Economic evaluation of a specialist lung cancer nurse model of care in Australia

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Lung Foundation
Australia

elevate cancer nursing
innovate | integrate | educate | advocate

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Disclosures

None

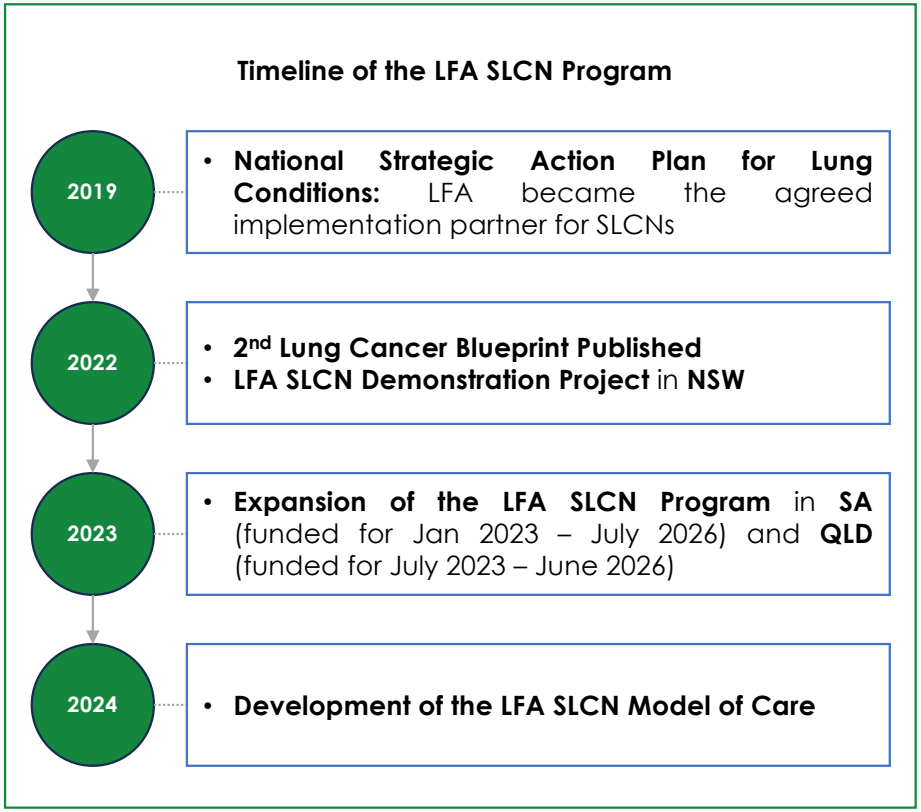
Disclaimer: I am not a Health Economist!

Presentation outline:

- Background to LFA Specialist Lung Cancer Nurse Program
- Overview of the LFA Model of Care
- Background to the evaluation
- Evaluation Methodology & Approach
- Key Findings
- Conclusions

