly CS Mott Foundation
- Steve Via, American Water Works Association

Policy selection

The Steering Committee identified a handful of lead poisoning prevention policies on which to focus the equity analysis.

To get a manageable scope, project staff started with the 10 recommendations and 70 tactics from the Pew report and narrowed the list using the following filters:

- Removing federal policy recommendations, because adoption could take longer and because the equity implications were more distal. The group thought that state and local decisions would have a greater potential impact on equity at the local level.

- Eliminating secondary prevention policies (blood lead testing) and tertiary prevention policies (providing services to children who have already been lead poisoned). The group elected to focus on primary prevention policies to have the widest and most long-lasting impact.
- Prioritizing lead in water and lead-based paint hazards as the primary sources of exposure. This meant the exclusion of policies addressing air and soil exposure.
- Prioritizing lead policies being actively pursued at this time in multiple states and municipalities across the United States, creating clear and direct opportunities to influence decision making.

On the basis of these criteria, the Steering Committee focused on the following policy topics:

1. Residential lead service line (LSL) replacement
2. Lead testing in water in schools and licensed childcare facilities
3. Testing and remediation of lead-based paint hazards in housing

The Steering Committee acknowledged — both during the selection process and then at the consensus conference — that they were not prioritizing any of these policies in relation to the others, or to any others that were not examined. The goal was simply to examine policies that were actively being considered at the state or local level.

To ensure that all participants had a baseline level of knowledge of each of the three policies, the Committee carried out two educational efforts in preparation for the meeting:

1. Development of a brief on each lead policy topic
    - The three briefs provided an overview of each policy concept, common elements or implementation mechanisms, examples of places that had implemented each one, and case studies of equity challenges and opportunities. Briefs were shared with consensus conference participants two to three weeks prior to the meeting.
2. Educational video calls for consensus conference participants
    - A video call for each policy provided a primer on the issues and goals and described common elements or implementation mechanisms. Participants could ask questions, and calls were recorded and shared with all conference members in advance of the meeting. The recorded webinars are a valuable resource, available at http://www.joycefdn.org/.

Selection of consensus conference participants

Traditionally, a consensus conference involves the participation of a small to medium-size group (20–30 participants) to gather and discuss issues related to a preselected topic. For a topic as complex as an equity assessment of lead prevention and reduction policies, it was essential to engage stakeholders from various sectors and geographies, and particularly leaders and experts from low-income communities and communities of color that are most affected. Stakeholders also included staff from water utilities, municipalities, and public health agencies; nonprofit advocates of safe and clean drinking water and affordable

housing; and community residents who are affected both by lead exposure and by policy interventions.

For this consensus conference, the Steering Committee identified potential participants and HIP did an explicit geographic and demographic analysis to ensure the conference invitees included a diverse group. A $1,000 honorarium was made available to participants and travel costs were covered. Ultimately, nearly 40 people attended the meeting from a mix of community, nonprofit, advocacy, academic, government, public health, and utility organizations. See Appendix 1 for a list of meeting participants.

While we were able to identify a diverse and robust group of participants, we acknowledge limitations in the overall process. We may not have accounted for key constituencies and leaders in water and housing policy, and the group was limited to 40 people because of the project budget and timeline.

Equity analysis tool development

The principal activity for the consensus conference was the completion of a collaborative, real-time equity analysis of the three prioritized policies. To conduct this, Human Impact Partners developed a tool for participants to use, drawing on its experience and using the following resources:

- Government Alliance on Race and Equity, *Racial Equity Toolkit: An Opportunity to Operationalize Equity* (2015)
- Annie E. Casey Foundation, *Race Equity and Inclusion Action Guide* (2014)

An equity analysis critically evaluates a policy, program, or plan (i.e., a decision) to assess whether there may be disproportionate burdens among marginalized communities, including people of color, low-income communities, and others.

In line with many common equity definitions, these analyses look at equity as both a process and an outcome and ask questions about who is affected, how they are affected, and what role they have played in determining the course of action. Importantly, these analyses also focus on identifying clear actions that decision makers can take to limit or mitigate potential impacts.

Many equity analysis tools — for example, those adopted by municipalities — are multipart, multistage tools that require the inclusion of data on existing conditions and stakeholder engagement over a period of time.

Given the complexity and thoroughness of these tools, our most significant challenge was enumerating a set of questions that people could reasonably answer within two 90-minute discussions. After Human Impact Partners drafted an initial tool, the Steering Committee gave multiple rounds of feedback that HIP incorporated into the tool. See Appendix 3 for the final equity analysis worksheet.

Consensus Conference Objectives and Framing

The two-day consensus conference was held on August 15–16, 2018, at the offices of the Joyce Foundation in Chicago. The goal of the meeting was to:

> **Explore the extent to which policy makers are implementing housing- and water-related lead prevention policies with consideration of equity impacts in low-income communities and communities of color, and make recommendations to improve equity considerations in those communities.**

To achieve this goal, we established the following four meeting objectives:

1. Participants will share stories, expertise, and wisdom about how their communities are impacted by three housing- and water-related lead prevention policies.
2. Participants will apply an equity lens to the three prioritized policies to elucidate how these policies may exacerbate or alleviate inequities.
3. Participants will come to consensus on the equity impacts of each of the three policies and outline at least three actionable recommendations to mitigate the impacts of each policy.
4. Participants will leave the meeting with at least one personal and/or organizational commitment toward using the information generated in the meeting.

HIP and the Steering Committee designed the agenda to ensure that each of these objectives would be achieved. We also engaged an external facilitation consultant, with expertise in facilitating meetings around lead policy, to provide feedback on the agenda broadly and the activities and tools specifically. See Appendix 4 for a participant agenda from the meeting.

At the meeting, HIP also described how the terms *consensus* was meant to be interpreted and used in the meeting setting. A few highlights:

- Consensus is both a process and an outcome.
    - In terms of process, consensus requires inclusive participation in an environment where all participants can engage in the activities and everyone has an opportunity for their voice to be heard.
    - In terms of outcome, consensus requires that the end results and agreements reflect individual and group reflection, interpretation, and decision making.
- For some participants, the word *consensus* can be interpreted as strictly a matter of agreement versus disagreement, depending on their experience with the term. Participants were reminded that in this meeting, there would be times when the group would reach agreement and times when it would not. HIP confirmed that this was okay and to be expected.
- Participants were not asked to leave the meeting in agreement with everything that was said, or to immediately prioritize the equity analysis findings and recommendations in their work.

After participants agreed on how the conference would operate within the consensus framework, they analyzed HIP's definition of *equity*. After discussion, the participants developed the following working definition:

> **Equity:** As an outcome, we achieve equity when identity no longer determines one's socioeconomic and life outcomes, and when people who need it most are prioritized to receive the resources they need to thrive. As a process, equity is when those most impacted by **historic and current** structural inequities are meaningfully engaged or represented in determining the issues to focus on, developing solutions to respond to those issues, and implementing those solutions.

Appendixes 5 and 6 provide an extensive summary of facilitated activities that occurred at the meeting, including how we set the stage to build relationships and trust among participants and how we conducted the equity analysis exercise in small groups.

Appendix 3: Equity Analysis Tool

Instructions:

Please use this worksheet to discuss and evaluate how policies and policy approaches focusing on lead exposure prevention (i.e. residential lead service line replacement, lead water testing in schools/childcare, lead paint testing/abatement in homes) are carried out with consideration of low-income communities and communities of color.

- *Draw on the policy brief case studies and experiences you understand from your community.*
- *Use the definition of equity below to guide your understanding of what makes a process or outcome equitable.*

  Definition of Equity: As an outcome, we achieve equity when identity no longer determines one's socioeconomic and life outcomes; when everyone has what they need to thrive. As a process, equity is when those most impacted by structural inequities are meaningfully involved in the creation and implementation of the institutional policies and practices that impact their lives.

