

LUNG CANCER RESEARCH PROGRAM



MISSION: Support and integrate research from multiple disciplines for risk assessment, prevention, early detection, diagnosis, management and treatment for the control and cure of lung cancer

**Congressional Appropriations
FY09-FY24:
\$245.5M total**



“The DOD LCRP plays such an important role in accelerating research, specifically by

funding many innovative early studies that have advanced and helped change the landscape of lung cancer research. There’s still a lot of work to be done; I’ve witnessed all that we can accomplish when we work together alongside patient research advocates. I really appreciate the DOD recognizing that the patient perspective is important in every step of the process.”

*Jill Feldman,
LUNgevity, FY20–FY24
Programmatic Panel Member*



SCOPE OF THE PROBLEM

Lung cancer in the U.S.¹

- Leading cause of cancer mortality, accounting for 20% of all deaths.
- Over **234,580** men and women diagnosed each year
- Over **125,070** will die each year



10%-15%
of all lung cancers
occur in
non-smokers²



RELEVANCE TO MILITARY HEALTH




Among Veterans, lung cancer is a leading cause of cancer-related deaths³

- **15** Veterans die from lung cancer each day
- **~900,000** Veterans remain at risk

Possible contributing factors:³

- Smoking
- Family history
- Other environmental or workplace exposures during and after military service

2013-2022 Military Health System Encounters⁴

 Average Patients per Year	 Out-Patient Encounters	 Hospital Bed Days
74 Service Members	5,937 Service Members	2,346 Service Members
26,378 Other DOD Beneficiaries	2.5 million Other DOD Beneficiaries	402,394 Other DOD Beneficiaries

PROGRAM PRIORITIES

- Foster exploratory and translational research to understand and treat lung cancer
- Facilitate early, pilot clinical trials
- Enhance research capacity

¹ <https://seer.cancer.gov/statfacts/html/common.html>

² <https://www.cdc.gov/cancer/lung/nonsmokers/index.htm>

³ Moghanaki D and Hagan M. *Federal Practitioner*, 37, no. Suppl 4, 2020: S76-S80.

⁴ Defense Medical Surveillance System, The Armed Forces Health Surveillance Branch, Defense Health Agency, Silver Spring, Maryland, 2013-2022; November 2023.



For more information, visit: <https://cdmrp.health.mil/lcrp>

PROGRAM IMPACT AND OUTCOMES

The LCRP supports research investigating potential therapeutic strategies, as well as tools and technologies for detection and screening.



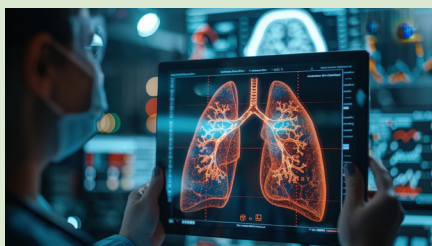
Immunoprevention as an Early Treatment Strategy

- A soluble, immunologically active form of **4-1BBL**, a protein that enhances anti-tumor activity of T cells
- **Impact:** A new immune checkpoint stimulator with potential to prevent progression of cancers at an early-preneoplastic stage



Tools and Technologies for Detection and Screening

- **PhaseED-Seq**, a genetic sequencing approach that measures tumor-derived nucleic acids in blood samples to monitor progression of disease
 - **Impact:** An accurate, noninvasive detection method for assessing disease progression and developing personalized treatment approaches
- **BRODERS**, a radiological image analytical tool for identifying malignant lung nodules from CT scan images
 - **Impact:** Holds potential to reduce lung cancer morbidity, mortality and healthcare costs through early and accurate screening



IMPROVING SURVIVORSHIP CARE



The LCRP introduced the Patient-Centered Outcomes and Survivorship Award in FY23 to address the needs of lung cancer survivors, including managing side effects, improving quality of life and preventing disease recurrence. Current research includes:

- **Mobile Application to Improve Outcomes for Advanced Lung Cancer** – A digital adaptation of THRIVE, an evidence-based intervention that integrates palliative care with early treatments
- **Precision Treatment to Promote Smoking Cessation** – A personalized treatment recommendation, based on genetic and metabolic markers, for helping patients with lung cancer to quit smoking
- **Respiratory Muscle Training to Treat Shortness of Breath** – A virtual, low cost, easy-to-use breathing exercise treatment to improve respiratory muscle strength, reduce fatigue and improve quality of life

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