

P.1096 Using emphysema thresholds in lung cancer screening to identify airflow obstruction and respiratory hospitalisation risk

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- Potential extended benefits of lung cancer screening (LCS) include identification of undiagnosed COPD.
- There is a lack of consensus on reporting emphysema severity in LCS.
- Aims were therefore 1) to evaluate emphysema thresholds for investigating undiagnosed COPD and 2) to determine whether these thresholds predict future respiratory hospitalisation.

Methods

55-77- year-old SUMMIT LCS study participants

Baseline LDCT emphysema visually-assessed by % lung affected: none, mild (<25%), moderate (25-50%), severe (>50%)

Data sources

LCS appointment

- Age
- Ethnicity
- Gender
- Smoking status and history
- Respiratory symptoms:
Cough
Breathlessness (mMRC)

Primary Care

Disease codes used to exclude individuals with pre-existing asthma and COPD

Hospital Episode Statistics

Acute hospitalisations with any respiratory disease code as the primary diagnosis

42% airflow obstruction

 $p < 0.001$

Increasingly strict thresholds were more strongly associated with respiratory hospitalisation but had reduced sensitivity for identifying individuals with new airflow obstruction.

- Using 'any emphysema' as a referral threshold was most sensitive, identifying the highest proportion of LCS individuals with the treatable trait of new airflow obstruction.
- However, more restrictive thresholds demonstrated lower false positive rates and may better target individuals at highest risk of adverse outcomes.
- Cost-effectiveness analysis is vital to ensure local resources are optimally utilised.