Facilitator + Note-taker Roles:

- Residential lead service line replacement
  - Facilitator: Elizabeth Cisar
  - Note taker: Sukh Purewal Boparai
- Lead water testing in schools/childcare facilities
  - Facilitator: Lili Farhang
  - Note taker: Yeri Shon
- Lead paint testing/abatement in homes
  - Facilitator: Rebecca Morley
  - Note taker: Andrea Pugh

Introduction

(5 minutes)

1. In 1-2 sentences, go around in a circle and briefly say how you are working on this policy topic.

Policy development phase effects

(25 minutes)

2. Who typically has access to the policy development and decision making process? To what extent do people most affected by the issue shape policy-making and/or see their concerns addressed in policy-making?

3. What information do decision-makers typically consider in relation to adopting the policy, including levels of exposure risk for communities and potential equity impacts?

Policy implementation phase effects

(30 minutes)

4. What could be the potential unintended impacts of these policies? Please fill in the tables attached at the end of the worksheet, there is one table per policy type

- *Compare and contrast the different policy approaches listed in the first column of the tables at the end of the worksheet*
- *Describe impacts at individual, family, community, and institutional levels (e.g., health impacts, financial impacts, etc).*

5. Who could be disproportionately harmed under the policy? Who could disproportionately benefit under the policy?

6. How is equity factored into implementation (e.g., funding, personnel, public engagement, communication, monitoring, accountability)?

Recommendations + Mitigations: Addressing policy development and implementation effects on equity

(30 minutes)

7. How could decision-makers prevent the potential unintended impacts these policies create for low income communities and communities of color? Who should have access to the process? What info. should be considered?

8. What complementary and/or alternative policies are needed to address identified impacts? What about in implementation (e.g., who should implement, funding, public engagement, communication, monitoring, accountability)?

9. What preconditions (e.g., legislation, policy, funding, etc.) are necessary to get such policies in place? What challenges would we have to overcome?

Policy: Residential Lead Service Line Replacement

Potential Impacts of Residential Lead Service Line Replacement				
Policy approach	***On individuals***	***On families***	***On communities***	***On institutions***
(Non) Disclosure of presence of LSLs prior to property sale or rental of residential housing				
(Lack of) Public knowledge or access to available information as to which homes have LSLs				
(Lack of) Specific mechanisms to pay for full LSL replacement (e.g. homeowner ratepayer increase, loan or grant programs)				

Policy: Lead Water Testing in Schools/Childcare Facilities

Potential Impacts of Lead Water Testing in Schools/Childcare Facilities				
Policy approach	***On individuals***	***On families***	***On communities***	***On institutions***
Testing in schools				
(Not) Requiring schools to test for lead on a regular basis and disclose the results to families with children				
(Not) Requiring schools to remediate lead levels above a level of concern				
Testing in childcare facilities				
(Not) Requiring licensed vs. unlicensed childcare sites to test for lead on a regular basis and disclose the results to families with children				
(Not) Requiring licensed vs. unlicensed childcare sites to remediate lead levels above a level of concern				

Policy: Lead Paint Testing & Abatement in Homes

Potential Impacts of Lead Paint Testing & Abatement in Homes				
Policy approach	***On individuals***	***On families***	***On communities***	***On institutions***
Required inspection and abatement for certain types of residences over others (e.g. small rental units, vs. larger units, or rental units vs. privately owned homes)				
(Lack of) Legal protections and financial resources for low-income tenants				
(Lack of) Funding for low-income landlords and homeowners for lead paint inspection and abatement				
(Lack of) Landlord participation in rental registries, and (lack of) systematic code enforcement in cities				

Appendix 4: Consensus Conference Agenda

Meeting Location:
The Joyce Foundation
321 North Clark Street, Suite 1500
Chicago, IL 60654

Goal:
Explore the extent to which policy makers are implementing housing- and water-related lead poisoning prevention policies with consideration of equity impacts in low-income communities and communities of color, and make recommendations to improve equity considerations in those communities.

