1 in 5 of all cancer deaths are due to lung cancers

>238,000 new cases of lung cancer in the U.S. are estimated in 2023 – 51% will be women

Any cancer that begins in the lungs is lung cancer. There are 2 main types: non-small cell lung cancer (NSCLC, 80-85% of cases) and small cell lung cancer (10-15% of cases). Lung cancers may spread to other organs (commonly the lymph nodes or brain) and cancers from other organs can spread to the lungs.

Lung cancer is the 2nd most common non-skin cancer in women, and it is the leading cause of cancer deaths in the United States – for both women and men. On average, lung cancer is diagnosed at age 70, often after it has spread and survival rates are lowest (5-year survival rate of 23%). This is why prevention and early detection of lung cancer is an important public health issue.

Common Symptoms

While most lung cancers do not cause symptoms until they have spread, some individuals may experience early-stage symptoms, such as:

- A persistent cough
- Coughing up blood or rust-colored spit or phlegm
- Chest pain that worsens with deep breathing, coughing, or laughing
- Hoarseness
- Loss of appetite or unexplained weight loss
- Shortness of breath or wheezing
- Persistent or recurring bronchitis and pneumonia infections

Risk Factors

- Tobacco smoke (including cigarettes, cigars, pipes)
- Secondhand smoke
- Exposure to environmental toxins (e.g., radon, arsenic, uranium)
- Exposure to certain workplace carcinogens (e.g., asbestos, diesel exhaust, coal products, mustard gas)
- Air pollution
- Personal or family history of lung cancer

Impacts on Women

- 1 in 17 women will develop lung cancer in her lifetime. For women who smoke, this risk increases.
- While lung cancer rates have steadily decreased in men in recent decades, declining rates have only been observed in women within the last 10 years.
- Adenocarcinoma (a type of NSCLC) is more common in women than men, and is the most common type of lung cancer to occur in individuals who do not smoke.

Secondhand smoke is the 3rd most common cause of lung cancer in the U.S.
Diagnosing Lung Cancer

**Imaging tests**, such as chest x-ray, CT scan, PET scan, MRI

Yearly low-dose CT scans are recommended for individuals at high-risk for developing lung cancer.* These individuals are:

- 50 to 80 years old and in fairly good health;
- Currently smoke or have quit in the past 15 years; AND
- Have at least a 20 pack-year smoking history.

**Cytology test** on mucus coughed up from the lungs (sputum) or pleura fluid from the lining of the lungs (thoracentesis)

**Needle biopsy**, usually on masses located near the center of the chest

**Bronchoscopy** using fluorescent light or computer guidance to identify and assist biopsies of abnormal lung tissue

**Electromagnetic navigation bronchoscopy** uses a computer to guide a bronchoscope to biopsy tumors in the outer part of the lung, which are more difficult to access.

**Biomarker Tests**: Studies have identified certain changes in genes associated with cancer cells, particularly for NSCLC. A biopsy sample for these molecular markers can help to inform potential targeted drug therapies for the cancer. Increases in the **EGFR** gene expression have been observed in 10-20% of NSCLCs, and are more commonly found in women, Asian individuals, and non-smokers. Changes have also been noted for **KRAS** (20-25%), **ALK** (5%), **BRAF** (5%), and **ROS1** (2%) genes, among others.

**Policy Opportunities**

- **Ensuring Access to Screening Coverage**. When lung cancer is caught early, it reduces the risk of death; however, gaps in lung cancer screening among State Medicaid programs persist. Guaranteeing access to free, annual screenings can improve outcomes and reduce disparities.

- **Supporting Tobacco Control Programs**. Cigarette smoke causes 80-90% of U.S. lung cancer deaths. Ensuring state health departments maintain effective tobacco control programs around preventing or reducing tobacco use can significantly lower the nation’s collective risk of lung cancer.

- **Increasing Federal Research Funding**. Vast research opportunities remain in detection, prevention, and treatment for lung cancer in women — from exploring alternative screening tools to understanding sex differences in risk and disease progression across populations.

**References:**


** Women’s health focus was determined by searching the following key terms – Female, Gender, Maternal, Sex, and variations of Lactating, Pregnant, Women – in the project titles of all lung cancer funded grants, according to the NIH Research, Condition, and Disease Categorization (RCDC) report.

**Only 1.3% of lung cancer research grants (totaling $5.2M) funded by the National Institutes of Health in 2022 had a focus on women’s health.**

Published August 2023