Representativeness of Blood Cancer Clinical Trial Participants. By: Sharon Okolo

Introduction:

Across the cohort, for every 12 blood cancer patients receiving systemic anti-cancer therapy (SACT) about 1 takes part in a trial.

Aim:

This study aims to compare blood cancer patients who participate in trials with those who do not.

Objectives:

- To compare patient trial participation across demographic, socio-economic, geographic and clinical factors.
- Evaluate if clinical trial population reflects diversity of the real-world patient community.

Methods:

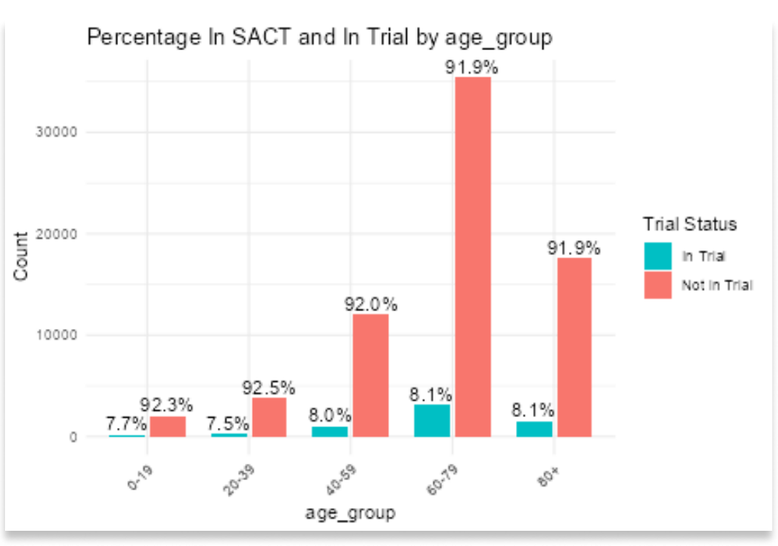
- Data: Age, Sex, Ethnicity, Region, Deprivation, Urban/ Rural, Haemacare, Comorbidity, Diagnosis Year, Trial participation
- Analysis tools: R programming Language, DuckDB SQL
- Statistics: counts, percentages, Chi-squared test, t-test
- Visualizations: Bar charts for comparison of participants

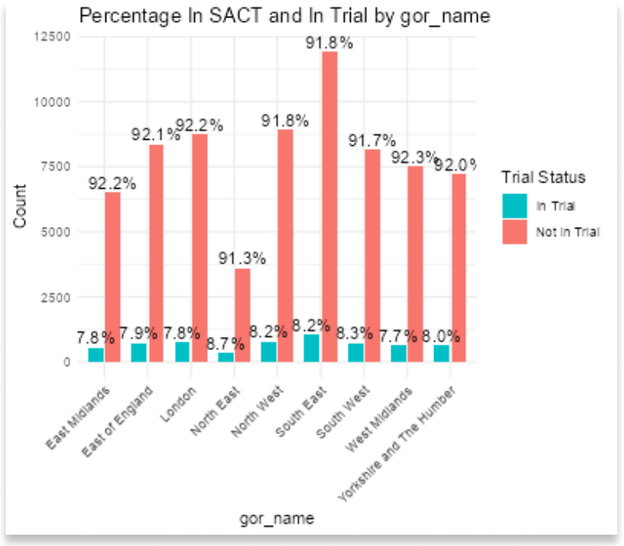
Data Overview:

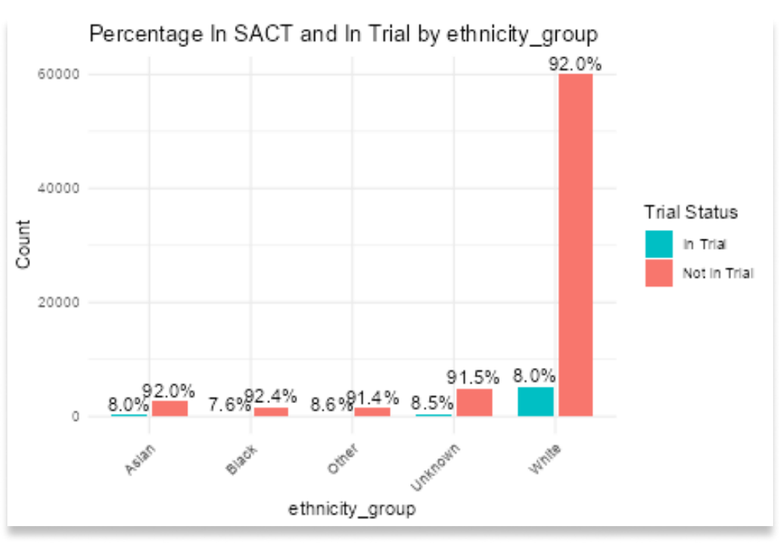
	In Trial	Not in Trial	Total
Overall Blood Cancer Population	6,210 (2%)	301,030 (98%)	307,240
Blood cancer patients receiving SACT	6,210 (8.1%)	70,916 (91.9%)	77,126

