Reviewer's report

Title: Combinations of long-term care insurance services and associated factors in Japan: a classification tree model

Version: 4 Date: 23 July 2014

Reviewer: Hideto TAKAHASHI

Reviewer's report:

For the authors:

Major Compulsory Revisions:

(1) The former comment of 1.

In the description of the validity of the CHAID model with cross-validation, the authors showed “the average correctness of classification (L225#226)” as an evaluation index. It is, however, unfamiliar to readers generally. Show readers its definition and explain why it is suitable as the index.

(2) The former comment of 2.

On the issue whether the partitioning was the best or not, the figures of nodes 2, 3, 6 were very similar patterns, for example. To combine with them as a node may/seems be better. The authors should solve this question anywhere in the article if they consider that this partitioning is the best way even there are some similar nodes.

(3) The former comment of 3.

It is still difficult to understand what Table 2 meant. As they clarified the best partitioning of the sample from the kind of care in Figure 3, Table 2 may be useless. If the authors consider that Table 2 is surely important and inevitable, independently of Figure 3, the essential points in the results should be described here.

Discretionary Revisions

(1) The former comment of 2.

The essence of the authors’ analysis with CHAID would be as follows: By CHAID, in the first step (branch), “Care need level” was essential and divided into three groups. In the second step, “Living type(alone/with family) was important and into two groups, respectively in each group divided by the first step. In the final step, “Cognitive situation” in the group of “Living with family” in Care need levels 1 and 2-4, but “Medical/No medical procedure” in Care need level 5 were significant.

In this procedure, we do not know how these variables (and at this order) were more essential than others in the analysis. From the scientific point of view, the
evidence will be necessary why three steps (branch) are necessary and/or the three was enough, and how the partitioning was reasonable along the feeling with data (Show tables in each branch, respectively).

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.