Author’s response to reviews

Title: A Retrospective Analysis of Health Systems in Denmark and Kaiser Permanente

Authors: 

Anne AF Frølich (anne.frolich@dadlnet.dk)
Michaela MLS Schiøtz (m.schiotz@pubhealth.ku.dk)
Martin MSL Strandberg-Larsen (m.strandberg-larsen@pubhealth.ku.dk)
John JH Hsu (john.hsu@kp.org)
Allan AK Krasnik (krasnik@pubhealth.ku.dk)
Finn FD Diderichsen (f.diderichsen@soomedi.ku.dk)
Jim JB Bellows (jim.bellows@kp.org)
Jes JS Søgaard (jes@dsi.dk)
Karen KW White (kwhite@psg.ucsf.edu)

Version: 6 Date: 27 November 2008

Author’s response to reviews: see over
To:
Natalie Pafitis, M.Sc.
Assistant Editor
BMC-series journals

MS: 1553180064203363
A retrospective analysis of health systems in Denmark and Kaiser Permanente Anne AF Frølich, Michaela MLS Schiøtz, Martin MSL Strandberg-Larsen, John JH Hsu, Allan AK Krasnik, Finn FD Diderichsen, Jim JB Bellows, Jes JS Søgaard and Karen KW White

Dear Editors,

Thank you for the careful reviews and the opportunity to submit our manuscript for consideration at BMC Health Services Research. We detail our responses to the reviewer comments on the following pages; we have revised our manuscript accordingly.

I changed the title by removing the following text ‘Learning from a Comparison of Apples and Oranges’ as proposed by the Assistant Editor.

I hereby clarify that the data from the Danish Health Care System is openly available. We do not need ethical approval in DK for using this kind of register data.

Best regards,

Anne Frølich
Clinical Unit of Health Promotion
Bispebjerg Bakke 23
Bispebjerg Hospital
2400 Copenhagen NV, Denmark
Comments from referee 1
Adelsteinn Brown

1. Don’t worry about the chi-square test.
We agree with the reviewer that formal statistical tests are not necessary to illustrate the main points of the manuscript.

2. The report begins to speak about comparative effectiveness of the two systems. However, it glides over the much higher reported prevalence of chronic disease in the KP system. This is, in some ways, another measure of effectiveness of the healthcare system and should be considered as such and not something that should be adjusted for in comparisons.

We agree with the reviewers that the higher prevalence rates of chronic conditions reported in KP compared to the DHS represent important information. There are many potential interpretations of these differences in rates that could justify including the rates as covariates or as outcomes. For example, the differences could reflect basic genetic or environmental variations in the two underlying populations, differences in self-care and risky behavioural practices, screening and diagnostic quality, or the effects of the health care systems. Our manuscript posits that understanding the context and inter-relationships between aspects of the health care system are critical when interpreting data from different health care systems. This subject is now addressed in the Discussion section on page 9.

3. Another risk, particularly when making cross-sectional comparisons is to mistake a cross-sectional difference as a permanent difference and not just two different points on the same secular trend. It would be useful, at least in the discussion to talk about whether or not the directions of change in each system are the same and whether or not the authors believe the observed differences will persist over time.

We agree that observation of cross-sectional differences has numerous limitations, including the possibility of similar or different temporal trends and the inability to demonstrate causal relationships. This theme is added to the Discussion section on page 8.

4. Finally, the slightly higher costs per capita in KP may simply be the result of higher salaries in the US health system. This sort of difference will not be accounted for by use of PPP. A simple set of comparisons of average physician and nurse compensation in each system would help identify whether the differences are due to something relatively unimportant. If the difference is likely due to salaries then the case for KP being more effective is further strengthened.

We agree with the reviewer that there are multiple potential explanations for differences in costs per capita, including differences in salaries. We, however, disagree that additional simple comparisons of physician or nurse compensation levels would yield easily interpretable information. Specifically, there are many other relevant data, in addition to any wage differences, including differences in pharmaceutical costs, tax status of the health system components (e.g., some entities in the United States have favourable tax status due to their not-for-profit classification), and system responses to these constraints. Moreover, much of the wage data either is proprietary (as in KP) or of questionable completeness and validity (as in DHS). For example, in DHS, the official wage data
for physicians reflects only the public sources of compensation and is a decreasing fraction of total physician compensation. Revised discussion on page 12 addresses this issue more fully.

Comments from referee 2
Sandra Leggat

Major compulsory revisions

1. There would seem to be little benefit in comparing an enrolled population with a geographic population in 2 different countries. This paper needs more discussion of why it was thought this type of comparison would be useful

We disagree with the reviewer. There is a pressing need to identify effective health services practices that improve quality, efficiency, and equity, and to provide useful external benchmarks. Not surprisingly many notable organizations are advocating these comparisons, including the US American College of Physicians and the Commonwealth Fund. We have modified the Background section to present why we chose this type of comparison for the purpose of the study (page 3).

2. Why were the six dimensions chosen?

We based these six dimensions on Donabedian’s model of structure, process, and outcomes and on Wagner’s Chronic Care Model. We chose dimensions that reflected important characteristics of health care systems and for which data was available. The text on page 4 has been changed in accordance with the referee commentaries.

3. Were there other dimensions that would have been useful but not available?

The referee raises an interesting question. We think that information on the dimensions of culture and leadership could have been extremely useful for the purpose of the study. The challenge with these areas is the lack of easily available data that is substantial, reliable, quantifiable, and comparable across systems.

4. What was included in the health professional and physician groups?

The text on page 6 now states that physicians include all types of physicians: residents, physicians, specialists, and general practitioners. Health professionals cover all health professionals except physicians.

5. Is it possible to compare the utilization rates reported with the prevalence of the corresponding diseases in the population?

There is a complex interaction between prevalence and rates of utilization rates that makes comparisons difficult. Prevalence rates are to some extent based on utilization of healthcare that leads to diagnosis. Diagnosis-related utilization data for the Danish primary care sector is not
recorded and thus not available, rendering comparisons difficult. We have therefore refrained from them.

6. **The discussion is written as if it is a surprise that the two populations differ which lead to a relatively superficial discussion of the issues.**

In the assessment of the two health care systems, we included a number of commonly used adjustments to increase the comparability of the data, such as cost adjustments, as explained in the Methods section on page 5. The Danish costs were stratified into age, education, and household income categories. By applying the characteristics of the KP population to these stratified costs, we adjusted the per capita Danish costs for differences between the populations. The main argument of the manuscript, however, is to caution against limited comparisons.

7. **I would think that that it would be obvious that a self-selected enrolled population would be different from a geographic population and would have liked to see more detailed recommendations as to the data and analyses required to ensure an apples to apples comparison across two very different populations.**

Table 5 lists easy accessible data that can be used for common comparisons of healthcare systems. In the conclusion on page 13, it is mentioned that, for more specific and useful comparisons, more detailed data is needed on specific factors of interest.

**Discretionary revisions**

8. **I think it is a bold move to indicate differences in the quality of care when none of the indicators provided information on outcomes.**

The authors agree with the reviewer, and the text on page 11-12 has been changed accordingly. The Mangione citation (reference #42) supports this perspective.