

**Title:** Understanding factors driving inequalities among breast cancer patients living at the intersection of social categories: A transformative mixed methods study

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**300-word (maximum) abstract**

Persistent inequalities in breast cancer outcomes exist between and within countries. Evidence pertaining to causes driving these inequalities is mixed. This might be explained by the inadequate attention paid to patient experiences of living at the intersection of social categories. To cover this gap, I have designed a sequential explanatory transformative mixed methods research (TMMR) project. This design will enable me to construct an enriched and deeper understanding of the factors driving inequalities among breast cancer patients and how these inequalities can be reduced.

I will investigate whether intersecting social categories (socioeconomic status, ethnicity, and sexual orientation) jointly influence patient experiences across the care pathway (quantitative); to describe how the experience of living at the intersection of these social categories influence their journeys across the care pathway (agency, decision-making, and engagement with services) (qualitative); and to interpret how my qualitative findings explain the quantitative findings (mixed methods). The impetus is to challenge longstanding inequalities and influence transformative social change by using findings to formulate recommendations for policymakers and providers to help them design and implement evidence-based, tailored, and culturally appropriate services; and support historically marginalised communities to influence bottom-up system change. The community will be engaged throughout the research cycle.

The research will be underpinned by Intersectional and Candidacy Frameworks. Data will be collected from a national cancer patient experience survey in the UK and semi-structured interviews, and analysed using descriptive and multivariable logistic regression, and interpretative phenomenological approaches respectively. Results will be integrated to make meta-inferences.

This research will generate novel contribution to the understanding of the role of intersectionality in breast cancer inequalities. Innovative ways of applying TMMR and Intersectional and Candidacy Frameworks will create new opportunities for future cancer research and will contribute towards advancing methodological knowledge both in intersectional and mixed methods research.