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Quantifying inequalities in mortality in Australia: the value of linked Census-mortality data

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Introduction

Mortality rates are higher in disadvantaged communities. However, accurate quantification of inequalities in Australia has been limited by data availability. The Australian Bureau of Statistics has recently created a resource linking Death Registrations to Australian Census data, enabling quantification of mortality by whole-of-population individual-level measures.

Objectives and Approach

We present the first analysis of linked Deaths Registrations to Census data, which quantifies mortality inequality in Australia in relation to individual-level socioeconomic position (SEP), and compares these estimates to those based on area-level-SEP measures. The Deaths Registrations-Census file contains deaths within 13 months of the 2011 Census date, linked probabilistically to 2011 Census data. We used Poisson regression to quantify inequalities according to education, weighted to adjust for relative under- and over-representation of selected subpopulations. We compared these inequality estimates with those based on area-SEP measures. We also examined the effect of missing Census data.

Results

Mortality rates decreased with education in all age groups (25-44, 45-64, 65-84, 85+ years), for both males and females. Estimates of relative inequality decreased with age, while estimates of absolute inequalities increased. Total excess deaths associated with lower education were highest in those aged 64-84 years. Inequality estimates for education were higher than those for area-SEP in the youngest age groups (25-45 years), but were lower in the 45-64 age group. Socioeconomic gradients in education remained apparent among individuals within each area-SEP quintile, highlighting the socioeconomic variation among individuals within these area-based socioeconomic groups. The proportion of deaths with missing education data increased with age and area-level SEP; however there was little

difference in the area-based inequality estimates across subgroups with and without education missing.

Conclusion/Implications

The newly-created linked Deaths Registrations-Census file, accessible through the virtual ABS Datalab, is a rich resource for generating evidence on mortality. The data show mortality inequalities in education across all age groups and within quintiles of area-level SEP and indicate area-based measures are inadequate for fully capturing inequality.