This is an excellent paper, very well developed and concentrated on a very timely topic, the reimbursement for skilled nursing care by Medicare under prospective payment system (PPS). Some basic theoretical problems remain. However, I believe that the authors will be able to adequately address them.

1. The use of percent Medicare residents is not conceptualized or motivated enough. It appears to be in the “right direction”, but lacks clarity. In particular, percent Medicare measures the intersection of two concepts: firstly capacity: a facility builds its staff, knowledge base, certification, and environment to be able to handle a specific volume of Medicare residents. Secondly, market share: a facility is able to attract a certain amount of fee-for-service Medicare residents and MCO skilled residents. Thus, the observed percent Medicare residents in a facility is a “realized solution” of both concepts. It would change with market demand, policy environment, and competition. If the only change was policy environment (with the introduction of PPS), then the measure at baseline, pre PPS, may capture facilities’ capacity to care for SNF residents. This appears to be the argument driving this analysis. Yet, it is not presented clearly, nor is it motivated enough. I wonder whether the within facility variability in this rate is an important control. I also wonder whether the proportion of certified beds provides another angle at this measure. I would like to see the authors provide a more theoretically based justification for the use of this measure, and its anticipated effect. Potentially this is a misspecification problem, which would only require acknowledgement in the limitation section of the discussion. The discussion of the endogeneity of this measure is also not entirely clear. Finally, an explanation of the main hypothesis tested (the interaction of PPS and % Medicare) needs to be explained. The issue of % Medicare is at the heart of this paper, therefore it may deserve a section to itself.

2. Page 11 you state that “because of policy interest…” you are studying the differential effect by chain and hospital-based status. Why you expect a difference requires more motivation. Also, although it is important to study both hospital based and freestanding facilities, it is not clear this can be done jointly. The organizational structures and markets of both are very different, and their response to PPS was dramatically different: many more hospital based facilities closed, perhaps because their primary income came from Medicare SNF. It may be important to conduct a separate analysis on each sector. In your study design section you write that 90% of nursing facilities have less than 26% Medicare residents… these are most likely freestanding facilities. By separating hospital based and freestanding facilities you will also be freeing up that degree of freedom caused by the
use of “26%” (an unexplained cutpoint). I am also not sure that all freestanding nursing facilities would experience “similar trends” in Medicaid and other non-PPS causes. I think that by breaking up the pool to the classes based on proportions of Medicare and self paying residents you are controlling for these differences. It is important to note what other pre-post differences there were, for example changes in Medicaid rates, availability of MCOs. 

3. It is important to note what other pre/post differences there were, and how that may have reflected on the effect of the introduction of PPS. On page 12 you state that the difference-in-difference approach takes into account the general staffing effect within a state… however, if that changes, how does the method allow you to differentiate between the effect of changes in availability of staffing and the effect of introduction of PPS. A sensitivity analysis could possibly be done to determine what magnitude of effect, and what correlation with PPS, would have been necessary to alter the effect of PPS to make it void.

There are also some relatively more minor issues:

1. It is important to explain what a difference in difference model is as the audience is health services researchers and not economists.

2. The introduction of PPS changed the reimbursement methodology. There were also cuts in the overall payment. Can you differentiate between the effect of the cut in payment and the introduction of PPS? On top of page 11 you imply that not only is it possible to differentiate, but that it allows to identify the effect of changes in average prices from marginal prices. This is not clear (economic jargon). It is important to clarify in the abstract and text.

3. Please make sure to use SNF to describe the level of care and not nursing facilities. From the definitions in the State Book (Harrington, C., Swan, J. H., Wellin, V., Clemena, W., Bedney, B., & Carillo, H. (1999). 1998 State Data Book on Long Term Care Program and Market Characteristics. San Francisco, CA: Department of Social and Behavioral Sciences, University of California.): A nursing home facility (NF) is a state licensed facility providing skilled nursing and/or intermediate care services to individual residents on a 24 hour basis. This category was created by OBRA 1987 Nursing Home Reform legislation. SNF: Skilled nursing facility. Under the implementation of OBRA in 1990, these facilities became "nursing facilities" or "NFs." This designation is retained by some states to characterize the level of care needs of residents rather than the classification of the facility.

4. There are some mixed reports on the effect of staffing on quality. This might be the reason for the inconclusive results regarding the effect of payment on quality, if it is mediated through the effect of staffing. 
C. A recent report by Abt Associates from 2001 (Appropriateness of minimum staffing ratios in nursing homes. Phase II Final Report to the Centers for Medicare & Medicaid Services. Cambridge, MA: Abt Associates Inc), commissioned by the Centers for Medicare and Medicaid Services under the Omnibus Budget and Reconciliation Act of 1990 to study the appropriateness of establishing minimum caregiver standards, argues that registered nurse (RN), licensed practical nurse (LPN) and nurse aide (NA) staffing improves quality up to some threshold at which point there is no further significant quality improvement. For the long-stay nursing home population, these thresholds were 0.75 RN hours per resident day, 1.3 LPN hours per resident day, and 2.8 NA hours per resident day.

