Author's response to reviews

Title: Does salary affect the choice of residency in non-university teaching hospitals? A panel analysis of Japan Residency Matching Program data

Authors:

Taiji Enari (enari-tky@umin.ac.jp)
Hideki Hashimoto MD DPH (hidehashimoto-circ@umin.ac.jp)

Version: 3 Date: 10 February 2013

Author's response to reviews: see over
Title: Does salary affect the choice of residency in non-university teaching hospitals? A panel analysis of Japan Residency Matching Program data

Dear Dr. Mario Dal Poz

We would like to thank the reviewers for carefully reading our manuscript again and for giving us additional helpful comments. In response to the third review’s comments, we have re-revised our manuscript (reference number: 1568953252664357) as follows. We hope that our revisions have sufficiently addressed the comments and have improved the paper to be suitable for publication in Human Resources for Health.
Response to comments from reviewer 3:

1. *I think the paper needs to be better located within the international debate about how to attract health professionals to rural areas, by looking at the literature on the subject from the US, but also from middle-income and low-income countries. The way it is, it seems to me the paper concentrates exclusively on the Japanese case-study, and fails to make a contribution and bring useful lessons for international readers, which is a shame. My suggestion would be to (a) do a bit of literature review for the introduction of the paper, and (b) see how your results compare to what other studies did in foreign countries (in the discussion), and (c) try to extract clear lessons to be learnt by other govts/agencies (in the discussion).*

→We apologize that we did not properly respond to the comments in the last revision, and appreciate the reviewer’s repeating advice to make our manuscript more meaningful in the global context.

As the reviewer correctly mentioned, the unequal distribution of physicians between rural areas and metropolitan cities is not local only in Japan. Following your suggestion, we moved the description of Japanese residency program to the method section, and revised the introduction to address a global policy debate on physician distribution and incentive policies. We additionally conducted a literature search for studies from countries other than Japan, and added to introduction section a note that the mal-distribution of physicians is a universal health policy issue in many countries, such as US [1,2], UK [3], Canada [4], Portugal [5], Hungary [6], Australia [7], and middle-low income countries [8,9]. We also newly argue in the introduction, based on the literature review [10], that increasing the supply of physicians has not solved the problem, but rather exacerbated the mal distribution [2,3,11,12], and preparing incentives for physicians to practice in rural areas is necessary [14]. In this context, we intended in this study to test whether financial incentives could be a solution, using the reform
of residency program in Japan as a testing laboratory.

In the discussion section, as we have already argued, our results suggested that salary, as well as training environments such as the number of supervising physicians, could attract young residents, and that the effect of monetary incentives and that of training environments were antagonistic. Our stratified analysis further indicated that the impact of monetary incentives was larger in rural conditions rather than in urban conditions. These findings would add a novel perspective to previous studies arguing that financial incentives alone are not sufficient, and that the strategy for staffing remote rural areas should be comprehensive [6,8]. Instead, our results suggest that resource could be strategically allocated between monetary incentives and training environments, according to urbanicity. We take this newly found implication as lessons for policy makers. Again, we would appreciate for the reviewer’s encouragement to bring this message to the audience of the Journal.

Revised
We moved the description of Japanese new residency program from the introduction to the method section, with a subtitle of “New Residency Matching Program in Japan”

Revised (Discussion section, underlined parts are newly added)

Previous studies have also indicated that financial incentives would affect physicians’ choice of training hospitals or workplace in high income countries as well as in middle-low income countries [13-15,27,28]. A systematic review on human resource allocation in healthcare reported that increased wage for trainees may be an effective strategy to improve supply as well as distribution of physicians, though the validity of evidence was limited due to poor study design [15]. With sophisticated statistical technique and use of panel data, our results have added a strong support to the statement that monetary incentive is a significant factor for a physician’s choice of early career, especially in rural area.

Our results also showed that the number of teaching physicians and that of inpatients had a positive effect on hospital choices. Previous studies
also indicated that the quality of training environments, such as teaching skills of attending physicians and opportunities to learn clinical skills, was a significant factor that affected resident’s choice of specialty and training location, and job satisfaction [25,27,44,45]. Although the number of teaching physicians does not necessarily guarantee the quality of teaching, busy attending physicians were reported to decrease residents’ satisfaction with the quality of attending teaching in the US national survey of surgical residents [45]. The questionnaire survey by the MHLW in Japan also reported that, in their choice of training, non-university residents took into consideration hospital factors, such as the number of clinical cases to provide a sufficient learning experience (43.3%), the comprehensiveness of the training curriculum (37.5%), the number and quality of teaching physicians (29.7%), and high-tech therapeutic equipment of hospital facilities (27.3%) [27]. These conditions are expected to provide young residents with better opportunities to enhance their clinical skills and wider alternatives for career development.

the increase in the number of teaching physicians may be a difficult alternative under the current shortage of physicians, especially in rural areas [46]. Offering a higher salary for young residents may be more feasible instead. Some previous studies argued that financial incentives alone are not sufficient, and that the strategy for staffing remote rural areas should be multi-faceted and comprehensive [6,8,13]. Our results rather indicated that resource could be strategically allocated between monetary incentives and training environments, according to local conditions.

Revised (References section)
Accordingly, following references are added