Objectives:
1. Participants will share stories, expertise, and wisdom of how their communities are impacted by three housing- and water-related lead prevention policies.
2. Participants will apply an equity lens to three prioritized policies to elucidate how these policies may exacerbate or alleviate inequities.
3. Participants will come to consensus on the equity impacts of each of the three policies and outline at least three actionable recommendations to mitigate the impacts of each policy.
4. Participants will leave the meeting with least one personal and/or organizational commitment toward using the information generated in the meeting.

Definitions:
- **Equity:** As an outcome, we achieve equity when identity no longer determines one's socioeconomic and life outcomes; when everyone has what they need to thrive. As a process, equity is when those most impacted by structural inequities are meaningfully involved in the creation and implementation of the institutional policies and practices that impact their lives.
- **Consensus:** An approach and process that assures inclusive participation based on respect for the collective wisdom of the group. Each participant has an opportunity for their voice to be heard and for the consensus or results of the convening to be reflective of individual and group reflection, interpretation, and decision making.

Day 1: August 15, 2018	
8:30	Arrival + Breakfast
9:00	Welcome + Opening
9:20	Introductions
9:50	Setting Our Values + Intentions
10:50	Break
11:00	Share Our Definition of Equity + Group Discussion
11:30	Review Policies + Share Our Stories
12:30	Lunch
1:00	Introduce Small Group Work + Equity Lens Questions
1:30	Apply the Equity Tool to Understand Policy Impacts — Group 1
3:00	Break
3:15	Apply the Equity Tool to Understand Policy Impacts — Group 2
4:45	Closing
5:15	Adjourn

Day 2: August 16, 2018	
8:30	Arrival + Breakfast
9:00	Welcome + Overview
9:20	Values Check-in
9:45	Synthesizing Findings + Recommendations of Our Equity Analysis (Part 1)
10:45	Break
11:00	Synthesizing Findings + Recommendations of Our Equity Analysis (Part 2)
12:30	Lunch + Joyce Foundation Art Walk
1:30	Using Our Findings + Recommendations
2:15	Break + Gallery Walk
2:30	Prioritizing What Comes Next
3:15	Evaluation, Next Steps + Closing
4:30	Adjourn

Appendix 5: Meeting Activities to Set the Stage

Joyce Foundation President Ellen Alberding opened the meeting by welcoming everyone into the space and highlighting the foundation's commitment to advancing racial equity and economic mobility for the next generation. She also explained why an equity analysis was important to the Foundation and to the movement for environmental and health equity more broadly. Human Impact Partners provided a high-level overview of the agenda and objectives and shared appreciations for the Steering Committee, the HIP staff team, and key facilitators.

The facilitators then moved on to a series of activities and exercises that included:

1. Building relationships
2. Setting values and intentions
3. Defining *equity*
4. Reviewing policies and sharing stories

Building relationships

Our first activity to facilitate relationship-building was through deeper introductory questions that allowed participants to learn more about one another. Participants were asked to share their name and organization and respond to two prompts:

- One non-work thing you can't tell just by looking at me is:_____
- When I think about equity, one word that comes to mind is: _____. (These word responses were written on flip chart paper).

Figure 1. Collective responses to the "When I think about equity, one word . . ." exercise

When I think about equity, one word that comes to mind is:

Justice ++	Inclusion	Unfettered access
Visibility +	Integrity	Power giving / Ownership
Fairness +	Tension	Foundational
Power +	Worth	Self-fulfillment
Empathy	Accountability	Empowerment
Essential	Opportunity	Potential
Struggle	Pipe dream	Uphill battle
When + hope	Opportunity	No disparities
Voice	Reparations	Shrinking gap b/w haves + have nots
Place	Structural	West Philly
Structural	Why not for everyone?	