LFA SLCN Program Background

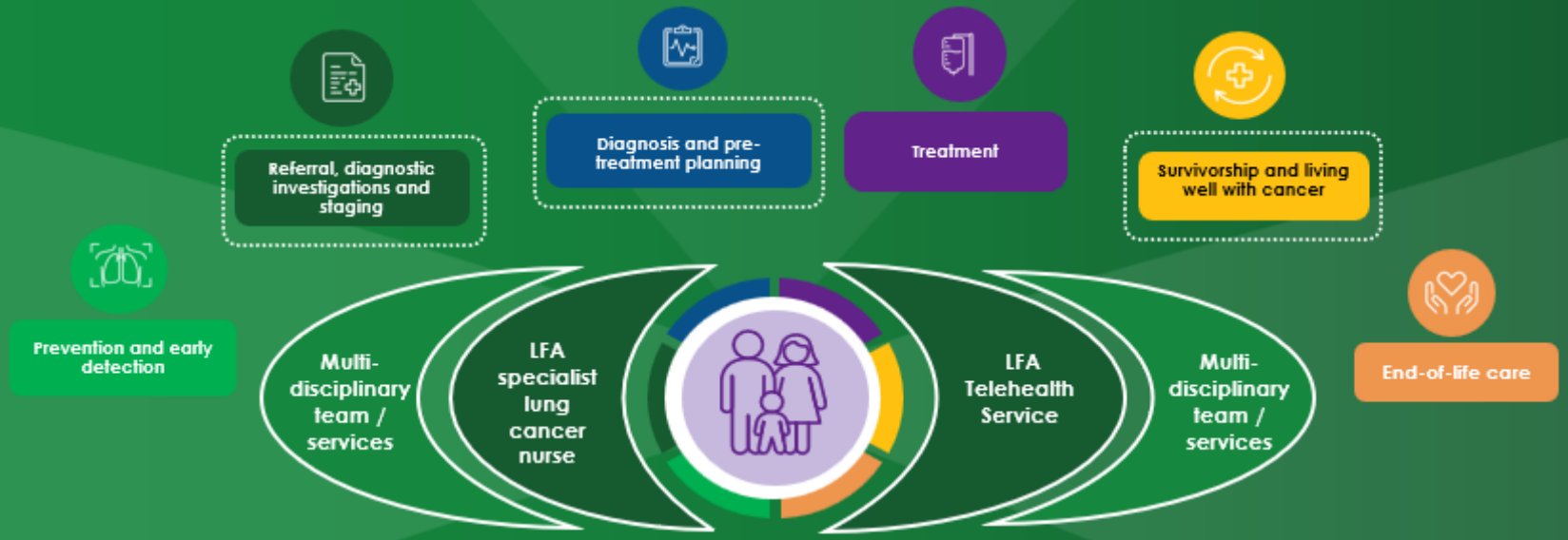
- **Piloted in 2022 in New South Wales.**
- **2023, the SLCN program expanded to Queensland and South Australia**, funded by State Health Departments.
- **Currently 11 LFA SLCNs in Australia**
- **2024, LFA developed the LFA SLCN Model of Care** to provide guidance for LFA, the SLCN workforce, health services and policy makers.
- LFA supports SLCNs with onboarding, pathway mapping, service planning, identifying unmet needs, training, education and an ongoing community of practice.
- **2025, Economic Evaluation of the Model of Care**



Overview of Model of CareA

LFA specialist lung cancer nurses improve health outcomes of people at risk of or affected by lung cancer

LFA specialist lung cancer nurses have a stronger focus on pre-diagnosis, diagnosis and post-treatment survivorship.



Where possible, LFA specialist lung cancer nurses are positioned in Respiratory Medicine to enable a core focus on pre-treatment steps of the lung cancer care pathway.

Core elements of the LFA specialist lung cancer nurse Model of Care.

- Expert, patient-centred and culturally sensitive care
- Integrated service delivery, including with the LFA Telehealth Service
- Timely support, diagnosis and treatment

LFA specialist lung cancer nurses work at the top of their scope of practice across the five domains of advanced nursing practice.

Clinical care
Ensuring patients receive early, responsive and optimal lung cancer care.

Support of systems
Contributing to improving local health systems and practices.

Education
Educating self, other health professionals, patients and broader community.

Research
Contributing to the evidence base and its implementation in lung cancer care.

Professional leadership
Operating at the top of the specialist nurse scope of practice.

A. See: Brunelli, VN (2020), A model of engagement to enhance the capacity of specialist cancer nurses to support people living with lung cancer to self-manage (https://eprints.qut.edu.au/157472).

Evaluation Methodology

2 categories:

