Paper Proposal: Physician Assistants Usage, Cost Containment and Quality Outcomes

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1 Proposal

The use nonphysician clinicians (NPCs) in the provision of medical care has grown over the years. Although physicians still dominate the medical field, there were over 66,000 Physician Assistants in the United States in 2005. Before Physician Assistants (PAs) and Nurse Practitioners (NPs) were licensed, physicians were the only individuals permitted by law to perform a variety of medical procedures. Most people would agree that the use of PAs and NPs can reduce medical costs. The more important question is how much quality (if any) is sacrificed when NPCs are used instead of MDs. It is my hypothesis that certain more 'routine' procedure could be done more cost effectively using NPCs, and the change in health outcomes would be negligible.

2 Estimation Strategy

I aim to exploit the variation in state by state legislation in order to identify any cost and health outcome trends. State have passed legislation at different times certifying the Physician Assistant to practice. States also have differed in the types of drugs (if any) PAs are allowed to prescribe to patients. Thus, the estimating equations I will use is:

$$Cost_{i,t} = \beta_0 + \beta_1 Phy_{i,t} + \beta_2 HMO_{i,t} + \gamma \mathbf{X}_{i,t} + \sum \tau_t + \lambda_1 PA_{i,t} + \lambda_2 Pre_{i,t} + \epsilon_{i,t}$$

$$Outcome_{i,t} = \beta_0 + \beta_1 Phy_{i,t} + \beta_2 HMO_{i,t} + \gamma \mathbf{X}_{i,t} + \sum \tau_t + \lambda_1 PA_{i,t} + \lambda_2 Pre_{i,t} + \epsilon_{i,t}$$

The index i represents a variety of metropolitan statistical areas (MSAs) and the t index represents the year. *Cost* is the cost of a certain procedure,

Outcome is the measure of some health outcome, Phy is the number of physicians, HMO is a measure of HMO penetration in a market, $\mathbf{X}$ is a vector of MSA characteristics. PA is a dummy for the year after which PA certification was passed in each state. Pre is a dummy for the year in each state when the state authorized PAs to prescribe controlled substances.

My hypothesis is that the coefficients on λ_1 and λ_2 will be negative in the first equation but not significantly different from zero in the second equation. I do not believe that one could extrapolate these claims to complete deregulation of the medical industry, but—as the state of the field currently stands—I hypothesize that less regulation would be welfare improving.

3 Robustness Checks

Whenever one uses variation in legislation to identify parameters of interest, one must worry about policy endogeneity. For instance, it is possible that states only pass PA friendly laws after the state experiences a high medical cost year. Costs may fall in the subsequent years—not due to the less expensive PA labor but instead could be a simply 'reversion to the mean' phenomenon. I aim to test whether or not cost increases Granger cause the policy to allow more PAs.

PAs are more concentrated in certain specialties of medicine than others. I need to find one medical procedure where PAs are often used and another where PAs are infrequently used. For the infrequent PA usage, one would assume that the λ_1 and λ_2 will not be statistically different from 0, as a specification check for my model.

4 Data

I am not sure where I am going to get the data for this. This is the next step.

References

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