Higher effects for peer problems observed for children with higher ERI affirmation suggests the role of ERI among Australian Aboriginal children might differ according to the aspects of ERI and outcomes being considered. ERI could be the target of future interventions in Aboriginal children to offset effects of racism.

Diabetes

OP45

THE POTENTIAL IMPACT OF DIABETES PREVENTION ON THE FUTURE UK BURDEN OF DEMENTIA AND DISABILITY

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Background Diabetes is associated with an increased risk of dementia and disability. However, the implications of future trends in diabetes for the burden of these conditions are unclear. The aim of our study is to estimate the potential impact of trends in diabetes prevalence upon the future burden of dementia and disability in England & Wales by 2060.

Methods We used a probabilistic multi-state, open-cohort, Markov model to integrate observed trends in Type 2 diabetes, cardiovascular disease and dementia to forecast the occurrence of disability and dementia to 2060. The model incorporated English Longitudinal Study of Ageing (ELSA) data, published effect estimates for state transition probabilities, trends in mortality and dementia incidence.

The baseline scenario assumed that the recently observed trends in obesity would continue, resulting in a 26% increase in Type 2 diabetes cases by 2060. Against this baseline, we compared three other scenarios reflecting alternative projected trends in diabetes suggested by Public Health England models: increases of 7%, 20% and 49%. For each scenario, we then calculated the cumulative number of dementia and disability cases and number of life years lost or gained by 2060, in comparison to the baseline scenario.

We used probabilistic sensitivity analysis to estimate 95% uncertainty intervals (UI).

Results If the relative prevalence of Type 2 diabetes increases 49% by 2060, we might expect approximately 106,000 (95% UI 97,500 to 112,800) cumulative additional cases of disability, some 86,000 (95%UI: 80,000 to 92,500) additional cases of dementia and approximately 2,570,000 (95%UI: 2,500,000 to 2,660,000) life years lost by 2060.

If prevention policies succeed in slowing down the increase in Type 2 diabetes to 7% by 2060, we might expect approximately 94,000 (87,000 to 100,400) fewer new cases of disability, 77,000 (95%UI: 71,800 to 82,900) fewer cases of dementia and approximately 2,300,000 (95%UI: 2,220,000 to 2,370,000) life years gained by 2060. However, large benefits would only be seen after a substantial lag-time: only 4,700 (95%CI: 4,300 to 5,100) new cases of disability and 3,200

(95%CI: 2,900 to 3,500) new cases of dementia would be avoided by 2030.

Conclusion Substantial reductions in the future burden of dementia and disability appear eminently achievable if effective prevention policies succeed in halting the ongoing epidemic of obesity and associated Type 2 diabetes.

However, these reductions might only become visible after a substantial lag-period.

OP46

DO YOUNG PEOPLE WITH CHILDHOOD ONSET TYPE-1 DIABETES HAVE DIFFERENT PATTERNS OF ALCOHOL-RELATED HOSPITAL ADMISSION THAN THOSE WITHOUT? A RECORD-LINKED LONGITUDINAL STUDY IN WALES

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Background Children and young people with type-1 diabetes (T1D) have excess all-cause hospital admissions, particularly younger children with lower socioeconomic status. Education on managing alcohol consumption is given to teenagers with T1D in paediatric diabetes services, but little is known about alcohol-related harm. We compare the risk of alcohol-related hospital admission (ARHA) in children with T1D over 18.5 years with that of the general population for the same birth years.

Methods We extracted data for 1,794,559 individuals born between 1979 and 2014 with a GP registration in Wales and record-linked these to wholly attributable ARHA between 1998 and June 2016 within the Secure Anonymised Information Linkage Databank (SAIL). Diabetes status was assessed by record-linking to a national register (Brecon Cohort), containing 3,577 children diagnosed since 1995 with T1D before the age of 15 years. Linking to the Welsh Demographic Service dataset provided information on age, sex and the lower super output areas (LSOAs) of residence, including moves. To each LSOA we linked the Welsh Index of Multiple Deprivation 2008 quintiles. We censored for death or leaving Wales. We estimated hazard ratios (HRs) with 95% confidence intervals (95% CIs) for the risk of (multiple) ARHA for sex, age and deprivation quintiles (both time-varying) using recurrent-event models. We also included interaction terms between age group, and separately deprivation fifth, and diabetes status.

Results There were 37,930 (multiple) admissions and 19.1 million person-years of follow up. Individuals with T1D had 252 admissions (up to 4 admissions each), and overall had an 80% higher risk of ARHA (HR 1.8; 95% CI 1.60 to 1.99) compared to those without, having adjusted for age group, sex and deprivation fifth. In diabetic individuals the risk of ARHA was highest aged 14–17 years (HR 6.03; 95% CI 4.70 to 7.75), six times higher than the reference group of those without T1D aged 11–13. In the general population the highest risk was in those aged 18–22 (HR 2.23, 95% CI 2.14 to 2.32) compared to the same reference group. The deprivation gradient in those with T1D was less pronounced than in the comparison population.

Conclusion Young people with T1D have increased risks of ARHA, highest at school age (14–17 years) and earlier than the peak at student age (18–22 years) in the comparison population. Interventions aiming to reduce alcohol-related harm in

T1D are needed, particularly in teenagers, and structured education on managing alcohol consumption may need revision.