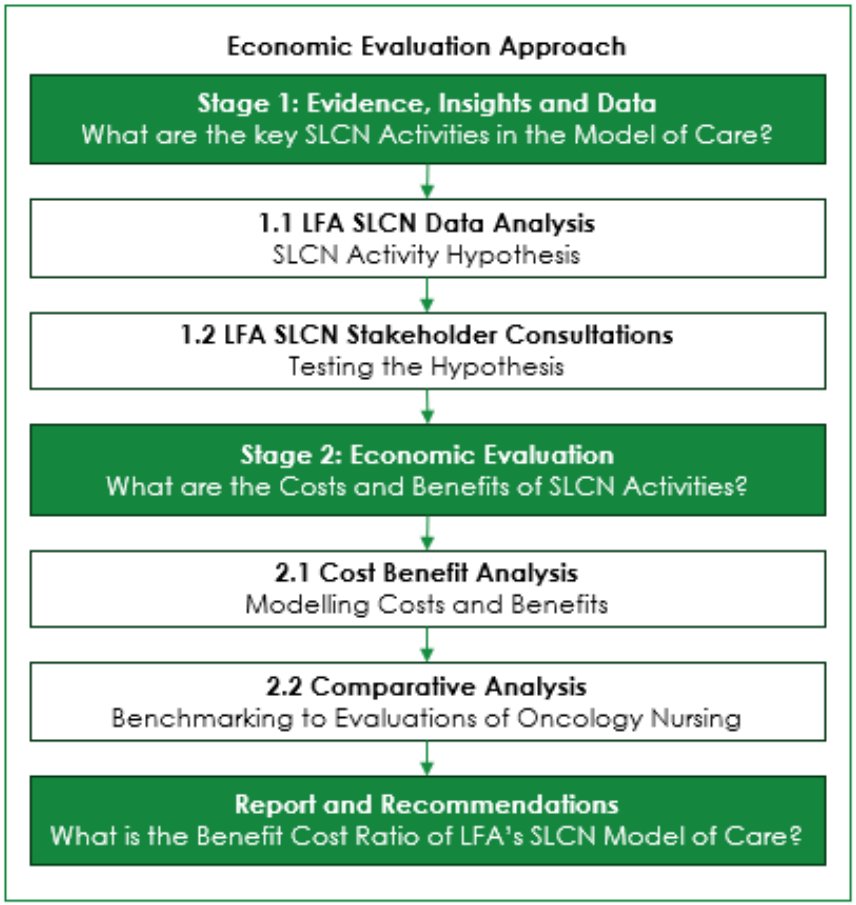
Method	**Cost Benefit Analysis:** 'Are the Benefits of the Intervention worth the Costs?'
Perspective	**Health System**
Costs	**Direct (Variable) Costs:** SLCN salaries and on costs
	Indirect (Fixed) Costs: LFA's cost of managing the LFA SLCN Program
Economic Benefits	**Direct Benefits:** Cost Savings e.g. avoidable ED presentations
	Indirect Benefits: Quality of Life Gained e.g. reduced mortality, improved quality of life
Metric	**1 Year Benefit Cost Ratio (BCR)** i.e. for every $1 of investment, what is the return in economic benefits? • $BCR = \frac{Benefits}{Costs}$ • BCR > 1: Cost-Saving • BCR = 1: Break-Even • 0 < BCR < 1: Benefit is less than Costs • Note: Intervention may still be 'cost-effective' relative to an alternative Intervention

Evaluation Approach

- Between July – November 2025: **Dr Alexander Chye**

- **Objectives:**
  - To understand how LFA SLCNs generate economic benefits for Australia's healthcare system.
  - Help health services and funders understand how LFA's SLCN Model of Care can generate economic benefits

- **Delivery:**
  - **Stage 1**: Identified the key advanced practice SLCN activities in the Model of Care?
  - **Stage 2**: Identified the Costs and Benefits of SLCN Activities; completed a CBA per activity and evaluated overall BCR; Analysis & benchmarking



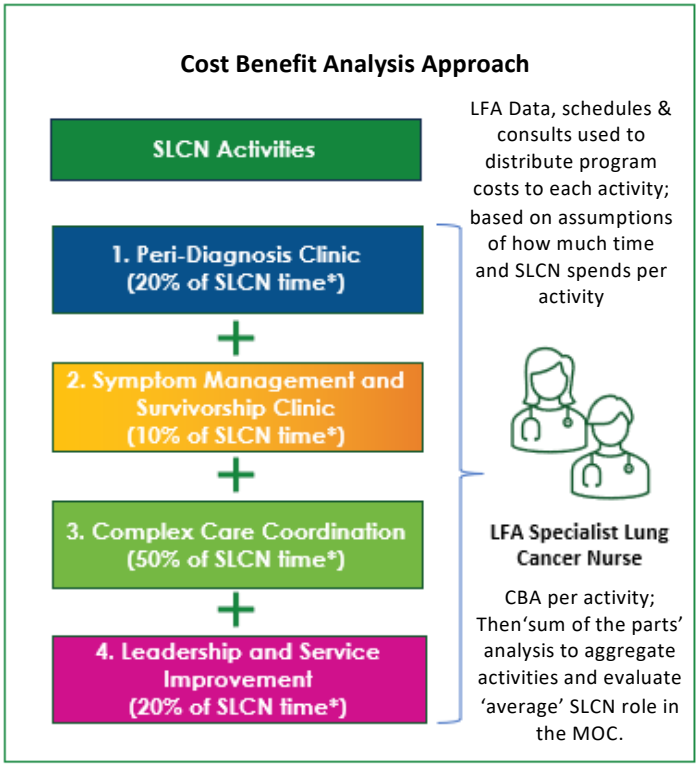
What activities were evaluated?

Key APN activities linked to measurable economic benefits for HCS.

