**Quantifying the Impact of Inequality on Traditional and Emerging Diabetes Complications: A Registry Study of Cause-Specific Admissions in Australia**

**Aims:** The relationships between inequality and diabetes complications are usually evaluated in separate studies with differing methodologies and have generally not included

emerging complications of diabetes. Therefore, our aim was to quantify the relationship of traditional and emerging diabetes complications with socioeconomic disadvantage.

**Methods:** This study included 621,114 people with type 2 diabetes from the Australian National Diabetes Services Scheme, with follow-up from July 2010 to June 2022. This data was linked to hospital admission and death datasets, and outcomes were characterized by the primary cause of admission or death. The effect of socioeconomic disadvantage (assessed by the index of relative socioeconomic disadvantage (IRSD)) on cause-specific outcomes was assessed using Poisson regression, adjusted for age, sex, and year.

**Results:** Most major diabetes-related complications studied were positively associated with increasing socioeconomic disadvantage,with the highest incidence rate ratios per 1-SD increase in socioeconomic disadvantage for myocardial infarction (1.12 (95%CI: 1.11, 1.13)), heart failure (1.11 (1.10, 1.12)), cellulitis (1.10 (1.09, 1.12)), and end-stage kidney disease (1.09 (1.07, 1.12)). All diabetic-foot disease complications showed a positive association with disadvantage,as did most cardiovascular diseases and both kidney outcomes, while most cancers, depression, and dementia did not. For excess risk, heart failure and myocardial infarctionwere associated with the largest excess risks of admission (1.27 (1.15, 1.40) and 1.12 (1.02, 1.23) per 1,000 person-years, respectively).

**Conclusions:** Increasing socioeconomic disadvantage increases the risk of most traditional diabetes-related complications, with the largest effects on cardiovascular disease, kidney disease, and diabetic foot disease, whereas the effects on emerging complications of diabetes are weaker, null, or the risk decreases with increasing disadvantage.Targeted interventions to address inequality in diabetes should focus on known treatment gaps by socioeconomic status and the prevention of chronic diabetes complications, particularly cardiovascular disease.