

Measures Glossary

Washington Environmental Health Disparities (EHD) Map



Hello. Thank you for your interest in learning about the Environmental Health Disparities (EHD) Map themes and measures. Based on community feedback, we acknowledge communities need access to a quick resource to define the 25 measures and terms for version 3.0 of the EHD Map.

A **theme** is a group of related measures with combined ranks, such as environmental exposures.

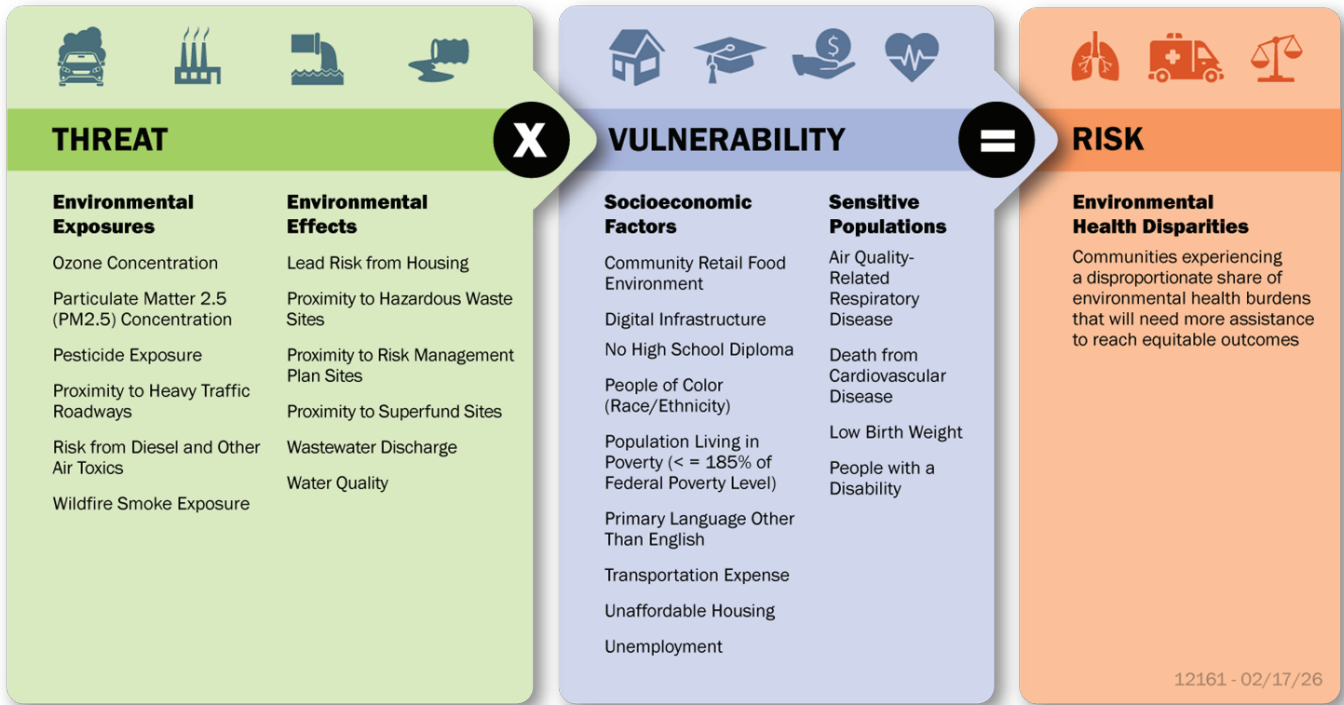
Measures are individual factors of health, environmental conditions, or socioeconomic status.

Each measure is either an environmental risk or impacts people's vulnerability to environmental risk.

- **Environmental risk** refers to potential hazards to the environment and human health, such as air and water pollution, congested traffic (the number of vehicles is larger than the capacity of a road), and urban sprawl (the rapid expansion of cities and towns). These risks can impact health directly, like triggering asthma or allergies, or indirectly through factors like long commuting distances.
- **Vulnerability to environmental risk** refers to the characteristics of a person or group of people that can increase the impact of an environmental risk. Some population groups are more vulnerable to environmental risks due to characteristics such as age, gender and sexual identities, race, culture, religion, disability, pre-existing health problems, socio-economic status, geographical location, or migration status.

These 25 measures fall under the themes of environmental exposures, environmental effects, socioeconomic factors, or sensitive populations. Most measures included in version 2.0 are planned for version 3.0.

Threat x Vulnerability = Risk



Pollution, cost of living, and other social conditions don't happen on their own. They combine with the ongoing impacts of racism, colonization, and other injustices to affect community health.

Environmental Exposures

This theme includes six measures of pollution in the environment. People are usually exposed to this pollution by breathing air, eating food, drinking water, or living near an environmental hazard. This pollution can cause an increase in many health impacts, from difficulty breathing to cancer.



Ozone Concentration

Ozone is a gas created by car exhaust, burning wood, gasoline pumps, and other air pollution sources. High levels of ozone can cause asthma and heart disease. Outdoor workers and young children are most impacted.

Particulate Matter 2.5 (PM2.5) Concentration

PM2.5 are small particles created by the process of burning something, wildfires, industry, and motor vehicles. High levels of PM2.5 can damage the lungs. This can cause difficulty breathing and early death, especially in people with a history of lung or heart disease.



Environmental Exposures (continued)



Pesticide Exposure

Pesticides can cause serious health problems, like breathing issues or harm to the body's nervous system. Farmworkers, rural communities, and families with less financial support are more likely to be exposed to pesticides.

Proximity to Heavy Traffic Roadways

Living near busy roads can expose people to more air pollution, leading to health issues like asthma. Due to historical racism, those with less financial opportunity and minoritized communities are often closer to these roads. This puts them at greater risk for developing heart disease and cancer(s).



Risk from Diesel and Other Air Toxics

Harmful pollution in the air, also called air toxics, comes from many sources, including cars, trucks, factories, and burning wood. Breathing in air pollutants can lead to cancer and other serious health problems. In Washington state, over half of the cancer risk from air toxics is due to diesel particles. Busy roads, ports, and factories are frequently built near historically marginalized communities, causing these communities to face more health problems.

Wildfire Smoke Exposure

Wildfire smoke exposure is the amount of smoke a person is exposed to during wildfire season (normally from June to September). Breathing in smoke can cause difficulty breathing and heart problems. Health concerns from wildfire smoke are greater in rural communities and for those without access to air filtration.





Environmental Effects

This theme looks at potential sources of pollution that cause negative health conditions. Many of these measures compute the distance to a facility that is likely to produce pollution. This pollution can harm the environment and wildlife living there, use up resources, and cause health issues for people living or working nearby. Environmental effects can be immediate or delayed for nearby communities and wildlife.



Lead Risk from Housing

Lead risk from housing is the percentage of homes that may contain lead paint (based on the year the home was built). Homes built after 1978 are considered safe from lead-based paint. Lead is a toxic metal, especially harmful to children. There are no safe amounts of lead.

Proximity to Hazardous Waste Sites

Hazardous waste from industrial sites can contaminate air, water, and soil. Living near these facilities can cause a variety of health risks, including heart disease and lung problems. Black and Latinae communities, as well as those with fewer financial resources, are affected more than others.



Proximity to Risk Management Plan Sites

Risk Management Plan (RMP) sites are facilities that use dangerous chemicals and are required to develop a Risk Management Plan. These sites are regulated, and facilities must revise and resubmit RMPs to the Environmental Protection Agency every five years. The dangerous chemicals used by RMP sites could harm people living or working nearby. This is particularly true if an accident happens. These sites are often closer to underserved communities and those with fewer financial resources, putting them at greater risk. Chemical spills or accidents can lead to serious health problems, including breathing issues, cancer, and other health problems.

Proximity to Superfund Sites

Superfund sites are areas where historically hazardous waste has been dumped or spilled. These sites require a long-term response to clean up the hazardous waste. Superfund sites are officially designated and put on a national list for environmental remediation. This is a process to restore the environment by removing hazardous waste from soil, water, and other media. Sites include mining areas, factories, landfills, and processing plants where toxic waste has been improperly managed or dumped. These sites are more likely to be near historically minoritized communities and communities with less economic access. Living or working near these sites can have long-term health impacts, such as cancer and breathing issues.



Environmental Effects (continued)



Wastewater Discharge

Wastewater is made up of waste and solids that are released as sewage from houses, businesses, and some industries. Wastewater discharge is the water that large facilities release after it is treated. Pollution in wastewater discharge can cause health issues like high blood pressure, cancer, and infectious diseases for nearby communities. Native peoples and other subsistence fishers who eat more fish are the most likely to be exposed to this pollution. Communities with less access to financial opportunities and historically minoritized communities are also more likely to be exposed to this pollution due to aging and under-maintained wastewater infrastructure.

