

the family justice system. To address this evidence gap, this study examined records of depression and anxiety in CYP involved in public and private law proceedings using linked, routinely collected, population-level data across Wales.

Methods Retrospective e-cohort study. We calculated incidence of primary care-recorded diagnoses and symptoms of depression and anxiety of those involved in private and public law proceedings, and in a comparison group, using poisson regression. Depression and anxiety outcomes following court proceedings were evaluated using pairwise cox regression, with age and gender matched controls of CYP who had no involvement with the courts.

Results CYP in the public group had more than twice the risk of depression (adjusted Incidence Rate Ratios (aIRR): 2.2 (95% Confidence Intervals (CI) 1.9–2.6)) and a 20% increased risk of anxiety (aIRR: 1.2 (1.0–1.5)) relative to the comparison group. Those in the private group had 60% higher risk of depression (aIRR: 1.6 (1.4–1.7)) and a 30% increased risk of anxiety (aIRR: 1.3 (1.2–1.4)) relative to the comparison group. Following involvement in private law proceedings, CYP were significantly more likely to have depression (Hazard Ratio (HR): 1.9 (1.7–2.1)), and anxiety (HR: 1.4 (1.2–1.5)), than the control group. Those involved in public law proceedings, were more likely to have depression than the control group (HR: 2.1 (1.7–2.6)).

Conclusion Our findings highlight the vulnerability of CYP involved in family court proceedings and increased risk of depression and anxiety. Schools, health professionals, social workers and family support workers have a key role to play in identifying mental health needs and ensuring CYP receive appropriate support both during and after proceedings.

Wednesday 15 September

Obesity Diabetes & Global Health, 13.00 – 15.25

OP19

PREDICTING THE RISK OF CHILDHOOD OVERWEIGHT AND OBESITY AT 10–11 YEARS USING HEALTHCARE DATA FROM PREGNANCY AND EARLY LIFE*

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Background In England, 1 in 3 children aged 10–11 years live with overweight or obesity, with the prevalence in the most deprived areas being more than twice as that in the least deprived. It is important to identify children at risk of becoming overweight or obese in the future to apply early prevention interventions. We aimed to develop and internally validate prediction models of childhood overweight and obesity at age 10–11 years (Year 6) using weight and height measurements at age 4–5 years (Year R) as well as antenatal and birth data in Hampshire.

Methods A population-based anonymised linked cohort of maternal antenatal and delivery records for all births taking place at University Hospital Southampton, between 2003 to

2018 and child health records including information on post-natal growth, type of feeding and childhood body mass index (BMI) up to the age of 14 years. Childhood age- and sex-adjusted BMI at 10–11 years was used to define the outcome of overweight and obesity (≥ 91 st centile) in the models. Logistic regression models together with multivariable fractional polynomials were used to select model predictors and to identify transformations of continuous predictors that best predict the outcome. Models were developed in stages, incorporating data collected at 4–5 years and then first antenatal booking appointment, birth and early life predictors. Predictive accuracy was evaluated by assessing model discrimination and calibration.

Results Childhood BMI was available for 6566 children between 4–5 years (14.6% overweight/obese) and 10–11 years (26.1% overweight/obese) with 10.8% overweight/obese at both ages. One-fifth of normal weight children at 4–5 years became overweight or obese by 10–11 years, 30.3% of overweight children at 4–5 years were obese by 10–11 years and 68% of obese children remained obese. The area under the curve (AUC) was 0.82 for the model only incorporating BMI at 4–5 years and child gender. AUC increased to 0.84 on incorporating maternal predictors (BMI, smoking, age, educational attainment, ethnicity, parity, and employment status) as measured/reported at the booking appointment. Variables from birth and early life were not retained in the model.

Conclusion This prediction modelling can be applied at 4–5 years to identify the risk for later childhood overweight or obesity at 10–11 years, with improved prediction with the inclusion of pregnancy data. These prediction models demonstrate that routinely collected healthcare data can be used to target early preventive interventions.

OP20

THE IMPACT OF THE SECULAR INCREASE IN BODY MASS INDEX ON HIP FRACTURE RISK IN THE NORWEGIAN POPULATION

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Background A low body mass index (BMI: weight (kg)/height (m)²) is an important risk factor for hip fracture. In Norway, hip fracture rates have declined in recent decades at the same time as BMI has increased in the population; however, to what extent increased BMI has contributed to the declining hip fracture trend is unknown. We aimed to estimate the number of incident hip fractures prevented or postponed (IFPP) attributable to increased BMI using an adaptation of IMPACT coronary heart disease model methods.

Methods Hip fractures in Norway from 1999–2019 were extracted from the Norwegian hip fracture database (NORHip) and prevalences of BMI > 25 in the Norwegian population was extrapolated from the fourth wave (1994–5) and the seventh wave (2015–16) of the Tromsø study. Hazard ratios of hip fracture according to age and sex were estimated using data from the Cohort of Norway