

navigation is a person-centred intervention delivered by lay or professional workers ('health navigators'), addressing individualised barriers to accessing healthcare. Despite recognition of health navigation as a promising intervention for migrant women, there remains a significant paucity of research on stakeholders' perspectives. The aim of this study is to understand migrant women service users' experiences and perceptions of health navigation.

**Methods** This study is based on a multiple, instrumental case study carried out between May 2019 and January 2020 in two English cities, in collaboration with a grassroots charity and a National Health Service (NHS) programme - both providing health navigators to support migrant women. Through purposeful sampling, semi-structured interviews were conducted with migrant women using these services (n=14), with interviews conducted in English (n=9), or with interpretation in Arabic (n=4) or French (n=1). Additionally, organisational documents were examined for information on women's needs upon referral to the services. Data from interviews and documents were coded in NVivo, and analysed using reflexive thematic analysis.

**Results** Study participants were refugee, asylum-seeking or trafficked women. They were pregnant or recent mothers, aged between 19 and 41 years. Five overarching themes were developed: 'Need for support', 'Knowledge', 'Tools for life in Britain', 'Close relationships' and 'Expectations'. Women reported needing companionship, material support and signposting - which mainstream NHS services have limited capacity to provide. They described having gained knowledge of NHS services and of pregnancy, birth and early motherhood - which they perceived as empowering and as increasing their access to healthcare. Health navigators reportedly reduced women's social isolation and helped to improve their English language proficiency, supporting women's integration into British society and promoting their general wellbeing. Finally, women described having close relationships with health navigators, but had expectations of them beyond health navigators' remit and boundaries. These themes were consistent across both case study sites.

**Conclusion** Health navigation was viewed positively by migrant women in this study. They perceived it as improving their access to maternity care - and other healthcare services - as well as improving their wellbeing, although greater clarity on health navigators' roles may help to manage women's expectations. Future research could explore health navigation interventions for migrant women operating beyond the first six weeks of motherhood.

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## Modelling and Methods

OP95

### DEVELOPMENT AND VALIDATION OF A PREDICTION MODEL TO ESTIMATE AN INDIVIDUAL RISK OF 10-YEAR MORTALITY IN A LONGITUDINAL COHORT OF OLDER ENGLISH ADULTS USING ADVANCED STATISTICAL LEARNING METHODS

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**Background** Although we embarked on the era of the global increase in the ageing population, the recent declines in life expectancy simultaneously experienced by many high-income countries highlight a need for an accurate prediction model for estimating individual, rather than average, risk for mortality in older adults, based on readily accessible information about individuals' lives, health and environment. Using advanced computer intensive statistical learning methods, we derived, evaluated and validated a prediction model of the 10-year risk for all-cause mortality in older adults from the general population.

**Methods** The model was developed using a prospective population-based cohort of English adults aged  $\geq 50$  years old from English Longitudinal Study of Ageing study. Having included a large pool of predictors, we employed cox proportional hazards model with regularisation by the least absolute shrinkage and selection operator (Cox-Lasso) to identify the most robust predictors of mortality and quantify their relative contribution to all-cause mortality in the next 10 years. The model was internally validated using Harrell's optimism-correction procedure followed by external validation in the Health and Retirement Study, which is a nationally representative, longitudinal survey of adults aged  $\geq 50$  years old in the United States. The model's prediction accuracy was evaluated with calibration, discrimination, sensitivity and specificity.

**Results** For model development, the sample comprised 9154 individuals; of these, 1240 (13.4%) died during the 10-year follow-up with an average length of survival of 70.2 months (SD=35.4). For external validation, the sample included 2575 individuals; of these, 491 (19.1%) died during the 10-year follow-up with an average length of survival of 77.7 months (SD=36.5). The prediction model selected 13 (15.5% of n=84) prognostic factors, which included increasing age, male gender, low accumulated wealth, comorbid health conditions (i.e., previous diagnoses of cancer, chronic lung disease or stroke), functional difficulties (i.e., difficulty walking 100 yards, or doing work around house and garden) and worsening memory. External validation demonstrated good discrimination (c-index=0.69), calibration (calibration slope  $\beta=0.80$ ), specificity (73.2%) and sensitivity (72.4%).

**Discussion** Our model is likely to provide accurate estimates of individual 10-year risk of mortality using information that is often available in patients' reports. It is calibrated for individuals aged 50–75 years living in the UK but generalises reasonably well to other populations with similar underlying characteristics. The developed prediction model could be used to communicate risk to individuals and their families (if appropriate), guide strategies for risk reduction and design future studies targeting high risk subpopulations.

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### THE CAUSAL EFFECT OF BMI ON NEURODEVELOPMENT: A WITHIN FAMILY MENDELIAN RANDOMIZATION STUDY USING MOBA

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**Background** Childhood obesity is linked to poorer emotional health and neurodevelopmental problems but it is unclear if these associations are causal. Observational study designs are