Clinical outcomes for cancer patients in England by sexual orientation and English language status: novel analysis of linked National Cancer Patient Experience Survey data

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Background

People with cancer who identify as lesbian, gay, bisexual or another sexual orientation (LGB+) or who speak English as an additional language (EAL) may face stigma, discrimination, and communication difficulties (1,2). There is a lack of research about the impact these issues could be having on cancer diagnosis and outcomes. Novel linkage between national cancer experience survey data and core cancer registration datasets offers an opportunity to better understand these underrepresented groups and identify potential inequities in care.

Aim

To explore outcomes for people with cancer who are LGB+ or with EAL.

Methods

We linked National Cancer Patient Experience Survey (NCPES) responses (2017-2022) with NHS England's National Disease Registration Service (NDRS) cancer registry data. The dataset included ~51,000 cancer patients annually who had recently received inpatient cancer care and completed the NCPES questionnaire.

Logistic regression was used to examine associations between sexual orientation and English language status and stage at diagnosis (early/stages 1-2 vs. late/stages 3-4) and route to diagnosis (emergency presentation or screening), adjusted for age at diagnosis, ethnicity, deprivation, and cancer site.

Kaplan-Meier survival analysis and log-rank tests were used to compare unadjusted survival by sexual orientation and English language status. Logistic regression was used to examine associations between sexual orientation and English language status and 1-year and 5-year survival, adjusted for age at diagnosis. For each analysis, patients with missing or invalid data were excluded.

Results

Survey respondent composition:

- **LGB+**: 1.5% (730 annually)
  Compared with non-LGB+, more often male, younger, and more deprived. Fewer lung cancers, but similar distributions across other cancer sites.
- **EAL**: 4.5% (2,400 annually)
  Compared with non-EAL, more often female, younger, ethnically diverse, and more deprived. More often had breast cancer, and less often had colorectal, lung, or prostate cancer.

Stage at diagnosis:

Late stage:

- **LGB+**: 42.2% vs. 42.5% for non-LGB+
- **EAL**: 41.2% vs. 42.5% for non-EAL
  People with EAL had slightly lower odds of late-stage diagnosis in adjusted models ($p<0.05$).

Route to diagnosis:

Emergency presentation:

- **LGB+**: 9.3% vs. 8.3% for non-LGB+
- **EAL**: 9.8% vs. 8.2% for non-EAL

Screening:

- **LGB+**: 8.0% vs. 10.8% for non-LGB+
- **EAL**: 9.7% vs. 10.8% for non-EAL

No significant associations found in adjusted models.

