Results Mean (SD) age of the sample was 63.0 (9.2)y and 46.4% were male. Prevalence of T2D was 9.5% (95%CI: 8.6%–10.6%). 53.4% of the sample were classified as 'Low SEP' in childhood which decreased to 33.7% in adulthood. Compared to high SEP, low SEP in both childhood (Odds Ratio (OR): 1.84, 95% CI: 1.00–3.37) and adulthood (OR: 1.78, 95% CI: 1.02–3.13) was independently associated with T2D in women. When classified according to social mobility, women classified as 'Stable Low' were at greatest risk of T2D (OR: 2.51, 95% CI: 1.24–5.06) compared to those classified as 'Stable High'. No associations were noted between any SEP variables and T2D in men.

Conclusion This study confirms a strong association between low socioeconomic position and T2D in women which persists from childhood through to adulthood. These findings support the critical period hypothesis which suggests that social disadvantage experienced in early life may have long lasting health consequences – in this case an increased risk of T2D. As many risk factors for T2D result from poor health behaviours which are likely adopted in early life, interventions to reduce T2D and its causes at a population level should recognise high-risk groups at all stages of the life course.

OP12 CUMULATIVE LIFECOURSE ADVERSITY AND ADAPTATION IN LATER LIFE

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Background Although exposures to cumulative socioeconomic disadvantage and adverse events over the lifecourse are associated with impaired physical and psychological health, the role of adverse events has received less attention. Furthermore, it is unclear to what extent their effects on later-life functioning depend on whether their primary harm was to the self or another person and their timing in the lifecourse, for example, during 'critical' or 'sensitive' periods.

Methods We used data on 5231 respondents aged 50+years over seven waves of the English Longitudinal Study of Ageing (2002–2015) to investigate adaptation in later life using cross-sectional CASP-12 scores, subjective life satisfaction and (CES-D) depression as outcomes. Cumulative lifecourse adversity was measured by counts of 16 types of adverse events occurring within five stages over the lifecourse (ages 0–5, 6–15, 15–30 and 31–50) using retrospective life history data. We fitted linear and logistic multilevel random intercept models in Stata 14 (for repeated observations nested within individuals) to evaluate the extent to which adverse events influence later life wellbeing and whether these associations differ according to self-versus-other orientation. Models were adjusted for labour market status, physical frailty score based on the cumulative deficit model, income, wealth and other household variables. Finally, we tested the association between cumulative adversity and trajectories of CASP-12 scores over time using a latent growth curve model.

Results CASP-12 scores were reduced by −0.49 (95% CI: −0.56 to −0.42) for each additional adverse event. This effect was similar for events occurring in each life stage and similar results were found for subjective life satisfaction and depression outcomes. Self-oriented events occurring in childhood had a greater ($p<0.001$) negative association (−0.62, 95% CI: −0.79 to −0.45) with later life wellbeing when compared with other-oriented events (−0.14, 95% CI: −0.32 to 0.03). Conversely, other-oriented events in adulthood exerted a greater influence. Total adverse life events were not associated with trajectories of CASP-12 by age.

Conclusion Adverse events occurring at all stages of the lifecourse were found to independently influence adaptation in later life. These age-dependent effects differed according to their self- or other-orientation, however. Our results support the theory of allostasis, in which previous exposure to stressors results in excessive allostatic load, susceptibility to future stressors, maladaptation and functional decline.

OP13 THE CHANGING PREVALENCE OF BIRTHS AFTER SUBFERTILITY AND FERTILITY TREATMENT IN ENGLAND 1991–2013: EVIDENCE FROM THE CLINICAL PRACTICE RESEARCH DATALINK

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Background We describe the prevalence of births after subfertility and fertility treatment seen in primary care in England between 1991 and 2013 and and examine the impact of changing maternal characteristics over time.

Methods Data from the Clinical Practice Research Datalink (CPRD) Mother-Baby dataset were used, comprising records from >600 general practices across England, linked to index of multiple deprivation (IMD). 4 40 623 mothers registered for ≥18 months prior to the birth of their child were included; 2 39 781 first-time mothers were analysed separately to assess changes in primary infertility.

Fertility history was identified using details of diagnoses, referrals and prescriptions in GP records, and grouped as: 'no evidence of fertility problems' and 'any subfertility' (comprising 'untreated', 'ovulation induction' (OI), and 'Assisted Reproductive Technologies' (ART), such as IVF). Change in the prevalence of births by fertility group and population characteristics was assessed using chi-squared trend tests. Direct age-standardisation (to 1991 study population) accounted for changing population structure.

Results Overall, 4.7% of mothers experienced subfertility (1991: 1.7%–2013: 6.3%), comprising: untreated 2.6% (1991: 0.6%–2013: 3.5%), OI 0.8% (1991: 0.6%; peaking in 1995: 1.3%; 2013: 0.5%), and ART 1.3% (1991: 0.5%–2013: 2.4%) (all $p<0.001$ for trend). Women now tend to have children later – 13.5% of mothers were >35 years in 1991, rising to 27% by 2013. Age-adjusted 2013 figures were 3.1%, 1.8%, 0.2% and 1.1%, for all, untreated, OI and ART respectively.

6.6% of first-time mothers experienced subfertility (1991: 2.1%–2013: 9.7%): comprising untreated 3.6% (1991: 0.8%–2013: 5.2%), OI 1.0% (1991: 0.7%–2013: 0.6%), and ART 2.0% (1991: 0.7%–2013: 3.9%) (all $p<0.001$ for trend). Age-adjusted 2013 figures were 7.0%, 3.9%, 0.4%and 2.7%, for all, untreated, OI and ART respectively. Subfertility was more prevalent in more advantaged women, with growing disparity suggested (age-adjusted 2.1% in IMD1 vs 1.3% in IMD5 in 1991, increasing to 5.1% vs 1.4% by 2013).

