Reviewer’s report

Title: European Project on Osteoarthritis (EPOSA): methodological challenges in harmonization of existing data from five European population-based cohorts on aging

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Reviewer: Ana Valdes

Reviewer’s report:

In this study Schaap and coworkers have aimed to harmonize ageing and osteoarthritis-related data for 5 cohort studies from Germany, Italy, the Netherlands, Spain and the United Kingdom. This manuscript represents a worthwhile effort to harmonize various variables. However, OA itself is not defined and ranges from self reported OA to X-ray assessment. Since the outcome is neither defined nor standardized it would be very difficult to draw any valid conclusions regarding osteoarthritis from the current cohort collection.

Major revisions
The clarity of the manuscript will greatly improve if the authors comment on which outcomes can be adequately studied as part of this effort and the questions which can be properly addressed after the harmonization.

Given that most epidemiological studies of OA have taken as a starting point radiographic definitions (e.g. Kellgren/Lawrence grade), the lack of radiographic assessment for several of the cohorts is a major weakness of this study which should be more clearly addressed in the discussion and also when explaining the study design.

Minor revisions
The authors mention that the difficulty in establishing a single OA definition is the lack of correlation between radiographic disease severity and symptoms and disability. This is an important issue which deserves a more in depth discussion.

The authors could discuss the merits of the current approach compared to previous efforts form other studies (Kerkhof et al 2011 http://www.ncbi.nlm.nih.gov/pubmed/21059398) where attempts to standardize radiographic and clinical definitions across a much larger number of cohorts was pursued.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests