Reviewer’s report

Title: Do expanded seven-day NHS services improve clinical outcomes? Analysis of comparative institutional performance from the "NHS Services, Seven Days a Week" project 2013-2016

Version: 1 Date: 09 May 2017

Reviewer: Xiaoyun Liu

Reviewer's report:

The study used difference in difference analysis to investigate the impact of seven day NHS service on clinical outcomes. It found that seven day NHS services did not improve clinical outcome. The study design and interpretation data are appropriate and the conclusions are convincing.

The study may need to further justify the selection of outcome indicators. For example, why should the seven day service have an impact on average LOS? The aim of the seven day service is to improve excess weekend mortality, to increase cost-efficiency, to move the NHS in line with the retail sector, and to improve the patient "customer" experience. But the study aims to only evaluate the policy's impact on clinical outcome (the four indicators are not all clinical outcomes). Summary Hospital-level Mortality Indicator is very close to the policy objectives, but it is not the weekend mortality.

The discussion on positive relationship between weekend hospitalisation and increased mortality is somehow confusing. Weekend hospitalization may result in worse health outcomes, but the seven day NHS services tried to provide weekend service to improve health outcome. This justification can be introduced in the background part.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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