



A Time of Opportunity: Water, Health, and Equity in the Los Angeles Region

Executive Summary

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The Los Angeles region is reimagining its water infrastructure to meet the needs of a growing population in the face of increasingly unreliable water supplies and a changing climate. County leaders are working on a multi-pronged initiative to establish a resilient water future by increasing drought preparedness and local water self-reliance, improving water quality to protect public health, and advancing communities' ability to adapt to the effects of climate change. At the state level, California legislators have codified access to clean, affordable, and sufficient water as a human right.² Water issues are in the public consciousness like never before, offering an opportunity to address longstanding underinvestment in infrastructure and outdated approaches to water management.

The water challenges facing the region are experienced differently in different communities across Los Angeles County, with low-income communities of color bearing

“Health equity means that every person, regardless of who they are—the color of their skin, their level of education, their gender or sexual identity, whether or not they have a disability, the job that they have, or the neighborhood that they live in—has an equal opportunity to achieve optimal health.”

—Braveman, Kumanyika, Fielding, et al., 2011¹

the burdens of inequitable access to safe, clean, and reliable water. While County leaders are focused on a storm water funding measure to address their legal

¹ Braveman, P. A., Kumanyika, S., Fielding J., LaVeist, T., Borrell, L. N., Manderscheid, R., & Troutman A. (2011). Health disparities and health equity: The issue is justice. *American Journal of Public Health*, 101(Suppl 1), S149–S155.

² California Environmental Protection Agency. (2017). *Human right to water*. State Water Resources Control Board.

Access to safe, clean, and affordable drinking water is a critical determinant of health, with social, economic and environmental consequences.

responsibility to improve water quality in streams and rivers, many families are coping with water coming out of their taps that is unsafe or unappealing to drink. We believe that these are two sides of the same issue: as agencies pursue integrated water management, addressing how the public perceives and interacts with water issues is critical to galvanizing broad-based support for new public investments in water infrastructure including voter-approved finance measures, particularly in the region's underserved areas.

Access to safe, clean, and affordable drinking water is a critical determinant of health, with social, economic, and environmental consequences. To better understand these issues and the landscape in which environmental advocates, public health professionals, community-based organizations, academic institutions, and government agencies are working to address the intersections between water, health, and equity, Prevention Institute conducted a series of 14 key informant interviews and a rapid review of the literature. We found broad awareness of the need to integrate health equity into water policy, but also a fractured advocacy and governance landscape that poses barriers to maximizing benefits and addressing water issues holistically.

As with most regional policy issues, there are stark inequities along racial, class, and geographic lines in water quality issues. Low-income communities of color are often disproportionately affected by contaminated soil and aquifers as well as inadequate

or unmaintained infrastructure. The negative health impacts of these exposures are often compounded by concurrent exposure to other environmental health risks. In other words, the residents who are most likely to live with contaminated water are also most likely to face over-concentrated air pollution and soil contamination in their communities. These cumulative impacts result, overall, in worse health outcomes for low-income people and people of color, particularly those living in small, low-income cities in South and Southeast LA County as well as parts of the San Gabriel Valley, east San Fernando Valley and the Antelope Valley.³ Given these issues, it is not surprising that distrust of tap water is pervasive among low-income families and people of color. According to the 2015 American Housing Survey, 30 percent of Hispanic households and 25 percent of Black households in the Los Angeles-Long Beach Metro Area reported that their water is not safe to drink, compared to only 12 percent of Non-Hispanic White households.⁴ While many experts believe these concerns are overstated, even the perception of undrinkable water has health and environmental consequences, leading people to buy expensive bottled water and sugar sweetened beverages; further, it likely undermines public willingness to invest in the water system.

Inequities also extend into the storm water arena. Untreated urban runoff is a significant source of water pollution affecting the region's rivers and beaches. Researchers have found that exposure to polluted waters at beaches in Los Angeles and Orange Counties leads to as many as 1.4 million excess gastrointestinal illnesses—and \$51 million in health related costs—each year.⁵ Additionally, in low-income communities of color with limited access to parks and open spaces, rivers and streams function as informal recreation areas, and contact with polluted water poses health and safety risks. Low-income communities of color also experience greater flooding risks from inadequate or outdated

³ Key informant interview.

⁴ U.S. Census Bureau. (2015). *American housing survey*.

⁵ Given, S., Pendleton, L. H., & Boehm, A. B. (2006). Regional public health cost estimates of contaminated coastal waters: A case study of gastroenteritis at Southern California beaches. *Environmental Science & Technology*, 40(16), 4851-4858.

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Photo credit: Andrea Jaramillo

storm drain infrastructure, a problem that climate change threatens to exacerbate through more frequent episodes of concentrated and intense rainfall.

While there is increased understanding about the connections between drinking water, groundwater, and storm water, the regulatory system has not caught up. Counterintuitive for most of the public, each so-called “type” of water (drinking water, groundwater, storm water, wastewater, etc.) is governed by a different set of agencies that may or may not coordinate in their respective roles. Agencies of different sizes and funding levels have highly variable capacities to deliver quality, cost-effective services in this complex regulatory environment, with small water systems typically underperforming. No single agency has the authority or responsibility to ensure that the whole system is managed efficiently or equitably. Missing from many of these conversations is a strong public health perspective which can provide relevant data, a framework, and

convening capacity for a more holistic approach to a systemic issue like water. Yet, for both historical and political reasons, funding, strategic prioritization, and regulatory structures hamper public health departments from more fully exercising their regulatory authority.

The key opportunity at this moment is to capitalize on recent attention to water issues to ensure that the fundamental human right to water is extended equitably to all communities across the region. We can begin to remedy water-related inequities by creating a new paradigm that addresses and manages water from a holistic standpoint, with health and equity outcomes established with clarity and intentionality. No longer should we approach our drinking water, groundwater, storm water, and wastewater as divided systems. With new advances in policy and best practices in integrated water management, we have an unprecedented opportunity to recognize all forms of water as components of an integrated whole. We can use a holistic perspective to better manage public resources, deliver stronger projects with multiple benefits, and strengthen engagement of all relevant stakeholders to move from piecemeal to comprehensive solutions. This will require innovative policy and systems change solutions, as well as major investments in physical infrastructure and small water systems’ monitoring, maintenance, and technical capacities. It will also require meaningful and long-term investments in ‘social infrastructure’ including community-based



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organizational capacity, multi-sector collaboration, and resident engagement—all of which are pillars of a health equity approach. This approach necessitates suspending the paradigm that drinking water and storm water are two separate systems and working in solidarity with the low-income communities and communities of color that are currently more likely to mistrust our water systems, over-rely upon sugar sweetened beverages as an alternative to tap water, and lack the ‘green’ storm water infrastructure that benefits other, typically more affluent and disproportionately White communities.

These recommendations provide a path forward toward creating the needed paradigm shift in water policy and management:

1. Cultivate a new narrative that links all aspects of water.

Organizations and agencies should take a watershed approach to all aspects of their work. This paradigm shift has technical and political implications that all stakeholders should embrace, not shy away from. The fact that storm water feeds into the drinking water system makes storm water issues directly relevant to everyone’s lives. To maximize success, efforts to increase broad-based support in the region for water quality, capture, management, and resilience should prioritize public health and health equity, and explicitly engage low-income communities and people of color. Drinking water is a particularly salient issue in low-income communities of color where water quality and cost concerns are paramount. Proponents of new public investments in water infrastructure must be willing to engage with the issues that communities are raising, even if they don’t fit within the silos that agencies are accustomed to operating within.

2. Incorporate health equity provisions into future water funding measures.

New public investments in water infrastructure offer a critical opportunity to both improve the physical conditions that play a significant role in shaping health and quality of life, and allocate resources in a manner that strengthens infrastructure in high-need communities and advances health equity. For example, a mix of green and traditional infrastructure



Photo credit: City of Los Angeles Sanitation

Green infrastructure investments can also enhance community stability and economic opportunities through broadly accessible jobs for people most in need and career pathways for women and people of color.

approaches has a greater likelihood of achieving equity while addressing storm water pollution in the region. Distributed, multi-benefit infrastructure that mimics natural processes for capturing and cleansing storm water runoff offers important benefits that address multiple determinants of health for the entire county, not just the communities where projects are located. When one part of the system is weak, it weakens the entire system. Green infrastructure investments can also enhance community stability and economic opportunities through broadly accessible jobs for people most in need and career pathways for women and people of color. By prioritizing public resources for high need, low-income areas of the county, these investments could maximize these co-benefits and establish useful models for the future.

3. Support innovative policy and system change solutions using local authority.

Though achieving equitable health and safety outcomes requires effective policy efforts at every level, the processes and outcomes associated with local policy can be a pivotal force for protecting public health and ameliorating longstanding inequities. Ideas for local policy advocacy and systems change innovation that emerged from our research include:

- Advancing local agency action on drinking water problems in response to evidence of discolored, foul tasting tap water that residents are unwilling to drink, beyond a strictly regulatory approach;
- Strengthening regulatory oversight over polluted discharges to groundwater, including monitoring and reporting as well as enforcement of penalties for legal violations;
- Strengthening State regulatory standards to facilitate local action on drinking water contamination;
- Addressing soil and groundwater contamination in policy efforts to address over-concentrations of polluting land uses; and
- Conducting a health impact assessment focused on the consolidation of small water systems in the Los Angeles region.

4. Invest in community capacity to address water-related health inequities.

Meaningfully addressing water issues with a health equity lens requires elevating community voices, participation, and leadership. For many institutions and agencies, this will require a new way of working with low-income communities of color and the groups that represent their interests, as well as embracing the models of community outreach, engagement, and advocacy that they are already expert in implementing. An essential first step in this paradigm shift involves meaningful, long-term investments in community-based organizations working in or with low-income communities of color and supporting the approaches they have traditionally used to achieve community transformation. Increasing the capacity

of individual organizations to work on drinking water quality, affordability, flooding, and climate change impacts, as well as expanding the number and geographic distribution of organizations working in these communities on the full range of water issues, is fundamental to building a stronger regional movement for water resiliency.



5. Formalize collaboration among agencies, academics, non-profit leaders, and other stakeholders.

Despite the region's embrace of integrated water management and its focus on providing environmental, economic, and social benefits in an equitable and sustainable manner, those working on water in the region remain deeply silo-ed. These divisions create structural barriers to building a strong, diverse, and inclusive regional movement for water quality, capture, and resiliency. Multi-sector engagement and collaboration is a best practice that should serve as a cornerstone in advancing effective outreach, engagement, and advocacy for future water infrastructure in the region. Water-related disparities and health inequities do not have a single cause, and no one institution or sector alone can identify or advance the comprehensive solutions required to address these difficult challenges within the exceedingly complex water milieu. Multi-sector collaboration is a very specific form of fostering connections across different disciplines and types of organizations that can work to identify a shared vision and common goals, and advance shared solutions. Multi-sector collaboration also expands available resources, strategies, and capabilities to achieve outcomes that could not be accomplished by one institution or sector alone.⁶

6. Expand and enhance the role of public health in regional water efforts.

The enduring connection between clean and safe water, good health, and community well-being positions the public health sector as a key player in advancing water quality, capture, and resiliency initiatives in the LA region. Public health agencies and organizations can add value to outreach, engagement, and advocacy strategies for future water infrastructure investments through their technical expertise and the work they do in and with communities. Public health perspectives backed by compelling data provide credibility to water-related decision-making processes and elevate the importance of ensuring healthy community conditions for all County residents. With internal infrastructure already in place that focuses on water quality, health equity, community engagement, and facilitation of diverse partnerships with many of the community-based organizations that work in and with low-income communities of color, the County Department of Public Health is well suited to be a key player in the multi-sector collaborative activities described above, in addition to taking an active participatory role in integrated water management activities overseen by other agencies.

7. Develop a peer learning/strategy network among mainstream environmental groups and community-based organizations.

The findings from this research effort shed light on the need to build capacity across the board in the non-governmental sector as a means to strengthen the regional water movement. While ad hoc collaboration and limited subcontracting does occur between mainstream environmental groups and community-based organizations, what does not appear to be happening is ongoing peer learning and strategic planning that builds shared understanding and institutional capacity in a mutually beneficial manner to strengthen the regional water movement. The development and implementation of a peer network would deepen working relationships across sectors and increase practical knowledge about the inter-relationship of priority storm water and

drinking water issues in the region. Working together, such a network could develop strategies that build the necessary power to address the impact of water-related health inequities on vulnerable communities through policy, systems, and environmental change, including infrastructure investments.

8. Conduct a robust, culturally competent public education initiative to build awareness and understanding of water issues.

Public health and public infrastructure initiatives have successfully utilized strategic public education campaigns as a means of increasing awareness about health problems, changing community norms, and creating conditions conducive to policy, systems, and environmental change. In our research, key informants consistently mentioned an ‘education gap’—an overall lack of awareness in the region about water issues, problems, and solutions—and the need for a comprehensive public education campaign that makes the water system easier for people to understand and promotes the linkages between clean and safe water, good health, and community well-being. The ideal public education campaign would include broad framing focused on these linkages as well as more focused



Photo credit: Umberto Brayj

⁶ Prevention Institute. (2016). [Countering the production of health inequities: North star – five priorities for achieving health equity in the US.](#)

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messages targeting key sectors such as city officials and elected officials, small business owners, specific geographic regions, and hard-to-reach populations including non-English speakers, immigrants, and low-wage earners.

9. Improve data collection, research, and documentation of water-related health inequities, especially through participatory action research.

Across the board, there was agreement among key informants about the lack of sufficient data regarding water, health, and equity issues, particularly drinking water inequities. The lack of timely, authoritative, and accurate data is a critical structural barrier that inhibits awareness of water quality problems, advocacy action, as well as the development and implementation of effective policy, systems, and environmental change solutions from the ground up. Academic researchers and community-based organizations working with impacted residents can advance participatory action research initiatives to further characterize the extent of water-related health inequities, in terms of the places and populations impacted, what needs to change, and comprehensive, evidence-informed strategies to reverse them. Given the multitude of potential causes for poor water quality, funding such participatory action research on drinking water quality, especially in partnership with relevant regulatory agencies, could be a cost effective starting point for isolating the nature of such problems—pre-meter or post-meter—as well as relevant solutions.

Looking Ahead: Realizing the Vision of Clean, Affordable, and Sufficient Water for All

Water resilience is an ambitious goal for LA County. This monumental undertaking to reshape the region’s water supply has significant implications for every community in the county, but even more so for those that already bear the burdens of inequitable access to safe, clean, and reliable water. Meaningful participation of these communities goes beyond basic outreach and engagement; it requires long-term investments to build capacity, resident leadership, and organizational infrastructure for water, health, and equity in these communities and the institutions that have historically represented them in achieving justice. These and the other evidence-informed best practices recommended here will create the conditions conducive for highly effective multi-sector partnerships and co-production of comprehensive, culturally competent strategies to achieve a water resilient future for the LA region and access to clean, affordable, and sufficient water for all.

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Prevention Institute is a focal point for primary prevention, dedicated to fostering health, safety, and equity by taking action to build resilience and to prevent problems in the first place. A national nonprofit with offices in Oakland, Los Angeles, and Washington D.C., we advance strategies, provide training and technical assistance, transform research into practice, and support collaboration across sectors to embed prevention and equity in all practices and policies. Since its founding in 1997, Prevention Institute has focused on transforming communities by advancing community prevention, health equity, injury and violence prevention, healthy eating and active living environments, health system transformation, and mental health and wellbeing.