ACRF ACCELERATE
An Impact Philanthropy Initiative

AUSTRALIAN CANCER RESEARCH FOUNDATION

An equitable lung cancer screening program to tackle Australia's deadliest cancer

The challenge and opportunity

Despite being the 5th most diagnosed cancer, lung cancer has the highest mortality rate of all cancers, accounting for 1 in 5 deaths from cancer in Australia [1]. The prognosis for lung cancer is poor, with a 5-year survival rate of only 20%, compared to 69.7% in all cancers combined [1]. This is because lung cancer is typically diagnosed at an advanced stage after it has spread to other parts of the body.

While lung cancer has a high potential cure rate if detected at an early stage, lung cancer screening is not accessible to people living in regional areas. Aboriginal and Torres Strait Islander people living in remote communities, who are statistically two times more likely to be diagnosed with lung cancer, are one and a half times more likely to die from the disease than non-Indigenous Australians [5,6]. There is opportunity through research to increase survival from lung cancer and remove health disparities, closing the gap through access to screening.

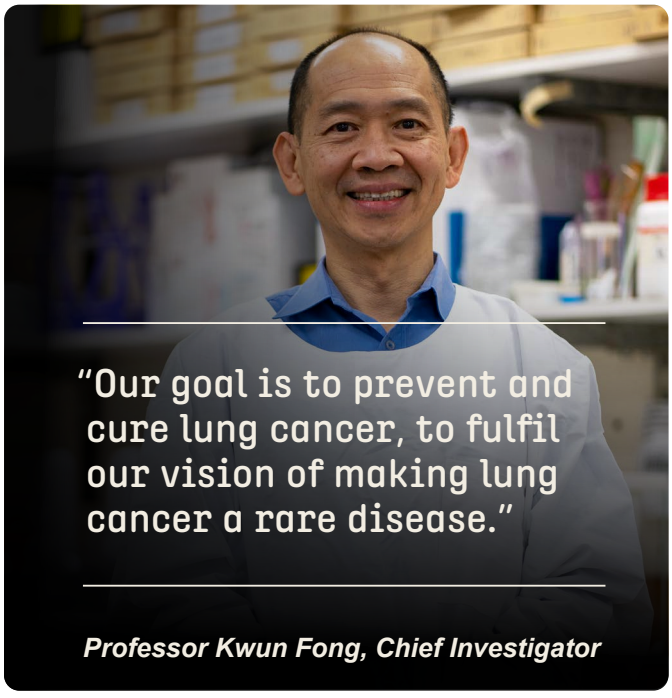
Project in brief

- ACRF Lung Cancer Screening Centre of Excellence (LUSCE) will be a world-first mobile multiplatform lung cancer research facility, integrating imaging, computer-aided analytics, breath and blood biomarker testing, to determine the most effective way to detect lung cancer early - when it can be treated.
- Findings from this pilot project will be used to support the establishment of a government funded national lung cancer screening program providing equitable access for all Australians.
- Housed on a purpose-built trailer, ACRF LUSCE will travel to locations across rural and remote Queensland.

Project costs

The $2M grant will fund the technology and equipment required for the lung cancer research program including:

- Fit for purpose CT scanner in a Siemens SOMATOM go.Up Trailer with mobile Integrated Injector Arm and trailer mounted portable generator ($1,400,000).
- Telemedicine: Virtual Hub Radiology Workstation ($18,000).
- CAD volumetrics and BRODERS Radiomics tool ($212,000).
- Sequencing instrument and dedicated workstation ($300,000).
- Breath Sampler ($25,000).
- Exhaled breath condensate unit, lung function and smoking quantification, DLCO System and gas-powered freezer for sample storage ($45,000).



ACRF Impact Model

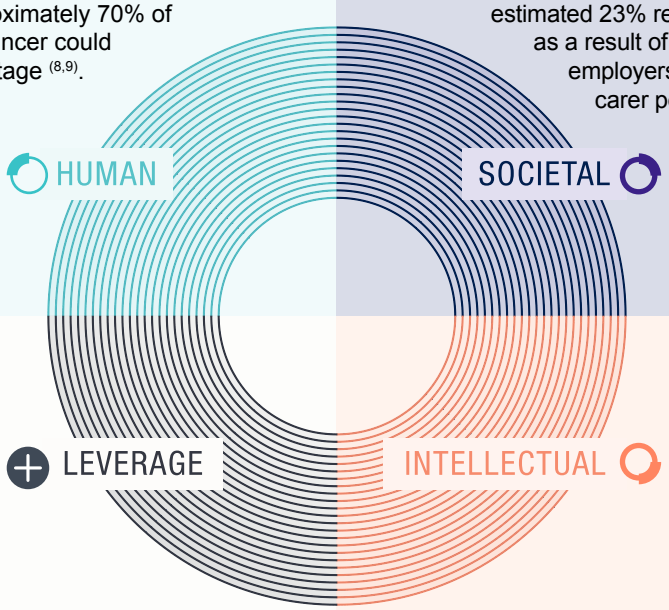
With input from health economics specialists, ACRF has developed a framework to articulate the anticipated future impact of projects that receive ACRF funding. Below is an overview of the outcomes ACRF LUSCE has the potential to achieve. Being a pilot project, the potential outcomes of ACRF LUSCE have been extrapolated to a national screening program.

HUMAN

- Prevent the lung cancer deaths of approximately 4,246 Australians per year and reduce national lung cancer mortality by 20% [1,2,3,7].
- In the first 10 years of a lung cancer screening program in Australia, approximately 70% of all screen-detected lung cancer could be diagnosed at an early stage [8,9].

SOCIETAL

- Reduce costs associated with premature mortality by 20%, resulting in approximately $1.38B in savings annually [10].
- Reduce the burden on caregivers who experience an estimated 23% reduction in work productivity as a result of caregiving, costing employers approximately $12,784 per carer per year [11,12].



LEVERAGE

- The University of Queensland has pledged an additional $120,000 per year for 5 years to fund operating costs.
- $2M invested by ACRF alone has a potential return of $7.81M, with $5.1M in the form of health gains and $2.71M in wider economic gains [15].

INTELLECTUAL

- A core team of 17 Chief Investigators, 24 scientists and researchers has the potential to generate $164,150 in value added [15] and an estimated 23 peer-reviewed publications [16].

For references, please visit acrf.com.au/philanthropy/accelerate-references

Contact information

For more detailed project information, or to make a contribution,
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