

# Study finds strong link between income inequality and readmission risk, but not mortality

14 February 2013

The authors estimate nearly 40,000 extra admissions to hospital as a result of income inequality over the three year study period.

Income inequality is associated with a variety of adverse health outcomes, including higher [infant mortality](#), reduced life expectancy, and poorer self-reported health. But little is known about the possible link between income inequality and outcome after admission to acute care hospitals.

So a team of US researchers examined the association between income inequality and risk of death and readmission within 30 days of discharge from hospital.

They analysed data for US [Medicare patients](#) aged 65 years and older, hospitalised over a three year period (1 January 2006 to 31 December 2008) with a principal diagnosis of [acute myocardial infarction \(heart attack\)](#), heart failure, or [pneumonia](#).

Information on income inequality at state level was obtained from the US Census Bureau. US states in the three highest quarters of income inequality were compared with US states in the lowest quarter.

Several other state, hospital and patient level characteristics likely to influence the results were also taken into account.

Mortality analyses included 2.7 million admissions to 4,500 hospitals and readmission analyses included 3.2 million admissions to 4,500 hospitals.

Income inequality was not associated with an increased risk of death within 30 days of admission for patients with acute myocardial infarction, heart failure, or pneumonia. However, for all three conditions, patients exposed to higher levels of

inequality had an increased risk of readmission within 30 days of discharge.

This effect, say the authors, would translate to an increased risk of readmission of 1.5% for acute myocardial infarction and heart failure and 1.4% for pneumonia. Over the three year period, they estimate an excess of 7,153 readmissions for acute [myocardial infarction](#), 17,991 for [heart failure](#), and 14,127 for pneumonia.

Further adjustment for individual income and educational achievement did not significantly alter the findings.

The authors are not sure why they found no consistent link between income inequality and mortality, but they suggest that, over 30 days, "readmission is more sensitive to social conditions than is mortality, and that an effect on mortality might have been observed had we extended the period of observation to one year." They also stress that the design of the study may mean that a number of other unmeasured (confounding) factors could explain the results.

And they conclude that further research is needed "to elucidate the mechanisms underlying these observations."

#### More information:

[www.bmj.com/cgi/doi/10.1136/bmj.f521](http://www.bmj.com/cgi/doi/10.1136/bmj.f521)

Provided by British Medical Journal

APA citation: Study finds strong link between income inequality and readmission risk, but not mortality (2013, February 14) retrieved 23 September 2022 from <https://medicalxpress.com/news/2013-02-strong-link-income-inequality-readmission.html>

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