Reviewer's report

Title: Towards a better approach for physician and nurse requirements planning in Serbia: learning from the past

Version: 1 Date: 30 August 2012

Reviewer: Ines Fronteira

Reviewer's report:

Major Compulsory Revisions

background

Although the paper describes the history of HRH planning in Serbia, it misses to review the existent literature about HRH forecasting in Serbia or in similar countries/contexts. This becomes even more evident in the methods section where the authors mentioned the variables chosen for the model but they do not justify why those ones were chosen and not others. For instance, I have serious doubts on the soundness of having chosen inpatient discharges as part of the model since this variable can be prone to bias (e.g., patients discharged who are latter admitted with complications due to early discharge). I do not understand why this variable, as well as outpatient care visits, was included. Are they proxies to physicians and nurses' services production (hospital?, primary health care?)?

Another important issue that is not mentioned is if, and if so, how, the skill mix was accounted for. There is not a single line in the paper mentioning how physicians and nurses skills are related, what are the scope of practice and if it has evolved throughout the years studied. The question is quite simple – can we plan or forecast looking only at number and not at context? Another issue that is linked whit the before mentioned one is that the authors fail to mentioned for instance how has the educational system been financed and what is to expect in the future. And what about the health service system? As it grown in the last decades? How? Was this accounted for? How?

Methods section needs to be improved with methodological references. Also, it should be made more clear why were those specific time periods chosen for analysis.

The discussion should be enriched by other similar studies (especially in study limitations section) and should discuss better the contextual factors that might support or contradict study findings. Please mention the role of private sector (if any) in the provision of health services.

In figure 1, 2, 3, 5, and 6 replace number (or value in figure 4) by the description of the variables (e.g., for figure 3 – Number of inpatient discharges in public health sector of Serbia).

Minor Essential Revisions
Please review reporting of numbers, p-values (when, e.g., p=0.00001 one should report p<0.01), tests (chose at maximum 2 decimal places) and confidence intervals (the format used is confusing).

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

no competing interests