

Comment on “Why Does Midnight Matter? Moral Hazard vs Limited Attention”

(Version from May, 2018)

June 6, 2018

“Why Does Midnight Matter? Moral Hazard vs Limited Attention” (May, 2018) documents a discontinuity in postpartum length of stay for births delivered before versus after midnight in Germany, similar to the discontinuity found by Almond and Doyle (2011). We attributed the jump to insurance rules in California that allow one or two nights in the hospital depending on the time period and relevant reimbursement minimum as a form of moral hazard. The current paper argues there is no moral hazard rationale in Germany because patients are fully insured.

Schlockermann argues that his first contribution is to debunk our moral hazard interpretation for California and his second contribution is a deeper understanding of physician inattention. We will discuss the moral hazard interpretation first, then turn to Schlockermann’s preferred interpretation for Germany and close with a suggestion to consider health outcomes.

Moral Hazard Interpretation in California

The insurance rules are shown to have an effect in California because we exploit variation in the rules themselves. Historically, US HMOs were driving postpartum stays down to approximately one day in the hospital, which precipitated a well-publicized backlash, complete with legislative initiatives across the country to mandate insurance companies cover at least two days in the hospital. In particular, Almond and Doyle study the midnight discontinuity in length of stay interacted with a law in California that mandated an increase in insurance coverage to two days in care. After the reform, the discontinuity moves from largely increasing stays from 1-2 days to increasing them from 2-3 days. This really only makes sense if insurance rules are a driver of the discontinuity (physician inattentiveness is unlikely to have changed at the same time and the same amount as the law change, for example).

Almond and Doyle concluded:

Overall, it appears that longer lengths of stay associated with minimum-stay mandates are not worth the extra expense for uncomplicated births, at least as reflected

by readmission and mortality outcomes.

In this case where marginal benefit appears to be less than the marginal cost of an insurance expansion mandated by the state, the moral hazard interpretation is straightforward.

It is not clear why this interaction between the after-midnight discontinuity with the mandated increase in insurance coverage is neither mentioned nor addressed in Schlockermann's paper. Likewise, for-profit hospitals showed substantially larger jumps in stay length at midnight, and Kaiser hospitals, which are owned by the insurer and therefore internalize the cost of true stay length, showed substantially smaller jumps at midnight (.09 days after the law change). Limited attention would not explain this heterogeneity. It is illogical to conclude that insurance rules are not important to explain the discontinuity in California if rules of thumb are used in Germany, especially in this context where the variation is stems from changes to insurance mandates in California.

A model of physician inattentiveness

Schlockermann argues that his second contribution is that he uncovers physician inattentiveness. However, his inattentiveness model is not consistent with his empirical evidence. Specifically, the paper's model highlights a discontinuity in age-in-midnights having little health information but still informs discharge decisions made by physicians. Were this the case, then the discontinuity in attentiveness should apply to those being discharged throughout the distribution of midnights; no discontinuity is found at one additional midnight in Schlockermann's Figure 5, however. Nor, to state the obvious, are we allergic to behavioral explanations for treatment discontinuities involving neonates: the RDD in treatment intensity at 1500 grams in Almond, Doyle, Kowalski, and Williams [2010] occurred in the absence of any financial incentive. For the question of whether an additional night matters for health outcomes (which is relevant to the moral hazard debate around postpartum stays), a shift due to a rule of thumb would be useful.

There are also competing explanations to Schlockermann's for Germany, including that insurance plays an important role. Schlockermann's paper shows that the hospital reimbursement schedule is based on the number of midnights in care (sic) in a way that would encourage two days in care. Health economists typically model healthcare providers as caring about the revenue, cost, and benefits to patients of treatment intensity. Clearly something is going on beyond revenue because otherwise there would be bunching at 2 days whereas the typical length of stay is 3 days. Nevertheless, there are many possible reasons for a discontinuity at midnight driven by parents, physicians, hospital administrators who count days as the number of midnights. More investigation into this phenomenon is warranted, especially if a key contribution of the paper is to highlight physician attentiveness.

Effects on Health Outcomes

A surprise to us was the absence of detectable impacts on re-admission and mortality despite very short mean postpartum stays in California. Schlockermann appears uninterested in analyzing health outcomes. We also see no need to exclude low birthweight newborns – these should vary smoothly over the midnight threshold. Schlockermann’s paper describes a setting where the discontinuity results in large variation in length of stay and the observable characteristics are balanced across the threshold: a promising setting to consider whether the longer stays appear to be worth their cost. Indeed, he might utilize German data to consider later-life health and test scores, following Bharadwaj, Loken, and Neilson [2013] and suggested in the Conclusion section of Almond and Doyle. If length of stay for low-risk newborns also impacted later-life outcomes without that latent effect appearing in the first year of life, as the fetal/developmental origins literature [Barker, 1992, Heckman, 2007] has sometimes found, that would be a temporal disconnect of substantial policy interest.

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References

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- Almond, Douglas and Joseph Doyle, “After Midnight: A Regression Discontinuity Design in Length of Postpartum Hospital Stays. *American Economic Journal: Economic Policy*, 3(3):1-34, 2011.