#	Activity	Lung Cancer Pathway	Description
1	**Peri-Diagnosis Clinic**	Patient Care: Referral and Diagnosis	• SLCN Led Holistic Assessment Clinics (Pre or Post-Diagnosis) for Symptom Assessment, Patient Education, and Identifying Psychosocial Support Needs
2	**Symptom Management and Survivorship Clinic**	Patient Care: All Stages	• SLCN Led Symptom Management Clinic for illness and Treatment Symptom Assessment, Support or Management • SLCN Led Survivorship Clinic for Surveillance post treatment and Psychosocial Support
3	**Complex Care Coordination**	Patient Care: All Stages	Complex Care Coordination captures all remaining SLCN responsibilities, including: • Organising follow up, investigations, coordinating appointments • Multidisciplinary Team Meetings, Liaison with other services
4	**Leadership and Service Improvement**	System Care: All Stages	• Improving local health systems and practices • Service leadership and mentorship • Research and implementation of lung cancer care

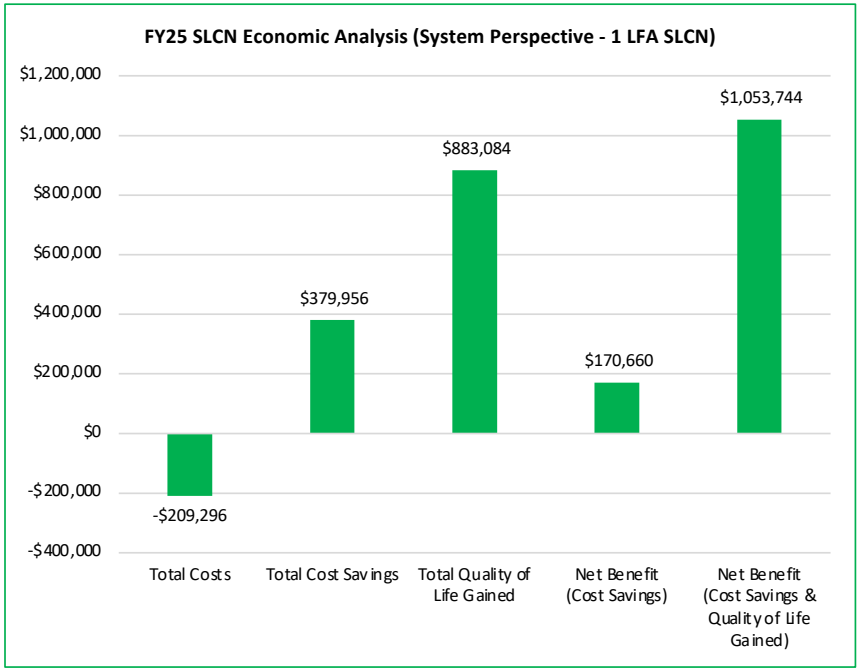
We also recognise the value of Patient and Carer Education which occurs across all Activities.

*Time spent on each SLCN Activity was estimated based on qualitative interviews with SLCNs. This breakdown of time will vary between SLCNs.



