Reviewer's report

Title: Does The Presence of Medical Trainees Affect The Increased Mortality Noted With Weekend Admission?

Version: 1 Date: 3 October 2013

Reviewer: Christopher McCoy

Reviewer's report:

This paper attempts to answer the question of whether the presence of resident physicians decreases the previously published phenomenon of increased mortality for patients admitted over a weekend. A prior study of this question was limited to a single state and a set of medical diagnoses. This paper uses administrative data from a national sample, which has not been done before.

The primary finding of increased mortality for weekend admissions to hospitals with residents is contrary to what the authors originally hypothesized. It is finding that will likely stimulate more research regarding the care of patients at hospitals with residents.

The primary finding is supported by appropriate multi-variate analysis for known risk factors. It is also notable that the increasing mortality is “dose dependent” to the number of residents in the hospital, which provides further strength that this is a real finding and not a statistical aberration.

The authors appropriately identify the limitations, including the key limitation that they cannot assess if the care was provided by residents, only that a hospital has resident physicians.

I believe this paper adds new knowledge to the discussion of factors that lead to mortality at hospitals with resident physicians.

Major Compulsory Revisions

None

Minor Essential Revisions

1. Pg4. NIS data from 2008 includes 42 states (http://www.hcup-us.ahrq.gov/nisoverview.jsp) – did you only include hospitals that submitted data for entire sample period 2002-2008?

2. Figure 1: y-axis does not start at zero, nor provide the usual indication in the axis that it is non-continuous

3. References: Ref #2 is the same as Ref #27

4. Web addresses in Ref #4, #12, and #18 have not be accessed since 2010 or 2011; recommend verification that they are still accurate.
Discretionary Revisions.

5. The data set is limited to inpatient mortality, and thus cannot address if the increased mortality for weekend admissions persists after discharge, or if there is a compensatory decrease in mortality after discharge suggesting that there is a trend for staying in the hospital until death rather than dying after discharge.

6. Table 1: sum of weekday and weekend is 10 less than total number – were there 10 patients without admission time/date data?

7. Table 1: Comorbidity indexes are 1.064 and 1.059, yet it is 1.1 for total – was the total rounded to after just one decimal point? Would recommend consistent degree of precision across all three values.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests.