least 3 times. Directly measured health variables were not associated with number of residential moves made at 18 or 36. Odds of scoring at least 3 on the GHQ12 questionnaire were significantly increased at age 18 for those moving 1-2 times (OR 2.01 (1.36–2.96)) and those moving 3 times or more (OR 2.04 (1.3, 3.22)) compared to those who remained stable. Similarly, odds of reporting a long-standing illness at 18 were increased for 1-2 moves (OR 1.88 (1.11, 3.18)) and at least 3 moves (OR=2.05 (1.11, 3.69)). Odds were elevated, but not significant, at 36 for these health variables. Odds of trying drugs and smoking at 18 were significantly increased but only for those moving at least 3 times. Although elevated, odds for these health behaviours were not significant at 36.

**Conclusions** Increased mobility during childhood is independently associated with adverse health status. At 18, the relationships between residential mobility and self-reported health outcomes, psychological wellbeing and some health behaviours were significant; however, by 36 findings were no longer significant. Directly measured health variables, at 18 and 36, do not appear to be associated with childhood mobility.

**Objective** To investigate the relative influences of factors acting throughout life on breast tissue density at age 49-58 years.

**Design** Follow-up of the Newcastle Thousand Families Birth cohort study.

**Setting** In 1947, all 1142 babies born in May and June to mothers resident in the city of Newcastle-upon-Tyne were recruited into the Newcastle Thousand Families birth cohort. This study details a sample of women from this cohort who returned for follow-up 49+ years later, and is therefore drawn from throughout the UK and beyond.

**Participants** At age 50, 574 study members returned a self-completion questionnaire. The 307 surviving women who returned questionnaires at age 50 were sent a questionnaire asking for details of mammographic screening and for details of their reproductive and contraceptive history. 199 women who gave access to their previous mammograms and had completed both questionnaires were included in this analysis.

**Main outcome measures** Breast tissue density patterns were coded into Wolfe categories (N1=lowest risk, F1=low risk, F2=high risk, FY=highest risk). This was analysed, by ordinal logistic regression, in relation to a range of variables at different stages of life, including birthweight, gestational age, duration breast fed, age at menarche, gravidity, age at first pregnancy, menopausal status, breast feeding history, hormonal contraceptive history, use of hormone replacement therapy, cigarette smoking history, alcohol consumption, height, body mass index, physical activity levels, age at scan, and socio-economic status both at birth and in adulthood.

**Results** Eleven % (n=22) of women were classified in the lowest Wolfe category of risk (N1), 20% (n=59) as low risk (F1), 48% (n=95) as high risk (F2), and 22% (n=45) as being in the highest category of risk (FY). Increased standardised birthweight (adjusted odds ratio, aOR 1.42 (95% CI 1.08 to 1.87), p=0.01) and not having entered the menopause (aOR, compared to perimenopausal women 3.99 (95% CI 1.78 to 8.97), p=0.001) were both significant independent predictors of being in a higher density group. In contrast, increasing body mass index was independently predictive of being in a lower density group (aOR 0.85 (0.80 to 0.91), p<0.001).

**Conclusions** After adjustment for factors acting throughout life, this study identified a significant association between increased birthweight, standardised for sex and gestational age, and increased breast tissue density in adulthood. This observation is consistent with previous research suggesting that heavier babies have an increased risk of breast cancer in later life.