Key Findings

SLCNs are cost-saving for Australia's HCS

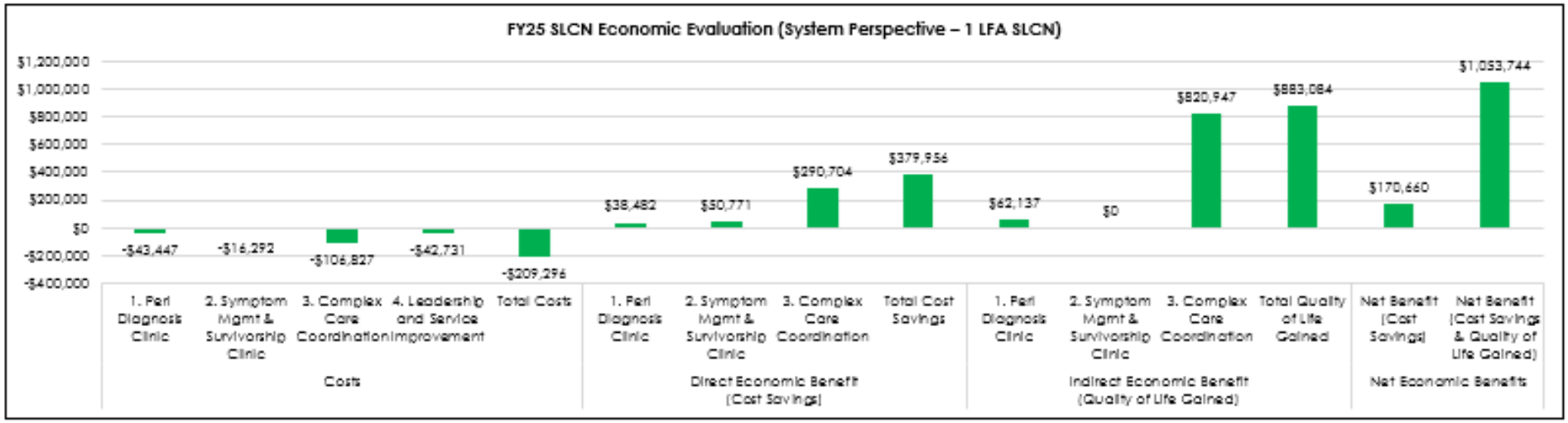


LFA SLCN Economic Value (per SLCN)	Australia
New Patients Referred p.a.	276
- New Patients Diagnosed With Lung Cancer p.a.	146
Total Costs	**$209,296**
Direct Economic Benefit: Total Cost Savings	**$379,956**
Indirect Economic Benefit: Total QoL Gained	$883,084
Net Economic Benefit (Cost Savings Only)	$170,660
Net Economic Benefit (Cost Savings & QoL Gained)	$1,053,744
System Benefit Cost Ratio (Cost Savings Only)	1.82
System Benefit Cost Ratio (Cost Savings & QoL Gained)	6.03
Life Years Gained	3.2

- In FY25, **1 SLCN** costs approximately **of $209k**.
- **1 SLCN** cares for **276 people referred to lung cancer clinics (including 146 people diagnosed with lung cancer),** delivering **cost savings of $380k** and a **net direct economic benefit of $171k.**
- SLCNs are **cost-saving** with a **Benefit Cost Ratio of 1.82 i.e. for every $1 invested in SLCNs, the health system receives $1.82 in direct economic benefits.**
- If we consider **Quality of Life Gained** ($883k, or 3.2 Life Years), the **SLCN Benefit Cost Ratio increases to 6.03**.

Where the value comes from

Different SLCN activities have different contributions to economic value



- Most economic benefits accrue from Complex Care Coordination, with the major source of cost savings being avoided ED presentations
- Symptom Management and Survivorship Clinic is the most cost-effective activity
- Peri-diagnosis support generates strong value – through reduced missed appointments, smoking cessation support, and reduced anxiety

Scaling the model

The LFA SLCN Model of Care is more cost effective as it scales:

Number of LFA SLCNs Funded	1 SLCN	10 SLCNs	50 SLCNs	100 SLCNs
People with Lung Cancer Supported (% in Australia)	146	1,465	7,324	14,648
Costs	$209,296	$2,092,959	$9,023,638	$17,752,876
Direct Economic Benefit: Cost Savings	$379,956	$3,799,563	$18,997,817	$37,995,634
Benefit Cost Ratio (Cost Savings Only)	1.82	1.82	2.11	2.14
Value of Quality of Life Gained	$883,084	$8,830,838	$44,154,192	$88,308,384
Life Years Gained	3.2	32	161	323

Comparative analysis: a review of other specialist cancer nursing economic evaluations shows LFA's SLCN Model of Care can achieve similar benefit cost ratios

Conclusions

1. SLCNs are Cost Saving for Australia's Health System

- This economic evaluation shows that **SLCNs are cost saving for the health system** and can **achieve similar Benefit Cost Ratios to specialist nurses in other cancer areas**.
- Different types of SLCN Activities may be more operationally or cost effective for specific health services and the system depending on service resourcing and population needs. For this economic evaluation, Symptom Management and Survivorship Clinics had the highest Benefit Cost Ratio due to avoided ED presentations.

2. High-Quality Outcome Data is Needed

- To increase the certainty of our conclusions, we recommend **considering how outcome data may be collected** (e.g. hospital presentations, patient experience/outcome measures) through mechanisms such as formal research studies with ethics approval, or patient registries (e.g. Victorian Lung Cancer Registry, National Lung Cancer Screening).
- Given the uncertainty regarding the **impact of SLCNs on survivorship outcomes and the clear patient need for support post-treatment, survivorship is an important area to investigate further.**

3. A Changing Environment Requires Ongoing Monitoring and Evaluation

- The introduction of **National Lung Cancer Screening** and **neoadjuvant chemotherapy** (for newly diagnosed, resectable stage IIA–IIIB non-small cell lung cancer, without targetable EGFR or ALK mutations) **may significantly increase the workload of LFA's SLCNs which already are working at capacity.**
- The introduction of the **Australian Nursing and Navigation Program** may further change the scope of LFA's SLCNs, as McGrath's new all-cancer nurse model grows.
- Such regulatory changes may influence how LFA's SLCNs work and introduce new Activities to the LFA's SLCN Model of Care or change the proportion of time spent on each Activity.

Thankyou

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