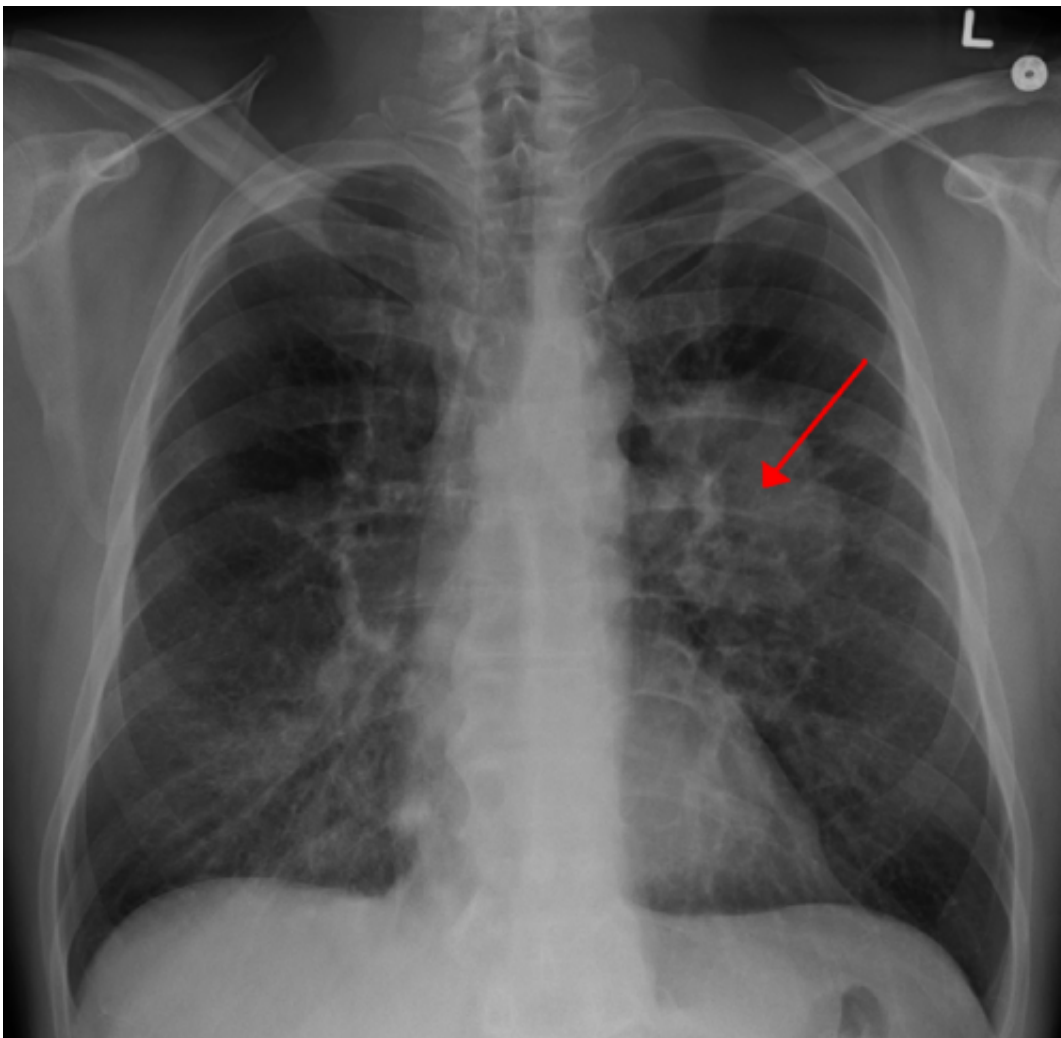


# UKLS trial meta-analysis confirms that low dose CT screening for lung cancer reduces mortality

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Lung CA seen on CXR. Credit: [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/) James Heilman, MD/Wikipedia

Low-dose CT lung cancer (LDCT) screening is associated with a 16 percent relative reduction in lung cancer mortality, when compared against a non-LDCT control arm, according to research presented by Professor John Field and the United Kingdom Cancer Screening Trial (UKLS) Team today at the IASLC 2021 World Conference on Lung Cancer. The research will be published in *The Lancet Regional Health-Europe*.

Previous studies, such as the National Lung Cancer Screening Trial and The NELSON LDCT [screening](#) trial, provided evidence of a statistically significant reduction (20%, 24% respectively) in lung cancer [mortality](#). The UKLS is a [randomized controlled trial](#), comparing LDCT screening with usual care in a high-risk population selected using the LLPv2 risk model, and having a unique Wald single LDCT screening design, in a high-risk population.

Risks for the UKLS were calculated using LLPv2, which is a modified version of the published LLP model, which incorporates age, smoking duration, family history of lung cancer, history of previous malignancies and exposure to asbestosis and other potential respiratory risk factors (bronchitis, emphysema, tuberculosis and COPD) in addition to pneumonia, and treats cigar and pipe smoking as conferring an identical risk to cigarette smoking.

Lead by Prof. John Field, of The University of Liverpool, Liverpool, United Kingdom, researchers randomly allocated 4055 participants, October 2011 to February 2013, with either a single invitation to LDCT screening or no screening (usual care). Data were collected on lung cancer cases and deaths to 29-February-2020 through linkage to national registries. The primary outcome was mortality due to lung cancer.

Prof. Field's team analysed 1987 UKLS participants in the intervention arm and 1981 2027 in usual-care arm and followed them for 7.4 years.

During this time, 30 lung cancer deaths were reported in the screening arm, 46 in the control arm). The primary analysis showed a relative rate 0.65 [95% CI 0.41-1.03];  $p=0.065$ . It has to be noted that the relative benefit in terms of lung cancer mortality was seen most strongly in the three to six years after randomization (Figure 1)

Additionally, Prof. Field and his team at U.K.-based centers also included their results in a random-effects meta-analysis to provide a synthesis of the latest randomized trial evidence. This meta-analysis included nine previous trials on LDCT (in the table below). Results from these nine randomized controlled [trials](#) were included in the meta-analysis indicated a significant reduction in lung cancer mortality.

LDCT screening was associated with a 16% relative reduction in lung cancer mortality, when compared against a non-LDCT control arm (RR 0.84 [0.76—0.92]) with no significant heterogeneity ( $p=0.32$ ,  $I^2=13.7\%$ ).

"The UKLS mortality data and recent meta-analysis provides the impetus to now put in place a long-term [lung](#) cancer screening programmes internationally and especially encourage nations in Europe to start their own implementation programmes. Lung [cancer](#) early detection and surgical intervention saves lives," Dr. Field reported.

**More information:** John K. Field et al, Lung cancer mortality reduction by LDCT screening: UKLS randomised trial results and international meta-analysis, *The Lancet Regional Health - Europe* (2021). DOI: 10.1016/j.lanepe.2021.100179 , [https://www.thelancet.com/journals/lanep/article/PIIS2666-7762\(21\)00156-3/fulltext](https://www.thelancet.com/journals/lanep/article/PIIS2666-7762(21)00156-3/fulltext)

Provided by International Association for the Study of Lung Cancer

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