Discussion Births to women with records of fertility problems have significantly increased between 1991 and 2013. Changes in maternal age explain much of the population-level trends, but less of the observed increase among first-time mothers. Declining births after OI prescribed in primary care may reflect changing management of patients.

Medical advice must continue to highlight the effect of age on fertility, and the implications for secondary infertility. GPs and service commissioners should be aware that time trends indicate continuing growth in demand for fertility treatment in England.

Health services research

OP14 A SYSTEMATIC REVIEW OF COST-EFFECTIVENESS EVALUATIONS OF PSYCHOLOGICAL THERAPIES FOR SCHIZOPHRENIA AND BIPOLAR DISORDER

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Background Schizophrenia and bipolar disorder (BD) are among the top twenty causes of disability. Costs of treatment and to society are substantial. NICE guidelines recommend psychological/psychosocial interventions are considered in response to acute episodes/recovery promotion. This review aims to assess cost-effectiveness of psychological interventions, determine robustness of the current evidence base, and identify evidence gaps. The key research question is: which psychological interventions are cost-effective, compared to usual care/alternative interventions, in schizophrenia or BD?

Methods Electronic searches of PsycINFO, MEDLINE and Embase identified economic evaluations relating incremental cost to outcomes in an Incremental Cost-Effectiveness Ratio (ICER) published in English since 2000. Studies had to include: probability of cost-effectiveness at explicitly-defined thresholds; adults with schizophrenia/BD; any psychological intervention (e.g. psychological therapy, Improving Access to Psychological Therapies, integrated/collaborative care). Comparators could be routine practice, no intervention, or alternative psychological therapies. Searches were performed in August 2015 (updated January 2017). There were two screening stages with explicit inclusion criteria applied by 2 reviewers at each stage. Pre-specified data extraction/critical appraisal were performed. Results were summarised qualitatively. The review is registered on the PROSPERO database of systematic reviews.

Results Of 3785 studies identified, 11 were included. All were integrated clinical and economic randomised controlled trials. All used cost-effectiveness and/or cost-utility analysis. The commonest intervention was CBT (6/11 studies). Measures of health benefit included QALYs (5/11), QLS 1/11), PANSS (2/11), MANSA (1/11), GAF (3/11), days with normal functioning (1/11), a working memory subscale (1/11), full vocational recovery (1/11), days with a bipolar episode (1/11). Follow-up ranged from 6 months to 5 years. 6/11 studies used provider perspectives for the primary analysis; the remainder considered societal perspectives. Interventions were cost-effective in most identified studies (9/11): ICERs ranged from dominant (intervention is cost-saving AND more effective) to £18 844 per QALY; the probability of cost-effectiveness ranged from 50% to 99.5% at chosen thresholds. The two studies deemed not cost-effective involved art/body psychotherapy and noted significant uncertainty in the data as a limitation. All studies had limitations, including missing data, sample sizes and challenges controlling for other medications/treatments received outside the trial intervention.

Conclusion Although recommended in clinical guidelines, there was limited evidence about the cost-effectiveness of psychological therapy for schizophrenia/BD. Most included studies concluded psychological interventions for schizophrenia/BD are cost-effective. However policy implications are unclear due to methodological limitations and heterogeneity in populations and settings between studies. The review had some limitations including potential for English-language bias and limited time-horizon.

OP15 LONG TERM OUTCOMES AND MORTALITY AMONG PATIENTS ENROLLED IN A STRUCTURED PRIMARY CARE-LED DIABETES PROGRAMME

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Background Limited data exists, internationally and in Ireland, on long-term outcomes among people with diabetes who are managed in primary care. The Midlands Diabetes Structured Care Programme encompasses evidence-based strategies to structure diabetes management within general practice: patient registration and recall, regular diabetes review visits, active role of the practice nurse in ongoing management, multidisciplinary specialist access, professional education, and remuneration. Our aim was to examine clinical outcome targets, complications and mortality among patients with diabetes enrolled in the programme since its establishment in 1998.

Methods Data were collected in 1999, 2003, 2008 and 2015, on outcomes (clinical parameters, complications and mortality) among patients with diabetes (≥18 years) registered with participating practices. Data were extracted from patient notes by clinical nurse specialists using a paper-based data collection form. Cause and date of death were obtained from national death records. Using Stata, chi-square tests were used to test differences in clinical outcomes over time. Cox proportional hazards regression was used to examine the association of baseline factors and mortality.

Results Patients from 1999 (n=376), were followed up in 2003 (n=229), 2008 (n=96) and 2016 (n=376).The proportion of patients with a recommended blood pressure target (<130/80 mmHg) increased from 9% in 1999 to 26% in 2016 ($p<0.001$), as did the proportion with a total cholesterol of <4.5 mmol/L (22% vs. 71%, $p<0.001$), and triglycerides<2.0 mmol/L (47% vs. 81%, $p<0.001$). The percentage achieving optimal glycaemic control (HbA1c≤7.0%) declined (52% vs. 34%). Between 1999–2016, 22% (n=81) of patients had ever experienced a macrovascular complication; primarily CVA (n=21, 6%), MI (n=16, 4%). In 1999, 18% (n=33) had retinopathy, increasing to 57% (n=59) by 2016. In total, 184 (49%) had died. Between 1999–2013 mortality was higher than background rates in the general population (SMR=2.2, 95% CI 1.9, 2.6). Only 25% (n=46) had cause of