



Stormwater, Health, and Equity

What does stormwater have to do with health?

When rain falls in urban areas, it flows over streets, freeways, parking lots, and other surfaces before entering waterways. Along the way, stormwater picks up trash, as well as heavy metals, harmful bacteria, animal waste, motor oil, pesticides, fertilizers, and other pollutants. Exposure to contaminated stormwater from street runoff or standing water, or at streams, lakes, or beaches, can make people sick, causing gastroenteritis, respiratory illnesses, eye, ear, and skin infections, and other illnesses—with children, the elderly, pregnant women, and people with weakened immune systems at greatest risk of becoming ill.

Too many communities lack the resources to capture and clean stormwater. This means that a valuable and—in our fast-changing climate—increasingly volatile natural resource often ends up wasted. No matter what other water issues a region faces, stormwater matters. In drought-prone regions, failing to capture stormwater may mean that communities can't meet their demand for water. In regions at risk of flooding, failing to capture stormwater can cause extensive damage, threaten health and safety, and take lives. Untreated stormwater poses serious risks to human health and the environment, especially in low-income communities and communities of color that are overburdened with other pollution sources.

While contaminated stormwater poses risks for everyone, communities aren't equally affected.

Urban communities, particularly those that are majority people of color and low-income and that have suffered persistent public disinvestment, tend to be disproportionately paved over, with fewer parks, open spaces, and other permeable surfaces available to absorb stormwater and filter contaminated urban runoff. These communities often face other environmental health burdens associated with disinvestment, like exposure to pollution and toxins from freeways, landfills, and factories. These factors expose residents to serious health risks. In these neighborhoods, untreated stormwater can:

- **Pollute water supplies and cause flooding and other disruptions to community life.** Without means of diverting and capturing stormwater, neighborhoods flood. Floods can pollute water supplies, knock out electricity, damage property, expose people to toxins and dangerous bacteria, and interrupt access to transportation, education, and healthcare services. Capturing and cleansing stormwater will ensure that more people have access to safe, clean water now and in the future.
- **Strain local government budgets.** Many communities face increasing pressure to capture more stormwater to meet federal and state water-quality standards, increase water supply, and reduce flood impacts. Low-income jurisdictions carry the same regulatory burden as wealthier jurisdictions with greater means to comply with regulations and typically enjoy better water quality and higher land values. Effectively managing stormwater means navigating a web of water utilities, regulatory agencies, businesses, nonprofits, and more—often without the benefit

of dedicated funding.

Most stormwater policies don't consider health equity and environmental justice.

Many existing stormwater policies do not take health equity and environmental justice into account and exclude communities that are most affected by stormwater mismanagement from the decision-making process. Policymakers typically believe stormwater is solely a problem related to runoff into oceans, bays, and streams, not a problem that can cause flooding and spread disease in communities that have been largely paved over. That means members of these communities are not offered a seat at the table where stormwater policies are being discussed. State and federal regulatory agencies also often don't recognize the ways communities are unequally affected by stormwater, and sometimes design one-size-fits-all policies that make the situation worse.

Changing how we manage stormwater has the potential to preserve access to water for future generations; prevent unnecessary illnesses, injuries, and damage to communities; and increase investments in green, climate-resilient infrastructure, with a focus on communities where these kinds of investments are most needed.

What can we do?

As extreme weather conditions become the new normal, we need to cleanse and save stormwater for future use while protecting all communities from flooding and exposure to contaminated water. Here are some recommendations to change policies and systems to support health:

- **Promote nature-based or “green” stormwater infrastructure, such as permeable surfaces that soak up run-off and parks that can filter stormwater.** This type of infrastructure captures and cleanses rain where it falls, reducing toxic runoff and improving the safety and supply of our water system while creating healthy, green spaces in neighborhoods that need them the most. Nature-based stormwater infrastructure creates new opportunities for people to be physically active, facilitates social connection, enhances biodiversity, and can support local economic development.
- **Look at publicly funded stormwater investments as an opportunity to put equity into practice in communities that have experienced disinvestment and exclusion from the policy-making process.** That means that community members' voices and perspectives must be heard through inclusive and broad-based community engagement efforts, and that funding measures include clear language to ensure that funds go to communities that need investments the most.
- **Empower frontline communities.** We need to listen to communities who live on the frontlines of the water crisis. That means investing in community capacity. We should also ensure that community organizations that work on environmental justice receive funding to support their work on water issues, especially when it comes to support for community organizing, advocacy, and community-based participatory research.
- **Improve data collection, research, and documentation of stormwater-related health inequities.** We need to analyze this data from a public health perspective. That means focusing on populations that are most negatively impacted by water safety issues and generating relevant, accessible data to pinpoint impactful strategies to prevent harmful exposures.

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