Author's response to reviews

Title: Measuring hospital-wide activity volume for patient safety and infection control: A multi-centre study in Japan

Authors:

  Kenshi Hayashida (kenshi@pbh.med.kyoto-u.ac.jp)
  Yuichi Imanaka (imanaka@pbh.med.kyoto-u.ac.jp)
  Haruhisa Fukuda (halu@pbh.med.kyoto-u.ac.jp)

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Editors
BMC Health Services Research

Dear Editors,

We resubmit an electric file of our manuscript entitled “Measuring hospital-wide activity volume for patient safety and infection control: A multi-centre study in Japan” by Kenshi Hayashida, et al. Thank you for the opportunity to respond to the reviewers’ comments regarding our manuscript. We have revised the manuscript according to the editor’s request and reviewers’ comments.

Editor’s request

1) Copy-editing - We recommend that you copyedit the paper to improve the style of written English….

We have copyedited our paper to improve the style of written English.

2) Ethics - Experimental research that is reported in the manuscript must have been performed….

We have added the information about reference numbers and informed consent. We have also added the following description regarding ethics on Page 6, Methods, Lines 6-7 and Line 9-10:

We obtained informed consent from each participating hospital.
(reference number E-5)

The following are the replies to reviewers’ comments including the detailed list of all changes made to the earlier manuscript (Pages and lines shown in this letter are based on the revised manuscript).

Reply to Hyang Soon Oh’s comments

Thank you very much for your insightful comments.

However, some of them should be described more clearly. In Abstract 2p and Introduction 4P.
The aims of this were…..

According to your comment, we have changed the description on Page 2, Abstract, Lines 7-9 and on Page 4, Line 21 to Page 5, Line 2, Introduction, to ensure clarity:
The aims of this study were to measure hospital-wide activities for patient safety and infection control through a systematic framework, and to identify the incremental volume of these activities implemented over the last five years.

Results section
You should describe how many percent of activities of infection control was compared to their (in this study subjects) fulltime of working hours.

The major aim of this study was to measure not only the activities of the person assigned to the infection control division, but to measure the hospital-wide activities involving all staff members. Thus there were many staff members whose percentage of total working hours spent on infection control might be close to zero. Of course, we had also gathered the information about the specific people assigned to the infection control division, as shown in Table 2. According to your comments, we have changed the description on Page 8, Results, Lines 12-16:

The members of the division in charge of infection control, and the percentage of total working hours spent on these activities per staff varied significantly between hospitals. For example, the percentage of time spent on activities for infection control ranged from 5% to 80% per medical doctor assigned to such a division.

Discussion section
You didn’t describe the percent of infection control activities among total working hours. And in this study, the required standard time in spent in infection control (author’s expectation or from other references) wasn’t proposed. Nor it wasn’t compared to other study results. So I can’t agree to your conclusion in your discussion. Actually it was confused whether times being spent in infection control activities in this study results is short or not.

We think it is difficult to judge from this study whether time spent in infection control activities was deemed long or short, as the major aim of the study was to measure hospital-wide incremental volume of the activities for infection control. However, we agree with your comment that we should compare our results with other references, and as such have added some appropriate references and the following description on Page 10, Discussion, Lines 9-13:

However, even if the total staff count was calculated by adding all professions’ FTE, the ratio of most assigned hospitals remained about one FTE per 315 beds at best. This is lower than other studies, which reported values such as three FTE ICPs per 500 beds (one per 167 beds)\textsuperscript{12}, one per 178 beds\textsuperscript{13}, and a recommended standard of one per 250 beds.\textsuperscript{6}

On the other hand, we do think that the investment was not small for hospitals because there was an observed substantial incremental volume of the activity for patient safety and infection control in the last five years despite a lack of compensation in reimbursement of medical fees.
Reply to Dr Daniel R Longo’s comments

Thank you very much for your valuable comments to our manuscripts.

The abstract is a bit confusing and makes it uncertain for the reader on how the framework fits in.

According to your comment, we have modified the description on Page 2, Abstract, to ensure clarity.

I would like to see medical intensity or severity of illness as a co-variate.

As per your suggestion, in order to offer relevant important information wherever possible, we have changed the description on Page 6, Methods, Lines 2-3:

Each participating hospital was a certified teaching hospital with more than 300 beds, played a central regional role and provided emergency and intensive care services.

The charts are unnecessary and some of the tables should be re-evaluated for inclusion. I believe they can be cut to a smaller number.

According to your comment, we have eliminated some of the figures and tables, and also revised Table 2.

We hope that you now find out the revised manuscript acceptable for publication in the BMC Health Services Research. If any further revision is needed, please let use know. Thank you for your consideration of our manuscript.

Sincerely yours,

Kenshi Hayashida, PhD, RN.
Department of Healthcare Economics and Quality Management
School of Public Health, Kyoto University Graduate School of Medicine
Yoshida Konoe-cho, Sakyoy-ku, Kyoto 606-8501, JAPAN
Phone: +81-75-753-4454/ Fax.: +81-75-753-4455
E-mail: kenshi@pbh.med.kyoto-u.ac.jp