

Lung cancer screening improves early detection and survival

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FOLLOWING THE INTRODUCTION OF LUNG CANCER SCREENING IN THE USA THERE HAS BEEN A STAGE shift towards patients being detected with early disease and improved survival, a large US study has found.¹

In December 2013, the United States Preventive Services Task Force recommended annual screening for lung cancer using low dose computed tomography (LDCT) in adults aged 55 to 80 years who had at least a 30 pack-year smoking history and who currently smoked or had quit within the past 15 years.

The investigators conducted a retrospective analysis, using the National Cancer Database (NCDB) which captures approximately 65% of all newly diagnosed cases of lung cancer in the USA, and data from the Surveillance, Epidemiology, and End Results (SEER) program. Patients aged 45-80 years in the NCDB and aged 55-79 years in the SEER database who were diagnosed as having non-small cell lung cancer (NSCLC) from 2010 to 2018 were included in the study.

Data on two groups of individuals with lung cancer diagnoses, those found to have NSCLC from 1 January 2010 to 31 December 2013 (before screening started) and patients found to have NSCLC from 1 January 2014 to 31 December 2018 were analysed. These data were used to estimate annual changes in the percentage of NSCLC diagnosed at stage I for each of the two groups. In all 763,474 patients were identified from the NCDB.

From 2010 to 2013, the percentage of patients with stage I NSCLC at diagnosis did not increase significantly, rising from 27.8% to 29.4%; an increase of 1.9% per year. However, from 2014 to 2018, the percentage of patients with stage I NSCLC at diagnosis increased significantly from 30.2% to 35.5%; an increase of 3.9% per year.

A multivariable analysis showed that the increase in the odds per year of a patient having one lung cancer stage lower at diagnosis (for example, stage I instead of stage II etc) from 2014 to 2018 was 6.2% higher than the increase in the odds per year from 2010 to 2013.

Similarly, the median all cause survival of patients aged 55-80 years did not significantly increase from 2010 to 2013 (a rise from 15.8 to 18.1 months), but then increased significantly by 11.9% per year from 2014 to 2018 (from 19.7 to 28.2 months). In multivariable

adjusted analysis, the hazard of death decreased significantly faster after 2014 compared with before 2014 ($P < 0.001$).

Increases in the detection of early stage disease in the US from 2014 to 2018 led to an estimated 10,100 averted deaths.

The study authors conclude: 'Although the adoption of lung cancer screening has been slow and screening rates have remained low nationally, the findings of this study indicate the beneficial effect that even a small amount of screening can have on lung cancer stage shifts and survival at the population level.'

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'Furthermore, these findings suggest that the widespread adoption of low dose computed tomography screening should be considered an important strategy for reducing mortality from lung cancer in the US,' they add.

Recent results from the NHS Targeted Lung Health Check Programme community initiative in England have also found a significant

increase in lung cancer cases detected early (stage I or II) in high-risk groups (including smokers and former smokers) since the introduction of the programme. Data released this month has shown that more than three quarters (77%) of lung cancers have now been detected at either stage I or II compared with less than a third of lung cancers detected at either stage I or II in 2018.²

In the rest of the UK, the devolved nations have yet to initiate lung cancer screening programmes. These findings provide additional impetus to extend lung cancer screening. We have seen too many patients presenting at a late stage when there may be little to be done.

REFERENCES

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