Water Quality

Water quality supports ecosystems and sustains agriculture (farming). Tribal nations and communities that rely on natural water sources are more likely to experience contamination, which can harm both their health and cultural practices. Substandard or unacceptable water quality can harm aquatic ecosystems and affect both human and animal health. For example, pollutants such as dioxins can interfere with reproduction and development in both people and fish.





Socioeconomic Factors

Social and economic factors are important to well-being in many ways. Socioeconomic factors refer to the social and economic conditions that influence the opportunities, resources, and well-being of individuals and communities. Socioeconomic factors also impact the vulnerability of historically minoritized populations' exposure to pollution. Safe housing, nutritious foods, livable wages, and access to education, financial resources, the internet, and health care can reduce the cumulative impacts of pollution on communities.



Community Retail Food Environment

Access to a wide variety of foods and affordable food impacts overall health. Urban and rural communities with fewer financial resources are more likely to have limited access to grocery stores, resulting in less variety of foods at a higher cost.

Digital Infrastructure

The internet connects people to education, jobs, and health care services. Internet access can improve social connection and access to resources like telehealth (long-distance health services), or receive critical emergency information. This is especially important in rural areas with more aging communities and limited transportation access.



No High School Diploma

Educational achievement can reduce health disparities by empowering people to make informed decisions about their health and increasing job opportunities. Lower formal education may impact health in many ways, including increased stress, risk of incarceration, and exposure to environmental pollutants.

People of Color (Race/Ethnicity)

Racist policies, laws, and actions cause people of color to be exposed to more pollution and face more health challenges than white people. Both systemic and structural racism create and deepen persistent racial inequities across society. The effects of historical redlining, for instance, continue to influence both wealth distribution and health outcomes today.



Another example is health care algorithms that prioritize white patients over patients of color or require photo ID for certain medical services. This requirement disproportionately affects communities of color. Children and women of color are especially at risk for health problems caused by pollution.

Socioeconomic Factors (continued)



Population Living in Poverty (Less Than or Equal to 185% of Federal Poverty Level)

People who primarily speak a language other than English may be isolated from services and information, including health care. Difficulty speaking English contributes to health disparities and increased exposure to pollution.

Primary Language Other Than English

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Transportation Expense

Transportation costs (how much money you spend getting from one place to another) directly affect how much money households have for other essentials, such as food and health care. High transportation costs can be a burden for people with fewer financial resources. Communities with limited access to transit (methods of getting to places), such as rural areas, may have higher transportation costs.

Unaffordable Housing

Housing costs affect how much money households have for other essentials, such as food and health care. Groups and individuals with fewer financial options and historically minoritized communities are the most affected by this due to redlining and other racist housing policies.



Unemployment

Unemployment refers to people who are not employed. Jobs provide access to health care, improve living conditions, and reduce financial stress. Historically minoritized communities, women, and people with disabilities face the highest barriers to employment.



Sensitive Populations

People with health conditions are more likely to experience worse health issues due to pollution exposure. Sensitive populations include those with heart disease, low birth weight, respiratory disease, and disabilities. Current and historical social injustices cause disparities that increase these health conditions.



Air Quality-Related Respiratory Disease

Air pollution from car exhaust, livestock farming, cooking smoke, and other sources irritates the lungs. This can trigger an asthma attack or cause difficulty breathing. Young children are the most sensitive to this air pollution, and communities of color have much higher rates of childhood asthma than white communities.

Death from Cardiovascular Disease

Cardiovascular diseases (CVDs), like aortic disease and coronary heart disease, are caused by problems with the heart muscles and vessels. People with CVD are more likely to experience a heart attack or stroke when they are exposed to pollution. Historically, minoritized populations have higher rates of CVDs due to the impacts of racism, including less access to quality medical care and a lack of access to nutritious foods.



Low Birth Weight

Low birth weight means a baby born weighing less than 5.5 pounds. Underweight babies are more likely to have health problems, including heart disease, diabetes, and asthma. Disparities in maternal health and prenatal care cause Black mothers to face the highest rates of low birth weight babies.

People with a Disability

People with disabilities often have a harder time getting health care and live closer to pollution sources. Historically minoritized people with a disability often experience more structural and financial barriers that cause greater health challenges.



For More Information

To learn more about the EHD Map update process and detailed methods, please refer to the [EHD Map Report](#).

Contact Us

For questions or more information, email EHDMap@doh.wa.gov.



DOH 334-579 February 2026 CS

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