Why not check a mediated model, whereby you control for the effect of staffing on quality?

5. Background is confusing and not well organized. It should also be shortened.
   a. Why does length of stay relate to quality of SNF care? You argue on page 6 that hospital PPS and SNF PPS are different. I agree, but your argument does not work well with the importance of LOS to quality. This should be a separate paragraph as well.
   b. The beginning of the paragraph, regarding the results of Norton and colleagues is not clear. Again, too much economic jargon; what is elasticity of .16 and .20??
   c. Paragraph on page 7 regarding Schlenker’s work is confusing.
   d. Bottom of page 7, why are the comparison groups for SNF PPS not appropriate? Also, edit this paragraph for clarity.
   e. Not clear that its so important to include background regarding excess demand theory in this paper (top page 8).

6. On page 13 you note that 140 observations were excluded because they were missing fiscal year starting date. Does fiscal year starting date change? If not, couldn’t you have used this date from when it was available in other surveys?

7. Can you keep data on facilities with a single survey under the difference-in-differences approach?

8. On page 13, what data did you use from cost reports?

9. Did you use all deficiencies or only health deficiencies? Why? You should mention that a benefit of the difference-in-differences approach is that you do not need to account for the difference in subjective measurement of deficiencies.

10. When is the PPS variable coded as 1? For facilities that didn’t have 1995 cost reports, and so were not allowed a staggered entry?

11. Regarding the control variables (page 15).
a. OSCAR data on ADL are not mutually exclusive. That each person is counted both in each of the 5 measured ADL. Therefore, it is not clear how you coded facility case-mix.

b. Services availability is measured by an indicator of whether ventilator care is available (this is very rare, 2% according to your table). Perhaps a more general and suitable indicator is of facilities offering rehabilitation services, or for skilled services facilities that offer IV care or proportion of residents receiving skilled services—although this is likely very correlated with percent Medicare.

c. Why do you include 3 indicators focusing on cognitive/depression casemix?

d. Why do you use the particular cutpoints of .12 and .5 for the Herfindahl, and 83% and 95% for occupancy?

e. A better control for population demand is size of population 75 years old or older.

12. What do you expect the main effects of PPS and BBRA to be? How do you interpret them? What is the meaning of the overall effect: e.g. PPS=.75 and %Medicare between 6-12 leads to a total effect of -.04 that is not significant. What does this mean?

13. In the explanation of the effects of profit, chain and hospital based, notice that for profits were mostly affected if they had a high proportion of Medicare, whereas chains and hospital based facilities were mostly affected when they had a low proportion of Medicare residents. This is interesting. The result regarding hospital based facilities also raises the question of which kind of hospital based facilities cater to a lower volume of Medicare residents – then they are more like freestanding facilities. These findings deserves some attention. Also requires a change in the discussion on bottom of page 22.

14. The discussion regarding the effect on staffing may be more persuasive if you can discuss in terms of adequacy of staff as compared to recommendations. For example, you might categorize the proportion of facilities that fail to meet the recommendations.

15. Another limitation is that staffing levels are reported with errors in the OSCAR and represent staffing only in 2 week period within the 12-15 months between certifications, and the variability in staffing levels per facility is unknown. However, you controlled for it to some extent by removing those facilities with outliers.

16. On page 23 you write that one limitation is that you do not know when facilities actually moved to full PPS. Can you do a sensitivity analysis, and check the result assuming all changed on 4/2000?

17. Table 1 needs to be presented with “N’s”. Dependent variable, policy variables and time trend refers to surveys (N=60,283). Baseline facility characteristics should be out of the total number of facilities in the study (N=18,907). County characteristics should be out of the number of counties in the analysis (N=??).

Some wording changes:
a. First paragraph in introduction. Change “not decreasing” to maintaining.
b. The last sentence in the introduction (page 2) is a discussion sentence and should be omitted.
c. On bottom of page 3 include dates of the first year of PPS implementation.
d. On page 5, Evidence from the Literature, what are the two incentives? Also, rewrite paragraph so that it is not in economic terms: what are total payments, marginal and average prices effects? Also, in next paragraph, what is average price elasticity?
e. On page 6, Norton and colleagues …. “… effects [on quality]…” please add.
f. Bottom page 10, change “give an incentive” to “lead”.
g. Page 11, study design. What proportion of facilities have no Medicare residents?
h. Page 13, give exact number of facilities (not 18700).
i. Please add the main hypothesis: the interaction between PPS and %Medicare in the formula on page 18. Please cite program/method used to estimate.
j. On page 22 end of top paragraph “…9 months in which [we could observe] an effect.” Replace “see an effect”.