

# Addressing Health Equity and Environmental Justice in the Evaluation of Unusual Patterns of Cancer

In 2022, CDC released [Guidelines for Examining Unusual Patterns of Cancer and Environmental Concerns](#). As a follow up, this fact sheet addresses some aspects of health equity and environmental justice related to unusual patterns of cancer. The aim of this fact sheet is to educate state and local partners and community members on key terminology, definitions, and provide outside resources related to health equity, environmental justice, and cancer disparities.

## What is environmental justice?

“Environmental justice” means the just treatment and meaningful involvement of all people in agency decision-making and other federal activities that affect human health and the environment. Involvement includes people regardless of income, race, color, national origin, tribal affiliation, or disability. Just treatment and meaningful involvement aim to increase the likelihood that people are fully protected from disproportionate and adverse human health and environmental effects, including risks and hazards. Hazards include those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers.

Environmental justice also includes equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices.<sup>1</sup>

## What is health equity?

Health equity is when everyone has the opportunity to be as healthy as possible [CDC 2021]. Health inequities are reflected in differences in length of life; quality of life; rates of disease, disability, and death; severity of disease; and access to treatment [CDC 2020].

## What does the phrase health disparity mean?

Health disparities are “preventable differences in the burden of disease.” Health disparities are inequitable. They are directly related to the historical and current unequal distribution of social, political, economic, and environmental resources [CDC 2020].

## What is cancer?

Cancer is not one disease but many different diseases. The diseases have different causes, but they all share a similar characteristic: uncontrollable cell growth and division. The term “cancer” describes more than 100 different types of disease.<sup>2</sup>

## What factors contribute to a person getting a particular type of cancer?

Several factors can increase a person’s cancer risk. These factors are often called risk factors. Cancer risk increases as people get older. Exposures in the workplace or community where you live can also play a role in the risk of getting cancer.<sup>3</sup> For example, exposure to high levels of air pollutants and toxic chemicals can harm health and increase cancer risk.<sup>4, 5, 6</sup> Other risk factors relate to behaviors such as tobacco use or diet.

Structural and social determinants of health (e.g., retail store density, big tobacco marketing and advertising) can influence risk factors like tobacco use behavior. Industrial sites, highways, landfills, incinerators, and bus depots tend to be present more frequently in communities with larger percentages of racial and ethnic minority groups. Many times, this relates to historically racist policies like redlining that forced minority groups to live in certain areas. All of these exposures are called environmental exposures.



## Do the same risk factors cause all cancers?

No. While some types of cancer are associated with the same risk factors, others are associated with unique risk factors. For example, prolonged exposure to sunlight without protection increases the risk of skin cancer.

## Why is proactively monitoring cancer data useful in addressing health equity and environmental justice?

Monitoring community health for diseases, often called surveillance, is critical to public health. Monitoring cancer patterns can highlight a need to explore potential health disparities. Monitoring cancer data allows further evaluation of what might appear to be an unusual pattern of cancer. It also may help identify communities with disproportionate exposures and opportunities for prevention or intervention.

## Why is it important to look at cancer mortality patterns?

Public health practitioners should look at both rates of new diagnoses (incidence) and rates of deaths due to cancer (mortality). Higher rates of deaths within a community might suggest there is inequitable access to healthcare or exposure to environmental hazards that might put people at increased risk of developing cancer.

In some instances, you may find that the cancer incidence rate in the community appears low, but the cancer death rate may be higher than expected. In these cases, delays in access to care may be related to later-stage diagnoses and increased death rates.

## Are there notable disparities in developing cancer?

Yes, some studies have documented important disparities in developing cancer that health officials must work to address. For example,

- Men living in Appalachia have a lung cancer incidence rate 26% higher than men living in the remainder of the United States.<sup>7</sup>
- African American men are more than twice as likely as White men to die of prostate cancer.<sup>8</sup>
- Hispanic women are 69% more likely to be diagnosed with breast cancer at an advanced stage than White women.<sup>7</sup>
- Non-Hispanic White people have the highest rates of new cancer, but non-Hispanic Black people have the highest chances of dying from cancer.<sup>8</sup>
- People or households with incomes below the federal poverty level that have metastatic bladder cancer are 50% less likely to receive chemotherapy than people of high socioeconomic status.<sup>7</sup>
- For brain and other nervous system cancers from 2000-2019, the annual percent change in incidence in White children was 0.6, but for Black children, it was 1.1.<sup>9</sup> This means that brain and other nervous system cancers are rising almost twice as fast in black children compared to white children.
- The annual change in testicular cancer rates in Hispanic adolescent males increased 5 times faster than in White adolescent males (3.1% vs 0.6%) looking at data from 2000-2019.<sup>10</sup>
- Between 1992 and 2013, Hispanic White children were more likely to be diagnosed with childhood leukemia than non-Hispanic White, non-Hispanic Black, or non-Hispanic Asian children among children aged 0–19.<sup>7</sup>

## Are there notable disparities in exposure to environmental contaminants that may increase cancer risk?

Yes, disparities exist when it comes to environmental exposures:

- The majority of farmworkers are Hispanic leading to increased occupational and residential pesticide exposure for this population.<sup>7</sup>
- Living near fracking sites more than doubles the risk of developing acute lymphoblastic leukemia for children ages 2 through 7.<sup>10</sup>
- Over 200 chemicals have been linked with mammary gland tumors in animals.<sup>11</sup> Women are routinely exposed to about half of them every day.<sup>12</sup>
- One study found that White people experience about 17% less air pollution than they produce, while Black and Hispanic people experience 56% and 63% more air pollution than they produce, respectively.<sup>13</sup>

## What steps can health officials take if an unusual cancer pattern is identified?

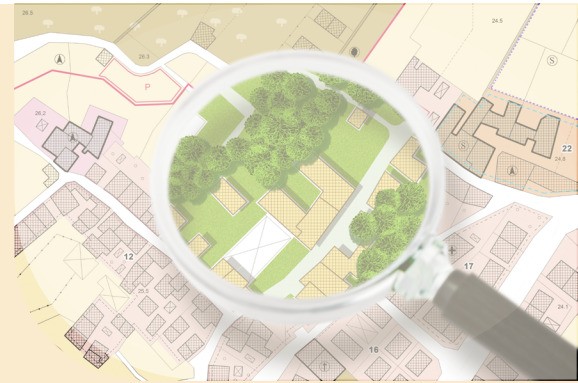
Public health officials can review data and develop a follow-up plan if warranted. The CDC/ATSDR [Guidelines for Examining Unusual Patterns of Cancer and Environmental Concerns](#) provide criteria for examining unusual patterns and taking action when an unusual pattern is identified.

## When should health officials communicate information about cancer patterns with community members?

Health officials should regularly communicate with the public. When an unusual pattern of cancer is observed, it is critical to share information as soon as possible.

### Additional Resources

- [Environmental Justice \(CDC\)](#)
- [Health Disparities \(CDC\)](#)
- [Health Equity in Cancer \(CDC\)](#)
- [About Health Equity \(CDC\)](#)
- [Health Effects of Cigarettes: Cancer \(CDC\)](#)
- [Environmental Justice \(U.S. Department of Health and Human Services\)](#)
- [Cancer Disparities \(National Cancer Institute\)](#)
- [Cancer Stat Facts: Cancer Disparities \(National Institutes of Health\)](#)
- [Cancer Health Disparities \(American Association for Cancer Research\)](#)
- [Overview of Pediatric Cancers and Environmental Exposures \(National Academies of Sciences, Engineering, and Medicine\)](#)
- [Chemicals and Cancer \(Cancer Free Economy Network\)](#)



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