

## THORAX

### Nearly one in three UK lung cancer patients dies within 3 months of diagnosis, despite serial visits to their doctor

*More help needed for family doctors to spot signs and request appropriate and timely tests, say researchers*

**[What characteristics of primary care and patients are associated with early death in patients with lung cancer in the UK? Online First doi 10.1136/thoraxjnl-2014-205692]  
[Deprivation, distance and death in lung cancer Online First doi 10.1136/thoraxjnl-2014-206153]**

Nearly one in three lung cancer patients in the UK dies within three months of diagnosis, despite having visited their family doctor several times beforehand, reveals an analysis of primary care data, published online in the journal *Thorax*.

The findings suggest that family doctors may not be picking up the signs of lung cancer and investigating them as appropriately as they might, or promptly enough, say the researchers.

The UK lags behind other countries in survival rates for lung cancer, a gap that has largely been attributed to late diagnosis of the disease.

In a bid to find out more about the factors in primary care associated with these figures, the researchers analysed family doctors' (GPs') investigation of lung cancer between 2000 and 2013.

They used data from The Health Improvement Network (THIN), which contains the anonymised health records of millions of primary care patients across the UK.

They analysed 20,142 cases of lung cancer recorded by 444 general practices during the study period. Of these, one in 20 (5%; 1071) was recorded only on the death certificate.

Of the remainder, one in 10 patients (2036) died within a month of diagnosis; and around one in seven (15%) died within 3 months. These were classified as 'early' deaths.

Over half (57%) of all lung cancer deaths were in men: they were 17% more likely to die early than women. The average age at diagnosis was 72. And those aged 80 and above were 80% more likely to die early than those who were diagnosed at a younger age.

Current smokers were also 43% more likely to die early than those who had never smoked, but former smokers were less likely to do so than those who had never smoked.

And an early death was 16% more likely in areas of high deprivation than in more affluent areas. Living in a rural area also increased the odds of an early death from lung cancer.

Further analysis indicated differences in consultation and investigation patterns for patients who died early compared with those who survived for more than three months.

Patients who died early went to see their GP more frequently in the few months before their diagnosis, visiting their general practice an average of five times.

The odds of an early death were lower among those who had had a chest x ray carried out in primary care, irrespective of how many times they had seen their GP before diagnosis. But the odds of an early death rose in tandem with the number of GP consultations they had had.

And patients registered at a practice with high referral rates for chest x-rays were 41% more likely to die early than those registered at practices with low referral rates, even after taking account of other influential factors.

This does not mean that chest x-rays are of questionable value, the researchers emphasise. "Like any investigation, however, it needs to be used at an appropriate time, in a selected patient group," they write.

And somewhat unexpectedly, a patient living in an area where lung cancer rates were high was no more likely to survive for at least three months than one living in an area where rates were low, the analysis showed.

The researchers point out that the average family doctor is likely to see only one new case of lung cancer a year.

"For this reason we need to promote better use of risk assessment tools, and use software prompts to help GPs to identify and investigate in a timely manner those at risk," they write. "This has potential to increase the proportion of patients who are diagnosed at an early stage and are, therefore, suitable for treatment with curative intent."

In a linked editorial, Dr Michael Peake, honorary consultant and senior lecturer at the University of Leicester's Glenfield Hospital, agrees that GPs need better tools to support their clinical decision making, so that they can pick up patients at risk earlier on.

And he insists: "The number of excess deaths linked to deprivation is large and the gap between the least and most deprived has not lessened over time. Improved targeting of public awareness campaigns to specific social groups is important so as not to widen this gap further."