

Mortality by occupation: the best basis for actionable results?



Chimney sweepers' cancer of the scrotum,¹ wool-sorters' disease,² and lung cancer in uranium miners³ have taught us that the workplace can be full of hazards—chemical, biological, and radioactive. More recently, findings from the Whitehall and other studies have shown the huge effects on health of social structures and psychological processes in the workplace.^{4,5} Researchers have subsequently investigated specific workforces to study important questions about occupational epidemiology in relation to particular hazards and diseases.⁶

In *The Lancet Public Health*, Srinivasa Vittal Katikireddi and colleagues⁷ do something rather different. By eschewing particular diseases and analysing all-cause mortality, they implicitly draw attention to the sort of person who does a particular job, rather than the type of work they do. All-cause mortality is unlikely to reveal particular hazards; it is a summary measure that sheds light on the overall circumstances (economic, social, and lifestyle) of a particular occupational group. Katikireddi and colleagues used data from census-based longitudinal cohorts to examine all-cause mortality by occupation for the different countries of the UK. The study is not without its problems. Information governance restrictions meant that each cohort—Scotland, Northern Ireland, England and Wales—had to be studied separately. Loss of out-of-area deaths vitiated the Northern Ireland dataset. The ad-hoc groupings of occupations into roughly 60 categories mean that direct comparisons between men and women are not possible.

Despite these limitations, the analysis produces many interesting findings—namely, that mortality rates vary substantially by occupation and, although improvements have been shown in most occupational groups, it has increased in others. However, as with all descriptive studies, it raises many questions for further research. In offering an analysis of mortality by occupation, the investigators draw attention to the health status of groups in society defined by the answer to the question “What is the full title of your main job?” A key strength of the study is its distinction of 63 categories; however, in interpretation of the results it can be useful to group them into patterns. When this grouping is done, it seems likely that the patterns we see are due as much to the composition of these occupational groups as to direct workplace hazards;

hence, mortality by occupation not occupational mortality. The mortality gradient between health professionals, health associate professionals, and health care and related personal services is intriguing and unlikely to be attributable to major differences in workplace exposure to chemical, biological, or radiation hazards. This gradient might well be due to differences in status, pay, education, lifestyle, and many other factors.

Analytical categories are not value-neutral, so why choose occupation as the category for analysis? Why not, for example, analyse according to main hobby, or main place of shopping? The answer is partly because occupational data are available in official statistics in a way that these other categories are not, although this argument is circular: government statisticians ask those questions because we analyse them. Occupation might also be chosen because “main job” implies a substantial proportion of our waking hours. Analytical categories are mostly chosen because they are actionable. Katikireddi and colleagues recognise this factor in their call to policy makers in Scotland to act on the important finding that Scotland's excess mortality is concentrated in occupational groups with high mortality. Scotland, Northern Ireland, England and Wales are not primarily geographies, but jurisdictions—they have governments with powers and responsibilities.

Political jurisdictions give a clear frame for action. How to act on occupational categories with a poor mortality record is less clear. Well-defined occupations might have trade associations or similar to work with. But as working patterns change, the question “what is your main job?” becomes increasingly ambiguous, especially in fluid low-wage sectors of society. In future, other classifications and categories might provide a better basis for actionable results.

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I declare no competing interests.

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Published Online
October 23, 2017
[http://dx.doi.org/10.1016/S2468-2667\(17\)30196-2](http://dx.doi.org/10.1016/S2468-2667(17)30196-2)
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