

BREATHE PROJECT

The Air We Share

Preventing Cancer in SW PA: An Urgent Need And Opportunity

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Innovations in cancer treatment have improved the prognoses of people with cancer. Although people are living longer, rates of new cases of many cancers are going up. While we continue to invest in research for early detection and treatment we must reinvest in prevention.

- Incidence rates of several cancers including kidney, non-Hodgkin's lymphoma, non-smoking-related lung cancer (e.g., adenocarcinoma of the lung), testicular, breast and childhood leukemia have increased over the decades.^{1,2}
- Limiting exposures to cancer risk factors is common sense. Steps individuals can take include avoiding a high fat diet, quitting smoking and getting exercise.³
- There is more and more evidence showing links between environmental risk factors and cancer, as well as the underestimation of these risk factors to the overall cancer burden. Regulation and incentives for companies to reduce emissions and transition away from the use of toxic chemicals are crucial strategies for cancer prevention.⁴

Preventing cancer by cutting pollution should be a priority for public health, because of the contribution of toxic chemicals to cancer risk. We cannot have health and wellness without addressing environmental contributors to cancer.

- The World Health Organization's International Agency for Research on Cancer has declared air pollution as a mixture and also individual constituents of air pollution as known human carcinogens.⁵
- In SW PA, the risk of cancer from many individual air pollutants exceeds the U.S. Environmental Protection Agency's benchmark of concern; the cumulative risk from the range of pollutants is even higher.⁸
- People exposed to toxic chemicals who also smoke magnify their risk.⁶

Cancer risk from environmental sources, particularly air pollution from industrial point sources, is especially high in Allegheny County and Southwestern Pennsylvania.

- SW PA still has much higher levels of air pollution than many other urban areas in the country.⁷
- In many cities, including Pittsburgh, limiting air pollution will reduce cancer risk dramatically. Allegheny County is in the top 2% of counties across the country for cancer risk from toxics in air pollution.⁸
- Known carcinogens in air that are elevated in our region include: PM 2.5, benzene, coke production emissions, and diesel exhaust.⁸
- The 2016 annual levels of PM_{2.5} in Allegheny County are within the levels at which studies have observed increased risks of lung cancer.⁹

- Among all counties in the US, urban and non-urban, Allegheny County ranks third in cancer risk from point source air toxics emissions.⁸
- Diesel particulate matter also contributes substantially to cancer risk. Among Allegheny County its surrounding 9 counties, cancer risk posed by diesel particulate matter was 93 cases of cancer per 1 million people for the region; estimates of risks of over 1,000 cases of per 1 million people were observed in some census tracts.⁸

In Allegheny County, incidence rates of cancers tied to air pollution and other toxic chemicals are elevated

- Bladder cancer incidence rates in Allegheny County (2010-2014) are 21% higher in men and 34% higher in women compared to what would be expected based on national rates. Rates are also somewhat higher than rates in the Commonwealth, particularly among women.^{10,11}
- Lung cancer incidence rates in Allegheny County are 29% elevated in men and 30% elevated in women compared to what would be expected rates based on national rates. Rates among women are also statistically significantly elevated in comparison to rates in the Commonwealth.^{10,11}
- Air pollution is a known risk factor linked to both bladder and lung cancers and increasing evidence links childhood leukemia with traffic-related air pollution.^{5,12}

Cancer risks from unconventional gas drilling in the area is an essential strategy for reducing cancer risks.

- A 2017 Colorado study found higher rates of leukemia among children and young adults living in areas dense with oil and gas wells, while a Yale University research team reported that carcinogens involved in fracking operations had the potential to contaminate both air and water in nearby communities in ways that may increase the risk of childhood leukemia.^{13,14} The Yale team identified 55 known or possible carcinogens that may be released into air and water from fracking operations. Of these, 20 are linked to leukemia or lymphoma.¹⁴

Preventing cancers caused by pollution requires bold action by government and industry.

- Our public officials have the power to reduce cancer risk by requiring polluting industries to clean up the air and preventing them from contaminating water supplies. In addition to all the good work cancer leaders are doing to improve access to care and educate people about lifestyle changes, ***we must also call for action by our public officials to limit pollution, in particular issuing substantial and escalating fines to companies that repeatedly violate emission permits.***
- We need leadership in government and industry to prioritize economic growth that does not depend on hazardous materials and technologies.

We need many more health professionals and civic leaders calling for action and accountability.

- As cancer survivors ourselves, or with family members and friends who have survived and died from cancer, we consider it unacceptable that our risk of cancer from air pollution is so much higher than it is in other cities around the country.
- Attracting new businesses to our region will depend on people feeling confident that the air we breathe won't make us sick and cause cancer.

- As trusted messengers for the public, cancer leaders can call for investment in research on environmental carcinogenesis and solutions; encourage changes in individual behaviors, and advocate for government and industry accountability.
- Eliminating carcinogens from the air we breathe, the food we eat and the water we drink are both urgent needs and promising opportunities for cancer prevention.

References

See <http://Breatheproject.org> for an extensive database of science-based, peer reviewed air quality and health references used in this document.

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