Design Individual trajectories of height, weight and adiposity were modelled from birth to 10 years using random-effects linear-spline models. Adiposity was modelled as ponderal index (PI, kg/m^3) from birth to 2 years and body mass index (kg/m^2) from 2 to 10 years. Interactions between self-reported maternal and paternal smoking during pregnancy (any vs none) with trajectories of height, weight, and adiposity were examined with and without adjustment for potential confounders and mutual adjustment for maternal/paternal smoking.

Setting South-West England.

Participants N=12 684 children for height models, 12 773 for weight models, 12 531 for PI models, and 11 588 for body mass index models.

Results Maternal smoking during pregnancy had a strong impact on birth length and weight (eg, reduction in birth length in boys 0.70 cm, SE 0.07). These effects reduced only slightly with adjustment for confounders and paternal smoking during pregnancy. Paternal smoking was associated with much smaller reductions in birth length and weight (eg, reduction of birth length in boys 0.21 cm, SE 0.07), and associations were completely attenuated by adjustment for confounders and maternal smoking in pregnancy. There was some evidence that parental smoking during pregnancy affected height growth in later infancy (3–10 months) and weight gain in early and later infancy (0–4 and 4–11 months), with offspring of parents who smoked growing and gaining weight faster than offspring of non-smokers. Associations were stronger for maternal than paternal smoking. Height growth and weight gain in later childhood was not associated with smoking in pregnancy. The offspring of parents who smoked had lower PI at birth (eg, reduction in PI at birth for maternal smoking in pregnancy among boys −0.25 kg/m3, SE 0.08), with maternal smoking having a stronger association than paternal smoking. However, associations of both maternal and paternal smoking during pregnancy on PI at birth were completely removed by adjustment for confounders. Neither maternal nor paternal smoking was associated with adiposity trajectories.

Conclusion There is evidence of an intrauterine effect of maternal smoking on birthweight and length and on height and weight growth in infancy (but not later childhood). Maternal smoking in pregnancy does not seem to affect adiposity at birth or change in this during infancy or childhood through intrauterine mechanisms.

060 AN ANALYSIS OF THE EFFECT OF INTRAUTERINE GROWTH RETARDATION ON SPIROMETRIC LUNG FUNCTION MEASURES OF 8-YEAR-OLD CHILDREN

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Objective Increasing evidence suggests that intrauterine growth retardation (IUGR) is associated with long-term morbidities, including respiratory outcomes. The relationship between IUGR and lung function has been studied in adults, but few studies have investigated childhood respiratory outcomes and it is unclear if catch-up growth in these children influences lung function. We investigated the hypothesis that lung function differs in 8- to 9-year-old children born at term between those that were within normal weight bands and those that had growth retardation. Additionally, in the growth-retarded group, we investigated if lung function differed between those who did and those who did not show weight catch up.

Design The Avon Longitudinal Study of Parents and Children birth cohort.

Participants The 5770 Caucasian singleton births of 37 weeks or longer gestation who had lung function assessed at 8–9 years. We classified 576 infants as IUGR as their gestation-appropriate birth-weight fell below the 10th centile. This group was compared with those 3462 non-IUGR infants whose birthweights fell between the 20th and 80th centiles.

Main outcome measure and results The non-IUGR infants had significantly better lung function at 8–9 years of age than those with IUGR. The differences between the standardised (z) lung function values, adjusted for sex, gestation, maternal smoking during pregnancy, and social class, and 95% CI were FEV1: −0.198 (−0.294 to −0.102); FVC: −0.131 (−0.227 to −0.036); FEF 25–75: −0.149 (−0.246 to −0.053). The groups had similar respiratory symptoms. Catch-up growth for weight was defined as an increase in z score of at least 0.67 between birth and ages 8–9 years. For the IUGR children, 430 caught up and 146 did not. All spirometry measurements were higher in IUGR children who experienced catch-up growth than in those without, although the differences were not statistically significant. Both groups remained significantly lower than control subjects. Growth-retarded asymmetric and symmetric children had similar lung function.

Conclusion We concluded that IUGR is associated with poorer lung function at 8–9 years of age compared with control children. Although the differences were not statistically significant, spirometry was higher in children who showed weight catch-up growth, but remained significantly lower than in the control children.

061 THE EFFECTS OF PREGNANCY PLANNING, TIME TO CONCEPTION AND ART ON EXPRESSIVE LANGUAGE ABILITY AT YEARS

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Objective To examine the effects of pregnancy planning, time to conception and assisted reproductive treatment on expressive language ability at 3 years.

Design Population-based cohort (Sweeps 1 and 2 of the UK Millennium Cohort Study).

Setting UK.

Participants 11 790 English-speaking singletons born 2000–2001.

Exposure measure Mothers reported whether the pregnancy was planned, and their feelings when first pregnant. Women who planned their pregnancy provided time to conception (TTC) and details of any assisted reproductive treatment (ART). The population was divided into "unintended" pregnancies (unplanned and unhappy about pregnancy), "unplanned" pregnancies (unplanned but happy), "planned" (planned and TTC≤12 months), "subfertile" (planned and TTC>12 months), "ovulation stimulated (OS)" (received clomiphene citrate) and "ART" (in vitro fertilisation or intracytoplasmic sperm injection).

Outcome measure Expressive language ability was assessed using the Naming Vocabulary component of the British Ability Scale. There is evidence that expressive language skills predict cognitive ability.

