Reviewer's report

Title: Record linkage of census, mortality and hospitalisation databases to explore ethnic variations in disease: ethical creation of a retrospective cohort study

Version: 1 Date: 5 January 2007

Reviewer: Niklas Hammar

Reviewer's report:

General
Improved utilisation of routinely collected data from hospital records, death certificates and censuses by record linkage has a substantial potential for public health. This paper describes how this kind of data can be linked on a national basis in Scotland without access to unique personal identifiers and with great care to strict data protection legislation and confidentiality. In this respect the paper represents an important contribution.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

There is rather extensive experience of record linkage between mortality and morbidity data and census data in the Nordic countries that should be acknowledged, discussed and referenced.

It is unclear why the authors determined that a linkage of 80% or more for all ethnic groups would be adequate. Was this driven by the data or by theoretical considerations? A differential misclassification of disease due to differences in the linkage proportions would bias relative risk estimates comparing incidence rates in different ethnic groups.

Was the estimated false positive rate in the matching of less than 0.1% applicable in all phases of the matching process? For example, do we know that this was the case in matching the census records to the CHI records?

It is stated that the method can be applied in a relatively cheap, quick and in many countries feasible way. This probably depends on the local setting including the quality of the data at hand. It would be of importance to get a more detailed description of the time and resources involved and of the basic requirements for the method to be reasonably feasible.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests.