Reviewer's report

Title: Regional disparities in interferon therapy for chronic hepatitis C in Japan: A nationwide, retrospective cohort study

Version: 2 Date: 3 February 2015

Reviewer: Scott McDonald

Reviewer's report:

The authors have done a thorough job of addressing my comments on the originally submitted version of this manuscript. However, there are still some outstanding issues that need to be addressed before acceptance for publication; see below.

Minor Essential Revisions

The authors replied to a comment by the other reviewer with: 'For the parameters applied to the multivariate analysis, we adopted only the parameters that had a P-value <0.10 by univariate analysis'. However, is not enough to adapt the statistical modelling methods as described; this choice must also be justified. Why was a P-value threshold chosen, and why <0.10? There are many possibilities for variable selection/model reduction. In the Methods you also should justify why you needed to carry out model reduction, given the large N.

My previous comment 'Which measures and how exactly should they be formulated to match the regional characteristics?' is not addressed by changing 'measures' to 'policies' (perhaps there was some confusion here). What I was asking for was to describe what kind of public health actions would be recommended, and could viably be implemented to address regional disparities. Same applies to my previous Major Comment 5).

Lines 245-246: 'SVR rates were significantly lower in Hokkaido/Tohoku and Shikoku than in Kyushu ' - where/how have you tested this assertion? In the multivariate analysis these regions are only compared with the reference region.

Lines 259-261: '...rates of treatment accomplishment and SVR in the Hokkaido/Tohoku and Shikoku regions were significantly lower than those in the other regions' - same comment as above.

In Tables 2 and 3 (at least), the heading Univariate Analysis should only apply to the P-value column, not the frequencies in the first columns (which are relevant for both analyses). Also, if you are going to report univariate results, reporting the coefficient is essential - not only the P-value - so that the reader can evaluate the impact of the other variables included in the model on a univariate association.

Line 190: 'were concentrated on' - did you rather mean 'restricted to'?
Tables 2 and 3, and text lines 233-234 and 244-245: the Year of treatment grouping is ambiguous: did you mean Before 2009, 2009, and After 2009?

There are still a few grammatical/style errors missed by the English editor, e.g., 'The substantial amount of public money ... urged us to ..', "to build up closer cooperation", "for the numbers of strata", ' depopulated areas' (did you not mean 'areas with low population density'?)

**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