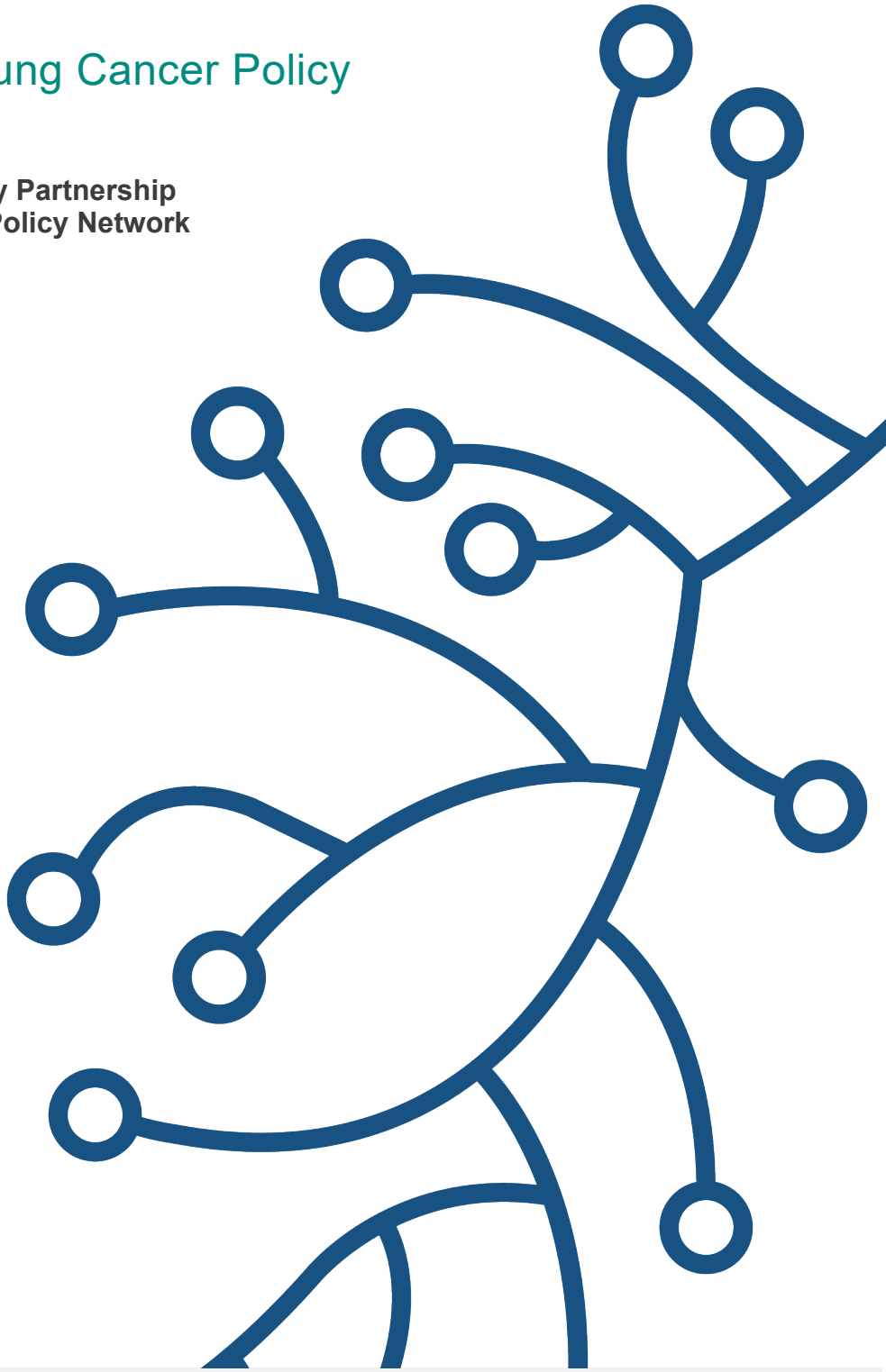
LUNG CANCER POLICY NETWORK
An initiative of the Lung Ambition Alliance

EU call for evidence: cancer screening recommendation update

Response from the Lung Cancer Policy Network

Submitted by The Health Policy Partnership on behalf of the Lung Cancer Policy Network

22 February 2022



The Health Policy Partnership [research, people, action]

Questions from the call for evidence to be addressed in Network response

2) What is the scientific basis for extending such screening programmes to other cancers (e.g. lung, prostate and gastric cancers) and ensuring their feasibility throughout the EU?

3) What are the main scientific elements to consider and the best practices to promote for optimising risk-based cancer screening and early diagnosis throughout the EU?

Network short response text

The Lung Cancer Policy Network is a global, multidisciplinary network of 32 lung cancer experts, set up under the Lung Ambition Alliance in 2021. The Lung Ambition Alliance aims to eliminate lung cancer as a cause of death, and was founded by the Global Lung cancer Coalition, the International Association for the Study of Lung Cancer, AstraZeneca and Guardant Health.

As a Network, we strongly recommend that targeted lung cancer screening, through low-dose computed tomography (LDCT), be included in the forthcoming EU recommendations. We also suggest that the EU should encourage and provide guidance to Member States to explore the feasibility of implementing large-scale national programmes within their specific national contexts.

