

ERS, ESR, ESTS, ELF and LuCE submission to European Commission call for evidence on cancer screening:

Lung Cancer Screening with Low Radiation Dose Computed tomography (LDCT)

The personal and healthcare burden of lung cancer

Lung cancer is the leading cancer killer in Europe, constituting 20.4% of all cancer deaths in the EU in 2020. Lung cancer has the highest healthcare costs of all malignancies. People with lung cancer have more severe co-morbidities and bear a higher symptom load when compared to most other solid cancers. This is because over two-thirds of people with lung cancer are diagnosed at a late stage when surgery is not an option. In complete contrast, three-quarters of participants in LDCT screening are diagnosed at an early stage when cure is more likely.

Screening increases earlier diagnosis

The two most effective ways to reduce lung cancer mortality are primary risk reduction by improving air quality, reducing occupational hazards, avoiding smoking in young people, encouraging smokers to take part in smoking cessation treatment, and increasing earlier diagnosis in individuals already at high risk for lung cancer by provision of lung cancer screening programmes.

Lung cancer screening reduces deaths

LDCT screening for lung cancer has been shown, by high-quality research, to reduce lung cancer mortality, and in the largest trial, to reduce all-cause mortality. This is achieved by detecting lung cancer at an early stage in the majority of participants. Research has also shown that women benefit more than men, however, both sexes benefit. In the largest European trial (NELSON) lung cancer mortality was reduced by 24% in men and 33% in women.

Lung cancer screening is already underway

Guidelines and statements from international and national medical societies, expert groups and health care authority bodies recommend the implementation of LDCT screening programmes for lung cancer. Countries outside Europe (USA, Australia) and within Europe (Croatia, Czech Republic, Poland) are at various stages of implementing national LDCT screening programmes or have started regional and national lung cancer screening pilots (i.e. UK, Denmark, France, Germany, Hungary, Italy, Norway, and Spain).

Lung cancer screening programmes are feasible, beneficial and safe

The recently published baseline data of 5 regional implementation studies within the UK have confirmed feasibility of LDCT lung cancer screening by showing the same early-stage detection and high curative treatment rates seen in research.

Even better, there were very few harms to participants, substantially fewer than in earlier research studies. This implementation data has proven the added value of well-formulated standards of care resulting in false-positive rates as low as 2.0% without any related severe adverse events or mortality. After a thorough assessment of the effect of LDCT screening including the risks of radiation exposure by repetitive LDCT screening rounds, the German Federal Office for Radiation Protection concluded an overall benefit.

Participants' involvement in lung cancer screening is worthwhile

Participants in research trials say that the process is acceptable to them. Recent data from UK pilots also shows that over 90% of participants have a good opinion of the process. This includes many people from socioeconomically disadvantaged groups and reveals LDCT screening as one way to address disparities. Improving smoking cessation is difficult but when integrated with LDCT screening for lung cancer, research has shown much higher quit rates.

In conclusion and in line with WHO and EU principles for early detection,

there is compelling international scientific evidence to support the conclusion that lung cancer screening for high-risk individuals with LDCT is at least as effective as other cancer screening programmes. Hence, we encourage the EU Commission to recommend national LDCT lung cancer screening programmes in the Council cancer screening guidelines in 2022 to achieve the goals of Europe's Beating Cancer Plan.