**National Lung Cancer Audit updated survival analysis of the 2020 English cohort**

Background

The [NLCA report published in Jan 2022](https://www.hqip.org.uk/resource/national-lung-cancer-annual-report/) provides information on the process of care and

outcomes for patients diagnosed with lung cancer between 1 January 2019 and 31 December 2019 in Wales and Guernsey and between 1 January 2019 and 31 December 2020 in England. In contrast to previous years, the data for England for 2019 and 2020 utilised the Rapid Cancer Registration dataset (RCRD). As described in more detail in the main report, the RCRD did not include patients diagnosed via the death certificate only route and approximately 4,300 patients with poor prognosis were excluded.

The survival data for the 2019 and 2020 cohorts was originally made available to the NLCA team in June 2021. While this allowed analysis of the 2019 cohort, follow-up was insufficient for the 2020 data and so survival was not reported for the English 2020 cohort in the final report. However, updated data were provided by the National Cancer Registration and Analysis Service in December 2021 and the results are provided in this updated analysis. We are grateful to our colleagues at the University of Nottingham for carrying out this analysis.

Results

The number of patients available for survival analysis in the 2020 dataset was 23,719 as the data cut off was in October. The median survival of the analysed patients was 306 days (vs 316 for the 2019 cohort) and the 1 year survival was 44.3%. There were no statistical outlier providers at Cancer Alliance level. Survival according to stage was similar between 2019 and 2020.

Interpretation

When interpreting these data, it must be borne in mind that the source of the data is the RCRD and that the analysis is based upon 23,719 patients out of 31,371 in the dataset. This dataset has the advantage of being available quickly after a patient is registered with a lung cancer diagnosis but has the disadvantage that many cases are missing. It would appear that many of the missing patients are those with advanced stage disease and worse prognosis. Therefore, although the 2019 and 2020 datasets appear to have similar survival, the 2020 dataset does not include missing patients with poorer prognosis. If we assume that 4,300 patients are missing from the RCRD are distributed evenly throughout the year and that they also did not survive for 1 year, then the 1 year survival of patients in 2020 can be estimated to be 39%. A similar analysis for the 2019 data gives a 1 year survival of 40.7%. This suggests a drop in 1 year survival for the 2020 cohort compared to 2019.

During 2020, it is likely that lung cancer patients may have died with or because of COVID-19. This may explain the reduced incidence in 2020. In addition, routes to diagnosing early stage lung cancer e.g. on CT scans carried out for other reasons or early detection initiatives were interrupted in 2020. The NLCA report has also shown that compared with 2019, lung cancer patients diagnosed in England in 2020 had worse performance status, were more likely to be diagnosed via emergency presentation and less likely to have a pathological diagnosis. Curative treatment rates fell from 81% in 2019 to 73% in 2020 with a drop in surgical resection rate from 20% to 15%. These factors may contribute to worse survival in 2020.