Setting values and intentions

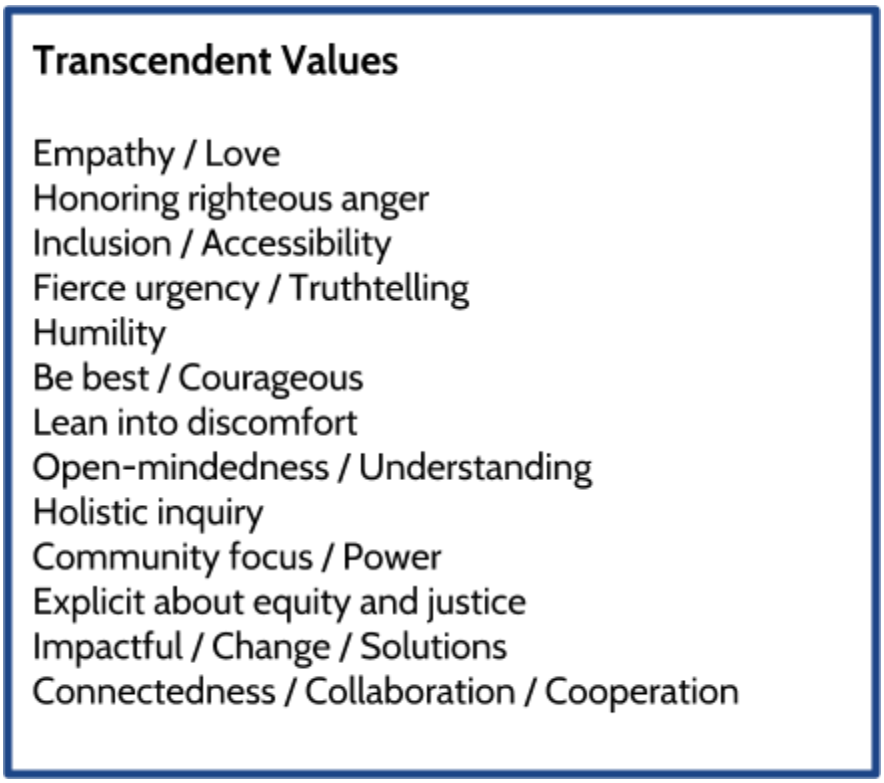
Because the meeting included participants from so many sectors, including communities that are most impacted by lead exposure, we wanted to ensure ample time to co-create our group norms and ways of being together. It was also important to learn about and understand people's inner motivation and purpose in doing lead policy work.

To that end, we designed and facilitated a one-hour exercise to help "Set Our Values and Intentions." The explicit purpose was to name how the group wanted to work together over the two days and to build an understanding of one another's perspectives.

The value-setting exercise consisted of three parts:

- Part 1, Individual free thinking and reflection
  Participants were asked to name their greatest hopes for the two days together, their concerns for their two days together, and five values the group should embrace as they worked together over the next two days. A sample list of values was provided to help with this last question.
- Part 2, Small-group work
  - Participants met in small groups to work on a statement of values. Each individual shared their greatest hopes, their fears, and five priority values from their worksheet. Together each group drafted a statement of values: The values that will guide how we work together over the next two days and assure equity in lead poisoning prevention policies are:_____, _____, _____, _____, _____
- Part 3, Large-group sharing
  One person from each group shared their group's values statement. Then, through a facilitated discussion and looking for patterns across all the small-group report-backs, meeting participants identified a set of transcendent values to guide their work together at the meeting. These were documented on flip chart paper, and the group verbally agreed to try and embody them in their interactions with one another and in their contributions to the group.

Figure 2. Transcendent Values



Defining equity

After participants set their values and intentions, Human Impact Partners reviewed its working definition of *equity* to ground everyone in the driving framework of the equity analysis:

> **Equity (original definition):** As an outcome, we achieve equity when identity no longer determines one's socioeconomic and life outcomes; when everyone has what they need to thrive. As a process, equity is when those most impacted by structural inequities are meaningfully involved in the creation and implementation of the institutional policies and practices that impact their lives.

We then asked meeting participants for feedback on the definition, making clear that we were committed to it broadly because of its clarity and emphasis on both process and outcomes. After a facilitated discussion to improve the clarity of the definition, we asked what parts of the definition people appreciated, what they were less sure about, and the implications of the definition for our equity analysis.

