

## **Reviewer's report**

**Title:** National trends of physician assistant workforce: 1980 to 2007 U.S. Surveys

**Version:** 1 **Date:** 9 August 2009

**Reviewer:** Holly Rodin

### **Reviewer's report:**

The focus of the manuscript is to describe the physician assistant workforce in the United States over time. The authors found significant variation across states, as well as changes over time in education level, age, and the percent female and minority in the workforce. In light of the current health care reform discussions with an emphasis on preventative practice, chronic disease management and medical homes, having up to date information on the PA workforce will be important for policy makers.

While this manuscript updates similar work on this specific workforce, I have some concerns with the manuscript as submitted. Without any statistical tests to measure if the change from year to year is indeed a change and not just an artifact of the survey sample, I'm not comfortable that the findings represented in the paper are sound. As stated by the authors, some of the sample sizes in some states are quite small, so conducting statistical testing is very important before drawing any conclusions about whether a difference from year to year is really a change or not. I am also concerned that many of the associations theorized in the discussion section are interesting hypotheses, but are not empirically tested in the submission. For example, the associations between increase in minority PAs and the Title VII policy goals, the relationship between state wage rates and practice environments, and the timing of state PA regulations and rates per 100,000. While these associations may exist, they have not been empirically tested, although with additional data, could be. And finally, I think the issue of why the readers should be concerned about the PA workforce is not adequately motivated in the background section. Some readers may not be familiar with why PAs are important for the delivery of care, how PAs are regulated from state to state, and why it matters if there is an adequate supply of PAs...

### **Major Compulsory Revisions**

- 1) At a minimum, the authors need to conduct appropriate statistical testing on the various differences they cite in the paper to determine if the changes are statistically significant.
- 2) The authors should spend more time in the background section providing more information on the workforce of interest, such as what role the PAs have in the delivery of care, what minimum requirements need to be met to be a PA, who regulates the workforce (state or national), what is their scope of practice.

- 3) I'd like to see more detail on how these workers were identified in the IPUMS data, and if there were any changes in the classification over the 27 years and how the authors address any changes in the data over that time.
- 4) It's not clear how using only employed PAs in the analysis minimizes bias, and it might be interesting to see if there are a lot of unemployed PAs, why that is and if efforts to bring those workers back into the workforce could address the shortage, similar to the approach taken in the literature on the RN shortage.
- 5) I think that including more specific information on the variation in state regulation of PAs (licensing, credentials, educational standards, supervision of physicians) would be important for the readers, since these differences probably have a lot to do with the variation in per 100,000 rates, wages, and the demographic make up of the workforce

#### Minor Essential Revisions

- 1) on page 4, not sure how the personnel manager fits into the analysis.
- 2) On page 5, the sentence '..female PAS had been more then tripled' needs to be rephrased.
- 3) I'm not sure that the absolute number of PAs adds that much to the analysis, since one would assume that larger states would have more PAs. The per 100,000 analysis seems more appropriate.
- 4) On page 8, need to add an 'e' to the end of Maine.
- 5) On page 8, the first sentence of the second paragraph needs to be rephrased.
- 6) The term 'federalization of the PA profession' should be better explained on page 9.

#### Discretionary Revisions

There are a number of other interesting questions that the authors could test empirically.

- 1) Is there a correlation between the increase in women PAs over time, the geographic distribution of women PAs and the wage rates?
- 2) Empirically testing the hypotheses included in the discussion section would be very interesting and would help to motivate any discussion about policy changes.

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

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests'