Reviewer's report

Title: Predicting Inpatient Hospital Prices in the United States: A Retrospective Analysis

Version: 2 Date: 4 December 2014

Reviewer: Alexis Pozen

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- Major Compulsory Revisions
  1. While I understand the value of obtaining prices for commercial and uninsured individuals, I'm not sure what is meant by the “price” for public payers. Can’t Medicare payments by DRG, adjusted for geography, be obtained through the CMS website?
    a. As a side note (not a major revision), I believe this could help explain your negative relationship between market concentration and price for public plans, which set prices, and for which utilization would be a more important driver of cost than price.
    b. This error is made again in Discussion paragraph 3 – studies on health care utilization use Medicare claims data, but as Medicare uses administered prices, only commercial claims datasets (which are difficult to obtain) would be used to look at prices. (Thus, this work is quite valuable, and I think should focus on commercial payers and, perhaps, the uninsured)
  2. The way you define “price,” as I understand your methods, you might be underpricing patients who have coordinated benefits. In other words, Medicare might pay less for a patient who has commercial insurance or vice versa, and your “prices” would in fact be payments, not the negotiated price between insurer and hospital. This might not be an issue to you, but note that payments reflect payer and procedure mix, not the pure negotiated “price.”
  3. The endogeneity issue addressed (with regards to cost shifting) does not address a key argument usually made in the industrial organization literature, which is that hospital (patient, etc.) characteristics, especially market share, tend to be a function of the margins received in a market, not just vice versa, since hospitals will locate in high margin areas. This problem is somewhat mitigated by the inclusion of state variables, but without multiple years of data, we can’t be sure whether time shocks explained the relationship between margins and hospital characteristics, although the data were pre-recession and pre-ACA. This is especially problematic given the use of payment, rather than pure price, which is unweighted (e.g., with DRG weights), since hospitals can manipulate high versus low margin services over time and thus change their market share. Multiple years of data would have validated this method, yet anyone who has used HCUP would understand that this is no easy endeavor.

- Minor Essential Revisions
4. Paragraph 1, introduction: payment and price are not always used interchangeably, e.g. if the payment is not the full negotiated price, as discussed above

5. Policy relevance should acknowledge more than just cost shifting as target research for this method.

6. Methods, paragraph 3, I think you meant to write “hospitals’ margins on publicly insured patients.” Also, FYI, Robinson (2011) cites original concept and research on reverse cost shifting first proposed by Stensland, Gaumer, and Miller (2010)

7. Does the HCUP have more granular market info that can be linked to discharges, e.g. MSA or county? What about a sensitivity analysis using state fixed effects, then MSA/county fixed effects? I think at least state fixed effects are necessary to see if you’re capturing all of the state policies that might affect both margins and hospitals/patients

- Discretionary Revisions

8. I don’t understand the last sentence in the third paragraph in the introduction “…there can be multiple cost reports for a single hospital in one year, and extreme values can occur.”

9. Methods, second paragraph. Did you log prices because of skewness in the PCR variable, i.e. your own data?

10. Table 2: I understand the need for abbreviated tables, but it might be more useful to highlight differences across payer groups rather than describe one group completely

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.