Participants suggested substantive additions/clarifications, a few of which are listed here:

- We should be explicit about historic and current factors driving inequities
- "People" should determine the process of policy creation/implementation, and those who are most impacted should be prioritized
- Lived experience should be valued
- The term *thrive* was too subjective; this is really a continuum
- Youth perspective (in the context of childhood lead exposure prevention work) should be emphasized more, or recognized as needing to be represented, given our responsibility to them

HIP then made revisions to the original definition to integrate the feedback that was most manageable to integrate in real time:

> Equity **(revised definition,** with additions in green**):** As an outcome, we achieve equity when identity no longer determines one's socioeconomic and life outcomes, and when people who need it most are prioritized to receive the resources they need to thrive. As a process, equity is when those most impacted by historic and current structural inequities are meaningfully engaged or represented in determining the issues to focus on, developing solutions to respond to those issues, and implementing those solutions.

Reviewing policies and sharing stories

The purpose of reviewing policies and sharing stories was to familiarize participants with the policy briefs and issues and have them learn about how the policies play out in communities disproportionately affected by lead exposure.

The section began with Rebecca Morley, an independent consultant and member of the Steering Committee, reviewing the technical details about each policy. Rebecca also had facilitated the pre-meeting video calls and used content from those to reinforce key information about the policies.

Following Rebecca, three community members described how they came to understand each policy issue, what their personal and community experience with lead issues was, and their vision of what was need to address environmental issues in their communities. The three speakers were:

- Kim Foreman, Environmental Health Watch, Cleveland, OH
- Melissa Mays, Water You Fighting For, Flint, MI
- Juliana Pino, Little Village Environmental Justice Organization, Chicago, IL

At the conclusion of these reflections, meeting participants took a moment to acknowledge the gravity and resiliency inherent in Melissa's, Kim's, and Juliana's stories of their and their communities' experiences as impacted by lead.

Participants offered words of support, concern, frustration, and motivation, and many agreed that deeper and more meaningful commitments were necessary to address the acute and long-term exploitation, suffering, and trauma stemming from lead and other environmental exposures.

Appendix 6: How We Conducted the Equity Analysis

Meeting participants completed the equity analysis exercise in small groups. Prior to the consensus meeting, Steering Committee members determined who would be in each small group, with an eye toward ensuring a mix of different areas of expertise, geography, and identity in each group. Each group had approximately 12 to 14 participants. Participants were given an opportunity to change groups if they wanted to.

Session I: 1:30–3:00 PM (90 minutes)	Session II: 3:15–4:45 PM (90 minutes)
Small group 1 (lead service lines)	Small group 4 (lead service lines)
Small group 2 (lead in schools/childcare)	Small group 5 (lead in schools/childcare)
Small group 3 (lead in household paint)	Small group 6 (lead in household paint)
Note: The exercise to apply the tool was conducted in two consecutive 90-minute sessions. Three policy groups worked simultaneously (one for each policy) and participants rotated through two consecutive policy analyses. By the end of the day, every participant had reviewed two policies.	

Human Impact Partners assigned group facilitators and note takers advance, and these individuals received extensive prep before the activity. The role of facilitators was to move the conversation along and document key points on flip chart paper. Steering Committee members participated in the exercise and provided backup facilitation support based on their understanding of the activity and tool.

All participants received the equity tool worksheet (Appendix 3) and hard copies of the policy briefs. Once participants moved into their assigned groups, facilitators described the equity analysis exercise and reminded participants of the equity definition.

Facilitators also provided the following important caveats to the small groups:

- **Don't aim to be perfect or exhaustive.** The goal was to keep the process moving and not dwell on or debate every point.
- **Don't worry about prioritizing.** Participants were encouraged to share strong feelings about ideas, but not to focus on which ideas were better or worse.
- **Don't worry about technical debates.** The group was not weighing impacts and recommendations against one other or weighing the biggest sources of exposure.

Participants then went on to discuss and respond to questions in their small groups. They generated findings by discussing their own expertise and experience, reviewing background materials, and having extensive group dialogue. The content of those discussions is reflected in this report's sections on impacts and recommendations.

After the small-group work, the first day of the meeting came to an end with a brief evaluation and summary of what to expect in day two. Facilitators and note takers worked together afterward to synthesize and organize findings and recommendations to present and discuss the next day.

On the second day, the full group engaged in exercises and discussion to identify patterns and gaps. Participants made many suggestions to improve how impacts were described and to include impacts that were missing. At the end of this discussion, meeting participants came to agreement that this list of potential impacts represented areas of concern that lead policy stakeholders — including academics, advocates, funders, policy makers, and others — should pay increased attention to and seek to prevent. Proposals for mitigations and recommendations for *how* to do this were extensively identified and discussed and are presented in the main body of this report.

Appendix 7: Notes from Next Steps Discussion

Participants spent the last part of the meeting identifying next steps and actions that Human Impact Partners, the Steering Committee, and they themselves could take.

Human Impact Partners initiated the discussion by sharing what it had initially committed to doing as part of the project: documenting the meeting proceedings, providing participants an opportunity to review the document, and making the proceedings publicly available.

Beyond that, however, HIP and the Steering Committee did not have a clear sense of what participants desired. To explore this further, participants broke into small groups and discussed what they wanted HIP and the Steering Committee to do coming out of the meeting and how they imagined meeting content should be disseminated.

Based on the small-group discussions and their observations of where there was most momentum and interest among participants, HIP and Steering Committee members identified these next steps:

- **Develop a thorough report** to document meeting proceedings, along with impact findings and recommendations.
    - The audience for the report would be lead stakeholders, including community, policy, advocacy, and academic entities.
    - HIP agreed to prepare a timely draft (within two months), provide a structured format for participant review and feedback, and take comments through a variety of formats (e.g., email, phone calls, handwritten/scanned notes).
    - HIP also agreed to engage several external peer reviewers for the report to provide opportunities for people who were not invited to give feedback on findings.
- **Develop companion materials, including:** 1) a summary of policy recommendations, call to action, and talking points for communities to use in advocacy, and 2) a summary of policy recommendations targeted to decision makers specifically.
    - Meeting participants agreed to provide input on and review the content for the companion material.
    - Along with the report, these materials would be posted on the Joyce Foundation website.
- **Coordinate a process for organizational review, sign-on, and endorsement:** Not all participants could necessarily commit their organizations to support the findings and recommendations in the report. Therefore, HIP agreed to create a process by which participants could sign on as organizations for the companion materials.

- **Consider how the group could continue the conversation.** Many participants encouraged meeting organizers to reconvene the group and continue the conversation.
    - HIP and Steering Committee members could not commit to reconvening the group necessarily, but they did commit to discussing potential avenues, settings, and facilitators for this possibility.
    - As part of this, HIP and Steering Committee members agreed to have an honest conversation around the purpose, value, roles, and expectations of convenors and participants if this group were to continue.
- **Develop a participant list** including photos, biographies, and email addresses to support networking among participants. This could include a menu of roles for participants related to what they could do with the recommendations developed.

In addition to making policy recommendations, the consensus conference participants suggested that the effort to reduce lead exposure could be strengthened with the following actions:

- Build a community of practice to provide support for all practitioners working to reduce lead exposure and facilitate shared learning from different localities
- Create routine mechanisms to actively build connections between groups that are not often in the same gatherings
- Develop a brain trust for bringing up important lead issues

There was strong encouragement, particularly from the community participants, for funders to develop a more coordinated funding strategy around lead. That funding could be used to accomplish the following:

- Develop a strategic vision and action plan for a national lead campaign
- Develop a communication strategy around lead and equity
- Create a national alliance/network/partnership to develop and share resources
- Convene community-based organizations specifically to consider the equity implications of lead policy
- Identify gaps in conference participation and widen the group to include those who were left out
- Create guidance for meaningful community engagement in lead policy

Appendix 8: Technical Resources

Resources on general lead prevention and policy

1. Council on Environmental Health, "Prevention of Childhood Lead Toxicity," *Pediatrics* 138, no. 1 (2016), http://dx.doi.org/10.1542/peds.2016-1493.
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Resources on lead service line replacement

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