

# Deprivation associated with increased risk of death following hospital admission with type 2 diabetes

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New research presented at this year's Annual Meeting of the European Association for the Study of Diabetes (EASD) in Barcelona, Spain (16-20 Sept) shows that where you live has an impact on how likely you are to die for patients with type 2 diabetes (T2D), and how likely you are to be readmitted to hospital for patients with type 1 diabetes (T1D) following hospital discharge. The study is by Dr. Tim Robbins, Institute of Digital Healthcare, WMG, University of Warwick, Coventry, UK, and colleagues from both the University of Warwick and University Hospitals Coventry & Warwickshire NHS Trust, UK.

Patients with [diabetes](#) face an increased risk of negative outcomes following [hospital discharge](#), regardless of their reason for admission. In addition, socioeconomic factors are known to drive poor health outcomes in people with diabetes generally. Despite this, there has been little research done to assess the impact of [socioeconomic factors](#) on health outcomes when patients with diabetes are discharged from hospital. This has mainly been due to the difficulty

of linking the various datasets required to get a complete picture of the health outcomes and socioeconomic statuses of these patients.

This new study was based on a retrospective evaluation of data from the [electronic health records](#) (EHR) of a large UK specialist referral centre (University Hospitals Coventry & Warwickshire NHS Trust, Coventry, UK) and included all adult patients discharged with a diabetes diagnosis over a 3-year period. These comprised 46,357 distinct discharges and were matched at a patient level with postcode sector socioeconomic data extracted from the Office of National Statistics Census and Population Density datasets.

Information on 19 socioeconomic variables was available including index of multiple deprivation, employment status, ethnicity, activity levels, unpaid care provision, and density of population and housing, which could then be used to determine the socioeconomic status of each patient. The clinical outcome measures chosen were readmission within 28 days, and incidence of mortality within 180 days (approximately six months) of discharge from hospital.

The authors found that socioeconomic status measured by 14 of the 19 variables was significantly associated with 180-day mortality in the T2D patient cohort, while in the T1D cohort they found no statistically significant association between mortality and socioeconomic variables. Among T2D patients, the strongest links with mortality were found to be language (non-English), ethnicity (ethnic minorities), and index of multiple deprivation.

For hospital readmissions, only 1 of the 19 variables showed a significant association in T2DM

patients, compared to 9 statistically significant variables in the T1DM group, with the strongest being deprivation indices and health-related activity impairment.

The authors say: "There is a strong association between geographic socioeconomic status and readmission to hospital in patients with type 1 diabetes, but no clear link with mortality. In contrast in patients with type 2 diabetes, mortality is strongly associated with socioeconomic status whilst readmission to hospital is not. In summary, where you live has an impact on how likely you are to be readmitted to hospital for patients with type 1 diabetes, and how likely you are to die for patients with type 2 diabetes following [hospital](#) discharge."

They add: "Use of geographic postcode sector data can be readily incorporated into electronic healthcare systems and future risk models to enable personalised data-driven care, for example more intensive, or different models, or more intensive follow up for those from areas of known deprivation."

Dr. Tim Robbins is following up on this research through a prestigious European Foundation for the Study of Diabetes (EFSD) Albert Renold Travel Fellowship, looking at digital approaches to diabetes integrated care, in the Basque County, Spain. EFSD has been created by EASD to stimulate diabetes research in Europe.

Provided by Diabetologia

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