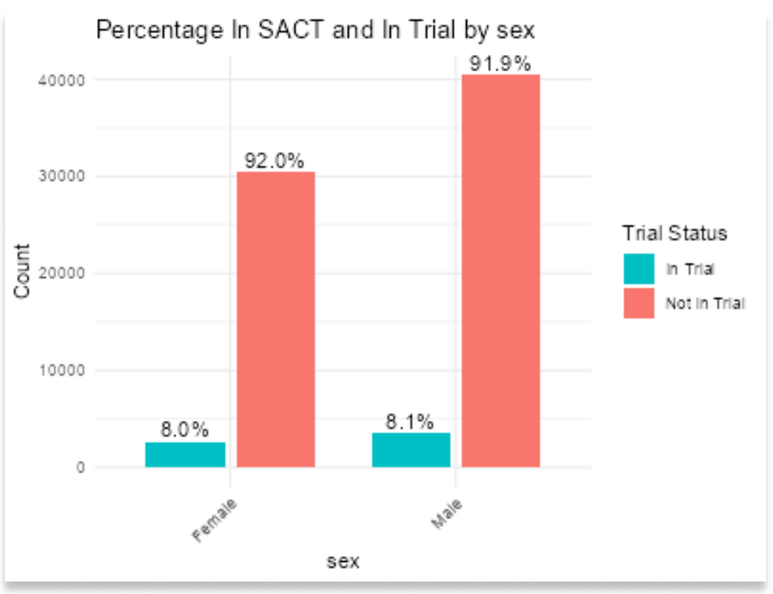
Results:

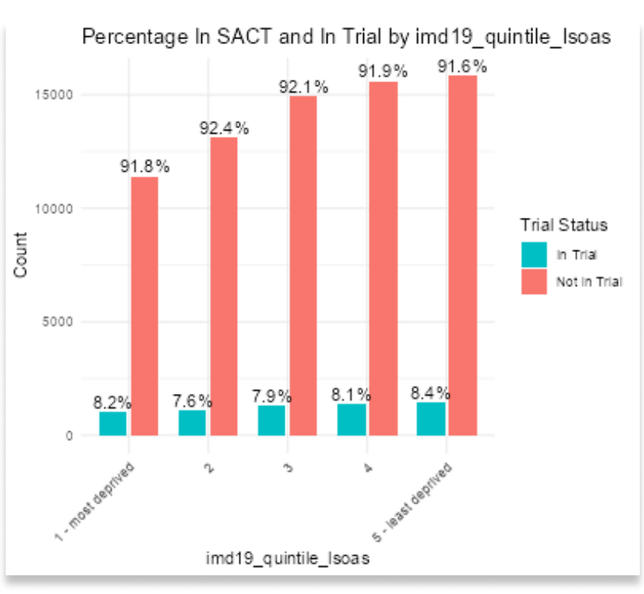
Among patients receiving systemic anti-cancer therapy (SACT), only 8% were enrolled in a clinical trial. Trial and non-trial patients within SACT showed similar distributions across age, sex, ethnicity, geography, diagnosis year, and cancer subtype. Even when comparing patients receiving SACT with those who did not, demographic, socio_economic, geographic and clinical characteristics were highly consistent across groups. The only clear difference was comorbidity: trial participants were less likely to have recorded comorbidities, suggesting effects of eligibility rules. Overall, trial populations were broadly representative, with comorbidity emerging as the main factor influencing enrolment.

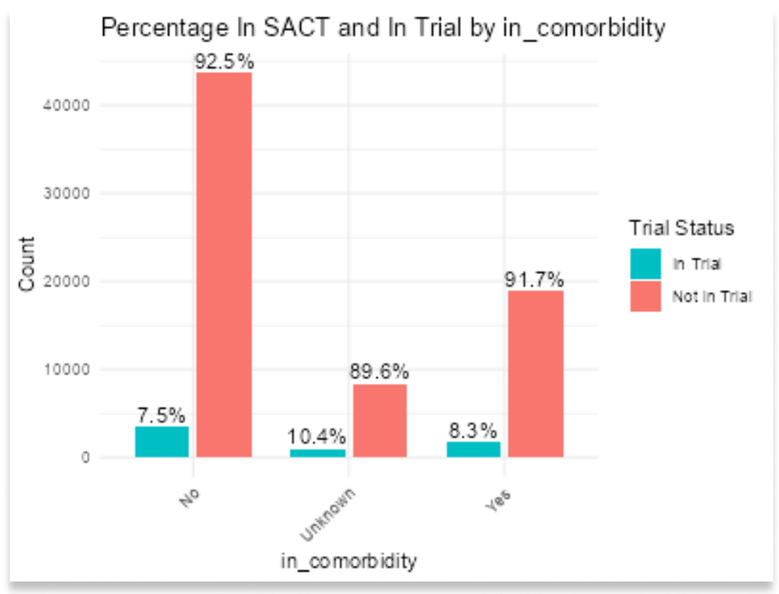












Conclusion:

This study used a subset of the national cancer registry and SACT data to compare trial and non-trial blood cancer patients. Trial participants were found to be broadly representative across demographics, disease, and geography, with comorbidity the only key difference. These findings highlight the importance of more inclusive trial designs and better comorbidity recording, to ensure trial evidence is fair, generalisable, and useful for real-world healthcare.

Acknowledgement:

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References:

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Agresti, A. (2018). Statistical methods for the social sciences (5th ed.). Pearson.

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