We feel that the clinical, economic and implementation research on LDCT screening is now at a stage of maturity to justify this recommendation, and have provided detailed evidence to support this position in the attached document:

- Lung Cancer Policy Network response to the EU call for evidence.

We also wish to highlight the report, Lung Cancer Screening: the cost of inaction, published in July 2021. This report is a comprehensive review of the clinical and cost effectiveness evidence for lung cancer screening in targeted populations using low-dose CT scans. It highlights the potential of lung cancer screening to improve patient outcomes while also reducing the cost burden on healthcare systems.

Network full response text

The Lung Cancer Policy Network is a global, multidisciplinary network of 32 lung cancer experts. As a Network, we strongly recommend that targeted lung cancer screening through low-dose computed tomography (LDCT) be included in the forthcoming EU recommendations.

We feel that the clinical, economic and implementation research on LDCT screening is now at a stage of maturity to justify this recommendation. LDCT screening meets all the Wilson and Jungner principles of screening,[1] which are recognised by the World Health Organization as essential criteria that countries should use to assess all potential new screening programmes.[2] Lung cancer is the leading cause of cancer mortality in the European Union and worldwide, accounting for one in five cancer deaths.[3] Early detection could have a significant impact on prognosis as a large proportion of people present with late-stage disease, resulting in poor rates of survival.[4] Treatment advances have been significant in recent years, with many potentially curative treatments (e.g. surgery) being made available, particularly if cancers detected are detected at an early stage.[5 6] Shifting detection to an earlier stage via screening would therefore transform lung cancer from a fatal to a treatable condition for many people, improving people's quality of life and dramatically decreasing the condition's economic toll on society.[7-9]

The call for evidence states that the updated recommendation should take account of the most up-to-date evidence. This is particularly relevant for lung cancer screening. Several randomised controlled trials (RCTs) have shown a statistically significant reduction in lung cancer mortality in participants; for example, the NELSON trial found that LDCT screening is highly effective, with the potential to significantly reduce lung cancer deaths in high-risk individuals.[10] These findings build on evidence from many other RCTs that have reported results since 2019, such as the LUSI, MILD and UKLS trials.[11-13] *The Lancet Regional Health - Europe* has also recently published a meta-analysis of nine RCTs and concluded the evidence of a potential mortality benefit from LDCT lung cancer screening is robust.[14]

There is also strong evidence that the benefits of lung cancer screening demonstrably outweigh potential harms. High-quality LDCT screening shows a negligible risk from radiation exposure and the false-positive and over-diagnosis rates are similar to screening mammography.[15 16] Initially proposed to target high-risk populations, LDCT screening holds the potential to be expanded as screening eligibility criteria continue to be refined through risk modelling (e.g. to account for the growing number of lung cancer cases in never smokers).[17 18] Furthermore, the benefits of LDCT screening could extend beyond lung cancer: LDCT screening could provide an opportunity to detect other non-communicable diseases at an early stage, such as cardiovascular and chronic obstructive pulmonary disease.[19-21]

Several studies around the world have demonstrated that targeted lung cancer screening using LDCT is cost-effective. See *Appendix 1* in the attached report, *Lung cancer screening: the cost of inaction*, for a synthesis of published cost-effectiveness analyses of LDCT screening. When compared with other established screening programmes (i.e. breast and colorectal), fewer people need to be screened for lung cancer to prevent one cancer death.[22-25] As we have seen the US,[26] if eligibility criteria thresholds are reduced, more people at high risk of lung cancer could benefit from lung cancer screening. Also, since the cost of potential treatments for late stage

disease are expected to continue to rise,[27] early detection of lung cancer through screening is likely to be even more cost-effective in the future.

LDCT screening can be complementary to smoking cessation programmes, providing an opportunity to offer support with smoking cessation as well as increasing cost-effectiveness by embedding smoking cessation into screening programmes. People who have previously smoked remain at high risk of lung cancer for many years after quitting; therefore, combining screening with smoking cessation support provides an important opportunity to engage more individuals at high risk of lung cancer, possibly prior to any disease onset, and thus reduce premature mortality.[28] LDCT screening can also contribute to anti-tobacco agendas: when combined with smoking cessation programmes, targeted LDCT screening improves smoking cessation rates, thus having a synergistic effect.[29-31]

Over a decade of clinical trials, feasibility and pilot studies from across Europe and outside of Europe have provided a wealth of learning on how to optimise the implementation of large-scale population-based LDCT screening programmes and ensure implementation reflects local realities on the ground. While we recognise that implementation is invariably complex, economies of scale can be made with existing cancer screening programmes (e.g. via common coordinating centres across different screening programmes). The EU Member States of Italy, Poland and Croatia have committed to implementing national organised LDCT screening programmes on the strength of the existing evidence base.[32-34] The attached report outlines several key success factors that should be built into the development of lung cancer screening programmes. Our Network is also developing a learning community around implementation. This learning community seeks to ensure lessons can be shared and knowledge transferred effectively between LDCT screening initiatives.

With these points in mind, the Network emphasises that targeted lung cancer screening by LDCT clearly meets the criteria for inclusion of new cancer screening programmes outlined in the call for evidence.

Supporting attachments

- *Lung cancer screening: the cost of inaction* report, published in July 2021.
- List of Lung Cancer Policy Network members and affiliations

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