Results 15% of pregnancies were unintended and a further 26% were unplanned. 53% were planned; 4% subfertile; 2% used OS and 1% ART to help them conceive. The mean BAS naming vocabulary score was 76.5 in the planned group and was not significantly different in the OS or subfertile groups. In the unadjusted analysis

the mean score was lower among the unintended and unplanned groups (difference in mean score was −4.8 (95% CI −6.0 to 3.7) and −2.8 (95% CI −3.4 to −1.51) respectively) and higher in the ART group (3.8 (95% CI −0.2 to 7.85)). This equates to a 3.8 month cognitive delay in the unintended group, and to a 3.0 month advantage in the ART group, compared to the planned group. These effects almost entirely disappear once the models are adjusted for sociodemographic factors (parent's income, qualifications, mother's age, whether the baby is her first child and alcohol in pregnancy). Compared to the fertile group, the difference in means becomes −0.9 (95% CI −1.9 to 0.2) in the unintended group, −0.4 (95% CI −1.2 to 0.4) in the planned group and 1.2 (95% CI −2.0 to 4.4) in the ART group. Further adjustment for lifecourse mediating factors (birthweight, parent-child relationship, and parental involvement) makes little difference to the final results.

Conclusions We find no evidence that pregnancy planning, subfertility or ART adversely affects children's expressive language ability at 3 years of age. The effects observed in the crude analyses are almost entirely explained by confounding by socio-economic factors, indicating that maternal education and poverty are strong influences on children's cognitive tests in early childhood.

Provision of services

ABOLITION OF PRESCRIPTION CO-PAYMENTS IN WALES: AN OBSERVATIONAL STUDY ON DISPENSING RATES

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Objective To assess the effects of the abolition in April 2007 of prescription co-payments in Wales on rates of dispensing by general practices.

Design and setting An observational study comparing changes in dispensing in Wales, where co-payments were abolished, with North East England where they continued.

Participants All general practices in Wales and North East England which provided monthly dispensing data continuously between October 2003 and March 2008.

Main outcome measures The main outcome was the change in dispensing of all BNF items per 1000 patients per month between the baseline year before charges were first reduced in Wales and the year following abolition. Similar comparisons were made for the 14 medicines that had previously had most items dispensed subject to charge before abolition. Sales of over-the-counter substitutes were also examined where relevant. A survey of local health boards and primary care trusts examined local initiatives, which might differentially affect dispensing between the two areas.

Results Total monthly dispensing rates (items/1000 patients) increased significantly in both areas but significantly less so in Wales (difference=−19.7, p=0.024, 95% CI −36.7 to −2.6). For the 14 selected medicines, combined dispensing rates increased significantly in both areas but significantly more in Wales (difference=27.51, p <0.0001, 95% CI 23.66 to 31.35). There was much variation for individual drugs, but BNF categories tended to show this same trend except for antibiotics, where rates increased in Wales but decreased in NE England. The survey revealed few local initiatives that could explain these differences. Sales of over-the counter substitutes did not explain the changes in dispensing.

Conclusion The Welsh policy was associated with a smaller increase in dispensing of all BNF items than NE England. There was a small increase in dispensing rates relative to NE England for the 14 medicines with the highest number of items dispensed subject to charge before abolition. Although factors besides the co-payment may have influenced these changes, these results suggest that the overall impact of abolition was minimal.

POPULATION AGEING IN SCOTLAND: AN ANALYSIS OF THE IMPLICATIONS FOR HEALTHCARE EXPENDITURE USING THE RENFREW/PAISLEY STUDY

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Objective It is important for health policy and expenditure projections to fully understand the relationship between age, death and expenditure for health care (HC). Evidence shows that older age groups incur less acute HC costs than previously anticipated and that time to death (TTD) may be a much stronger indicator for HC expenditure than age alone. Our objective was to undertake research into the relationship between TTD, age and HC expenditure in Scotland.

Methods We use a longitudinal data set (the Renfrew/Paisley study, one of the Midspan studies) covering a period of 35 years, and including baseline survey data linked to subsequent hospital admissions (Scottish Morbidity Records) and death records, to estimate the independent effect that age and TTD have on expenditure for acute inpatient care. We include variables previously omitted in other studies such as deprivation category. This is of special interest in Scotland, with high levels of deprivation in some areas and a poor record of premature deaths. We estimate HC costs in the last 60 quarters before death. We use speciality and hospital specific cost data from the Scottish Cost Book. We estimate HC expenditure conditional on having had a hospitalisation within a particular quarter before death. Due to the skewed nature of our cost variable we employ a generalised linear regression model with a Gamma distribution and a log link and use clustering on patient identifier to control for unobserved within-patient effects.

Results Regression results for age and its quadratic form show that on average older individuals incur higher costs (p<0.001) but at a decreasing rate, which means that for the very old costs are declining. After including a measure of remaining TTD we find that age at death has a non significant association with costs but TTD itself is a significant predictor for costs (p<0.001). We find deprivation category to be a main influencing factor for hospital costs.

Conclusion Our study confirms findings from other national research, and in addition shows interesting results for the effect that socio-economic status has on costs. This may be due to the restricted geographical area we are studying (Renfrew/Paisley), and leaves scope for further analysis using a sample representative for the whole of Scotland.

GENDER DIFFERENCES IN ADMISSION TO CARE HOMES FOR OLDER PEOPLE: MAYBE MEN REALLY DO NOT CARE

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Objectives To offer reasons for the gender difference in care home admission risk.

Design A prospective longitudinal study collecting information from 2001 census returns, death registration, and health card registration information for a 28% sample of the Northern Ireland