**The Relationship Between Air Pollution & Lung Cancer**

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### Lung Cancer

Lung cancer is the second most common cancer in both men & women, contributing to 234,040 new cases in 2018. Among different types of cancer non-small cell lung cancer is the most common, which accounts for 85% of all lung cancers & is the leading cause of lung cancer death in the U.S.

### Air Pollution

Outdoor air pollution comes from many different sources like traffic & industrial emissions. The World Health Organization classifies outdoor particles as carcinogens.

### What's in Air Pollution

The outdoor air pollution consists of particulate matter (PM), which contains organic chemicals & metals. With PM coexists vapor phase pollutants, these are organic chemicals in the gaseous phase. Many studies have shown the association between PM exposure and lung cancer, but what about vapor?

### How it Works

PM & vapor are capable of penetrating deep into the lungs. The organic chemicals cause injury & enter the bloodstream. PM & vapor may cause genetic changes & alter the proteins that control cell growth. The healthy cells in the lungs begin to grow uncontrollably to form tumors.

### Current Knowledge

Previous research has found that PM is a risk factor for many diseases, including lung cancer. The effects of vapor, which consists of a variety of toxic organic chemicals are understudied. Our research focuses on determining what role vapor plays. We are investigating the link between vapor & lung cancer, as well as the combined effects of PM & vapor on this disease.