Reviewer’s report

Title: Measuring change in health status of the elderly at the population level: The transition probability model

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Reviewer: Marten Lagergren

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1. The tables presenting the results are non-readable and as a consequence the authors fail to make valid structural conclusions. There is an apparent lack of analysis of the results.

2. The conclusions that are made have a very weak relation to the results of the study and seem more to reflect general opinions based on literature and common knowledge. It is difficult to see how a clinician could benefit from this study “in estimating prognosis “ (citation from Conclusions). Prevention efforts are of course important, but how that can be concluded from this study remains unclear.

3. Though some insight in the dynamics of the care system is provided by calculating the transition rates this is very rudimentary, since there is no long-term follow-up – only year to year. The authors do not seem to have grasped the meaning of Markov processes. There is no validation of whether the studied processes are Markovian.

4. A very important part of the care utilisation of elderly persons is left out, since long-term care and home care is excluded.

5. The method of just lumping all utilisations of care together without considering their relative weight in terms of costs or resource requirements seems highly questionable.

6. In the discussion part results are discussed, which are not presented in the study (prevalence of chronic conditions, utilization of drugs)

7. The population development in Ontario presented in table 1 seems absurd. The yearly increase of 90+ is 30% (!), to be compared with around 4% in total Canada in the same period according to Statistics Canada. Do these figures refer to some sub-group of insured people?

Level of interest: An article of importance in its field

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