Conclusion Patients from more socioeconomically deprived areas in Scotland have worse short-term and long-term mortality following ICU admission. If not due to residual confounding, our findings should stimulate further work to investigate the causes of this excess mortality, and whether these can be influenced by changes to clinical management decisions, organisation of critical care, or healthcare provision following discharge from ICUs.

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THE EFFECT OF SOCIOECONOMIC STATUS ON MORTALITY IN THE CRITICALLY ILL: A NATIONAL DATA LINKAGE STUDY

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Background Admission to intensive care units (ICUs) is determined by degree of organ failure and the need for close monitoring. It is associated with high intensity, expensive treatments. Socioeconomic status (SES) is an important determinant of health outcomes, but few studies have assessed its effect on outcome from critical illness.

Aims We investigated the association of SES with short and long-term mortality for ICU patients in Scotland.

Methods Using a retrospective cohort study design, we extracted data from the Scottish Intensive Care Society Audit Group database and linked them to the database of Scottish hospital discharges and the Scottish Death Registry. The cohort comprised all admissions to adult general ICUs in Scotland from 1 January 2005 to 31 December 2005, excluding patients 16 years or younger and second or subsequent admissions. We determined mortality at 28 days and 4 years after ICU admission using Death Registry data and defined SES using the Scottish Index of Multiple Deprivation categorised into quintiles. Bivariate associations were assessed using $\chi 2$ test for trend or Spearman's r coefficient. Binary logistic regression was used to measure the association between SES and mortality, reporting odds ratios (ORs) unadjusted and adjusted for confounders: age, sex, illness severity on admission, surgical status, comorbidity, prior cardiopulmonary resuscitation, and measures of rurality/remoteness.

Results During 2005, there were 8992 admissions to Scottish ICUs, of which 7717 (85.8%) patients were included in the analysis (1275 excluded, n=881 second/subsequent admission, n=266 missing SES data). Mean age was 59.6 and 44.4% of patients were female. Patients from the most deprived quintile of the Scottish population were over-represented in the study cohort (n=2130, 27.6%), whereas those from the least deprived quintile accounted for 12.6%. Increasing deprivation was associated with younger age, living in remote/rural locations, and lower illness severity on admission (p<0.01 for all). SES was not associated with 28 day or 4 year mortality in the unadjusted analysis. Following adjustment for confounders, SES was associated with both 28 day mortality (p=0.005, OR most vs least deprived quintiles 1.40, 95% CI 1.14 to 1.71) and 4 year mortality (p=0.002, OR 1.37, 95% CI 1.15 to 1.64).