OP47

THE IMPACT OF MAJOR MENTAL ILLNESS ON QUALITY OF CARE IN PEOPLE WITH TYPE 2 DIABETES IN SCOTLAND: AN ANALYSIS OF ROUTINELY COLLECTED HEALTH DATA

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Background Recent evidence from some countries suggests that people with a mental health condition receive poorer type 2 diabetes mellitus (T2DM) care than people without a mental health condition. We aimed to investigate whether history of a major mental illness affects quality of care in people with T2DM in Scotland.

Methods We identified adults diagnosed with T2DM between 2007 and 2015 from a 2016 extract of Scotland's national diabetes register (the Scottish Care Information (SCI) – Diabetes database). We used International Classification of Disease codes to identify history of mental illness from pseudonymously linked Scottish psychiatric and acute hospital admission records. Retinopathy screening and HbA1c measurement within the first year post T2DM diagnosis were determined from the diabetes register. Using logistic regression analysis, we obtained odds ratios (ORs) for receipt of both tests for people with a history of schizophrenia, bipolar disorder or depression in hospital records, compared to those without a history of mental illness in hospital records.

Results We included 129,028 people with T2DM. Of these, 1,457 (1.1%) had schizophrenia, 653 (0.5%) had bipolar disorder and 4,132 (3.2%) had depression. Within the first year post T2DM diagnosis, 84.1% of the cohort received retinopathy screening and 92.5% received HbA1c measurement. Both retinopathy screening and HbA1c measurement were received by 81.3% of people without a history of mental illness compared to 75.0% of people with schizophrenia, 77.5% of people with bipolar disorder and 77.7% of people with depression. After adjusting for health board, year, age, sex, area-based deprivation, ethnicity and comorbidities, the odds of receiving both tests were lower in people with schizophrenia (OR 0.77, 95% confidence interval (CI) 0.68, 0.87), bipolar disorder (OR 0.78, 95% CI 0.65, 0.94) and depression (OR 0.82, 95% CI 0.76, 0.89) compared to those without a history of mental illness. These differences were driven by lower percentages of retinopathy screening amongst people with schizophrenia, bipolar disorder or depression; proportions with HbA1c measurement were similar across all groups.

Conclusion Compared to people without a history of mental illness, people with schizophrenia, bipolar disorder or depression are less likely to receive diabetic retinopathy screening within the first year post T2DM diagnosis. Such discrepancies in care may contribute to poorer T2DM outcomes amongst people with a major mental illness. Further work will investigate whether discrepancies in care persist beyond the first

year post T2DM diagnosis and how discrepancies in care have evolved over time.

OP48

THE PREVALENCE AND RISK FACTORS OF POLYPHARMACY AMONG DIABETIC PEOPLE: EVIDENCE FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING (ELSA)

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Background Diabetes among older people is becoming more common worldwide. Polypharmacy is an important issue among older people with multimorbidity; however, relevant studies focusing on older people with diabetes are scarce. Therefore, the role of polypharmacy in this vulnerable population remains uncertain. The aim of this study is to investigate the prevalence of polypharmacy among older people with and without diabetes, and to determine the potential risk factors for polypharmacy.

Methods A nationally representative cross-sectional study, ELSA 2012/2013, was used and 7729 participants aged 50–109 were investigated. Polypharmacy was defined as taking five to nine long-term used medications daily for chronic diseases or chronic symptoms, while using ten or more medications was categorised as excessive polypharmacy. The presence of illness was defined as either self-reported diagnosis or being prescribed specific medications for the condition. The number of comorbidities was generated based on the combined diagnoses excluding diabetes. Multinomial logistic regression was applied to estimate risk factors for polypharmacy, and potential social determinants were also included.

Results The prevalence of polypharmacy was 21.4% in 2012, and only 3% was excessive polypharmacy. 51.6% of people with type 2 diabetes reported polypharmacy and 10.2% excessive polypharmacy. These rates were significantly higher than the 16.4% polypharmacy and 1.8% excessive polypharmacy among people without diabetes ($p < 0.001$). 74.6% diabetic people had three or more comorbidities, compared with 40.8% in people without diabetes ($p < 0.001$). Among people with three or more comorbidities, polypharmacy was present in 61.5% of people with diabetes, compared with 36.0% in people without diabetes. Significant risk factors for polypharmacy were diabetes (Relative-risk ratios/RRR=4.06, 95% CI 3.38, 4.86), older age (RRR=1.02, 95% CI 1.01, 1.03), male (RRR=0.64, 95% CI 0.55, 0.75), more comorbidity (RRR=2.46, 95% CI 2.30, 2.62), living with a partner (RRR=1.20, 95% CI 1.01, 1.42), and less wealth (RRR=0.93, 95% CI 0.87, 0.98). However, age, living with partner, and wealth were not significantly related to excessive polypharmacy. Diabetes and the number of comorbidities were predominant risk factors for excessive polypharmacy.

Conclusion Polypharmacy was a prevalent phenomenon in the English older population, and it was more severe in people with diabetes. The presence of diabetes and having comorbidities were the main contributors to polypharmacy and excessive polypharmacy after adjusting for important covariates. Current evidences confirm both health condition and socioeconomic status are associated with medication use. This research