

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