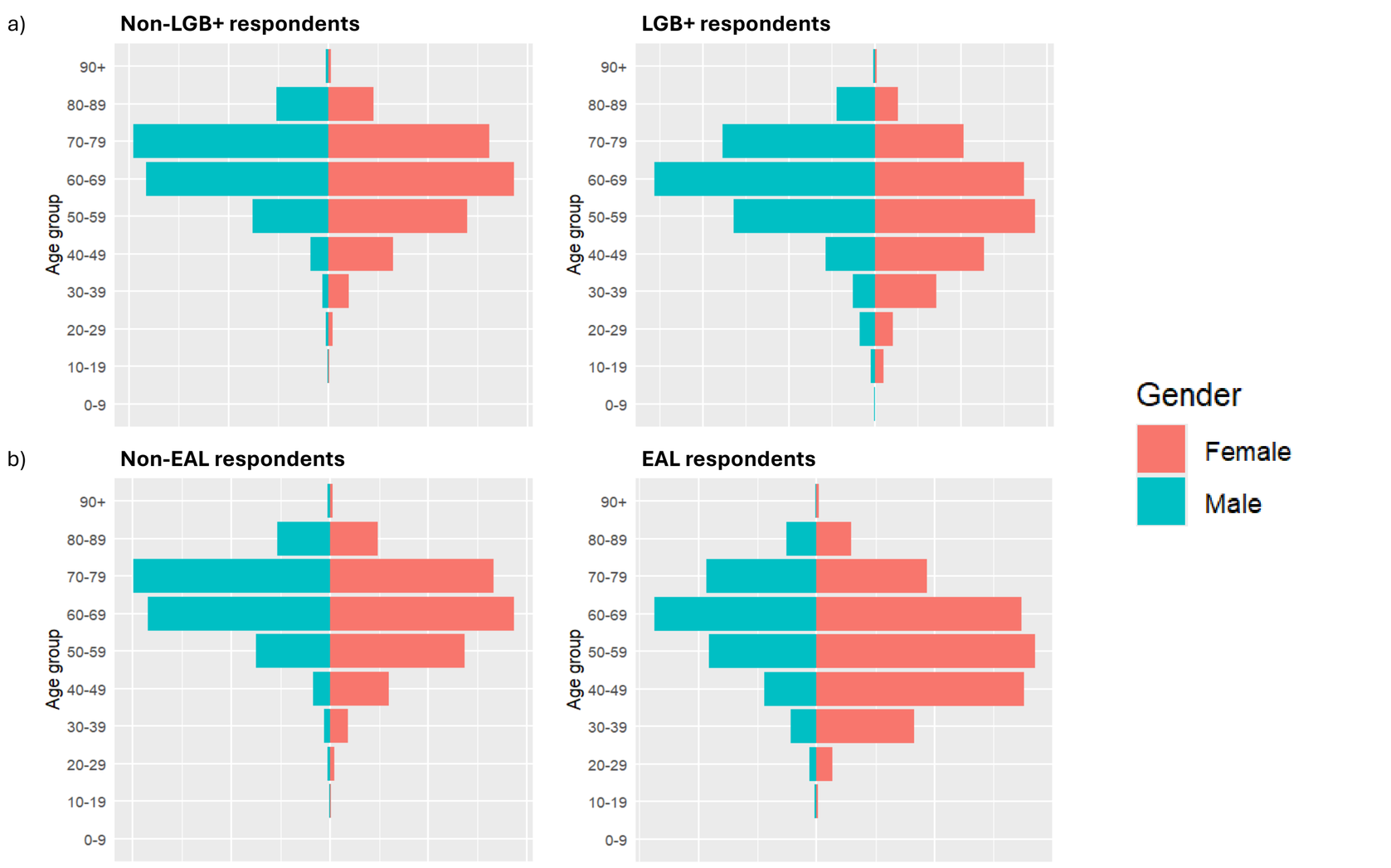
Overall survival:

- **LGB+**: 1-year 98.8% and 5-year 80.5% vs. 98.5% and 78.4% for non-LGB+
  EAL: 1-year 99.1% and 5-year 83.0% vs. 98.5% and 78.1% for non-EAL
  Significant difference in log-rank tests ($p<0.01$), but no significant difference after adjusting for age.

Post-hoc analysis:

Power calculations indicated that sample sizes were too small to detect meaningful statistically significant differences between groups, even if such differences existed. Exceptions to this were the analyses of the associations between English language status and the likelihood of being diagnosed via emergency presentation and overall survival.

***Figure 1**: Study population by age and gender and: a) sexual orientation; b) English language status*



Conclusions

This novel analysis provides estimates of stage at diagnosis, routes to diagnosis, and survival outcomes for LGB+ and EAL groups among cancer patients in England.

However, findings were constrained by small sample sizes for LGB+ and EAL groups relative to the overall population, underscoring a substantial evidence gap and the need for further research.

Other limitations include the exclusion of patients who did not receive inpatient care. Patients with the poorest prognoses or limited English proficiency are less likely to take part, introducing bias.

1) UK Government Equalities Office (now called Women and Equalities Unit). National LGBT Survey: Research report. July 2018 (accessed June 2025). Available from: assets.publishing.service.gov.uk/media/5b3b2d1eed915d33e245fbe3/LGBT-survey-research-report.pdf. 2) Healthwatch England. Lost for words: How language barriers impact access to healthcare. March 2022 (accessed June 2025). Available from: www.healthwatch.co.uk/sites/healthwatch.co.uk/files/Lost%20for%20Words.pdf. This work uses data that has been provided by patients and collected by the NHS as part of their care and support. The data are collated, maintained and quality assured by the National Disease Registration Service, which is part of NHS England.