

# Manual occupations with high all-cause mortality in 2001-2015: The contribution of sociodemographic characteristics

Hanna Rinne, Mikko Laaksonen

## Background

Most of the high-risk occupations belongs to the manual workers. A considerable part of occupational differences may reflect more general socioeconomic differences. Yet, there may be differences of these effects between manual occupations. The aim is to examine, whether high mortality of manual occupations could be explained by education or mediated through industry, income or unemployment periods. Interesting question is also, whether there are differences in these effects among different manual occupations with high risk of mortality.

## Data and methods

We used longitudinal individual level register based data from the registers of Statistics Finland. Study population consisted of employees aged 30-64 at the end of the year 2000. The follow-up period was 2001-2015. We used Cox proportional hazard regression models to estimate the association between occupation and mortality.

## Results

Adjusting for education diminished the differences on average the most. Among men, the effect of adjusting for other variables varied largely between occupations being even reversed in some occupations. Among women, they explained a part of excess mortality in almost every occupation.

The adjustment of all variables explained up to 55% of excess mortality among men and 9-86% among women. In some occupations among men they even increased the mortality. In 14 of 31 occupations among men and 2 of 11 occupations among women the mortality was no more statistically significantly higher.

## Main conclusions

There were considerable differences between manual occupations, how much adjusting for education, industry, income and unemployment explained the excess all-cause mortality. Occupational mortality differences do not fully return to traditional socioeconomic differences. Even in the same occupation, the effects may be different between men and women. Studying occupational differences brings new information on health inequalities and helps to target preventions.