

Over half of English patients with NSCLC in areas with low socio-economic levels do not receive anti-cancer therapies

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Novel anti-cancer therapies were not accessible to more than half of the patients in England who were diagnosed with non-small cell lung cancer, according to a new study published in the *Journal of Thoracic Oncology*.

In England, all [cancer patients](#) are entitled to care, free at the point of delivery within the universal, publicly funded, National Health Service (NHS) including treatment with guideline approved targeted therapies and immune checkpoint inhibitors. Private healthcare, especially for conditions like [cancer](#), is uncommon.

Novel anti-cancer therapies include molecular targeted therapies targeting either oncogene addiction or synthetic lethality with activity restricted to tumors with appropriate biomarker status (e.g., simertinib); biological treatments with no predictive biomarker included in the license (e.g., bevacizumab); and immune checkpoint inhibitors (ICIs) which use the immune system to recognize and attack [cancer cells](#) (e.g. pembrolizumab).

Studies in many countries show that lung cancer survival rates are lower in people from lower socio-economic backgrounds. One reason for this might be socio-economic differences in access to treatment. Previous research has demonstrated socio-economic inequalities in the utilization of conventional NSCLC treatments such as chemotherapy, but it is not known if these inequalities are also observed with novel anti-cancer therapies.

To assess this, researchers from the Population Health Sciences Institute at Newcastle University and Newcastle-upon-Tyne Hospitals NHS Trust conducted a retrospective analysis of all 90,785 patients diagnosed with histologically confirmed stage IV NSCLC between 2012 and 2017, using data from the English national population-based cancer registry and linked Systemic Anti-Cancer Therapy (SACT) database.

The researchers examined receipt of novel anti-cancer treatments by patients' deprivation category of the area of residence at diagnosis measured using quintile rank of the income domain of the Index of Multiple Deprivation (IMD—a widely used proxy for socio-economic

status). They accounted for differences between patients in other factors that can determine suitability for treatment, such as stage at diagnosis, tumor morphology, comorbidities, and age.

"Patients residing in the most deprived areas were 55% less likely to utilize any of these novel anti-cancer therapies compared to those residents in the least deprived areas," according to lead author Linda Sharp, Ph.D., Professor of Cancer Epidemiology from the Population Health Sciences Institute at Newcastle University.

"Overall, these findings suggest that despite significant improvements in NSCLC treatment and prognosis, socioeconomic status is an important factor in access to novel treatment, even within the context of England's NHS, where treatment is free at the point of delivery."

Co-author Adam Todd, Ph.D., Professor of Pharmaceutical Public Health added, "There is an urgent need to investigate the reasons for these inequalities so we can take steps to eliminate them. This is essential if we want to realize the full potential of these therapies for NSCLC patients."

More information: Ruth P. Norris et al, Socio-economic Inequalities in Novel NSCLC Treatments During the Era of Tumor Biomarker Guided Therapy: A Population-based Cohort Study in a Publicly Funded Healthcare System, *Journal of Thoracic Oncology* (2023). [DOI: 10.1016/j.jtho.2023.04.018](https://doi.org/10.1016/j.jtho.2023.04.018)

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