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Certificate of Need Laws and Health Care Prices

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Abstract

Certificate of Need laws, currently in force in 35 US states, require proposed health care facilities to gain the permission of a state board before opening or expanding. We aim to determine how Certificate of Need laws affect health care prices. We analyze state-level data on health care prices from the Health Care Cost Institute from 2012-2013 to compare prices in states with and without Certificate of Need laws using linear regression. We find that states with Certificate of Need laws have higher prices than states without Certificate of Need laws, but this difference is not statistically significant. New data on US health care prices will increasingly allow researchers to evaluate how policy affects these prices, though we cannot yet precisely estimate the effect of Certificate of Need laws on prices.

Introduction

Certificate of Need (CON) programs create laws which are "aimed at restraining health care facility costs and facilitating coordinated planning of new services and facility construction."[1] They do this by requiring government approval for everything from CT machine purchases to new hospital construction. CON-like controls date back to the 1946 passage of the Hill-Burton Act, which put restrictions on the construction of health facilities as a requirement federal funding. In 1964, New York passed the first statewide CON law, mandating government approval before construction could begin on a new hospital or nursing home.[2] The 1974 Health Planning and Resources Development Act, signed into law by President Ford, nationalized such laws by encouraging the creation of state health agencies. The goal of said agencies was to improve health access, regulate industry expansion, and control growth in costs. Among other things, agencies had at their disposal CON laws to enact these changes.[3] By 1980, every state (plus DC) except Louisiana had enacted CON laws; but in 1987 the federal government stopped its push for CON and 15 states have subsequently repealed their CON laws.[4,5]

CON laws are controversial for a number of reasons. The Federal Trade Commission and Department of Justice have regularly supported the repeal of CON laws, suggesting their anticompetitive nature inhibits innovation which would otherwise benefit society and bring down health care costs.[6] Additionally, the task of applying for a CON is quite burdensome in itself; applications are often thousands of pages long and cost hundreds of thousands of dollars when all is said and done.[7] Finally, economists have generally been skeptical of the ability of CON laws to accomplish their stated goals of increased access and reduced costs. Ford and Kaserman propose three economic reasons why CON laws have been ineffective. First, private investors are likely to have superior insight into market 'need' for new enterprises, as they are commonly experts in that area and have the added incentive of their own money on the line; second, CON laws are vulnerable to corrupt influences from existing market providers who use them to prevent competition from entering the market; third, artificially lowering supply is only likely to drive

down demand when demand is flexible. In the case of most health care expenditure, demand is inflexible (inelastic), therefore supply restrictions are likely to actually raises the cost of services.[8]

Economists and health services researchers have investigated how CON affects many price-related outcomes, including costs,[9] charges[10], spending[11], and utilization. Data on actual prices paid for health care are largely proprietary and difficult to acquire for analysis. As such, no one has yet empirically tested the hypothesis that CON laws raise prices. Here we do so here for the first time, using new data on health care prices available from the Health Care Cost Institute. We find that states with CON laws experience higher health care prices, but that this difference is not statistically significant. Data available at this time limits us to cross-sectional regression analysis. As longitudinal data becomes available, additional studies with stronger statistical power and designs will become possible.

Data

Data on the actual prices paid for health care have been very difficult for researchers to acquire. While data on hospital charges are available from the Healthcare Cost and Utilization Project, among others, these charges are overwhelmingly negotiated downward by insurers. Insurers have traditionally considered information on negotiated discounts to be proprietary, but their historical reticence towards sharing data on prices paid has given way in recent years. Three major insurers (Aetna, Humana and United) have pooled their claims data through the Health Care Cost Institute. These data include zip codes, diagnostic codes, procedure codes, and most importantly true prices paid for care: final, fully adjudicated, paid claims.

Even in light of such changes, membership and claims data remain highly confidential. Access to the underlying claims data is restricted to a handful a researchers, with limited research-quality data being made public. One exception is the National Chartbook of Health Care Prices (HCCI 2016). The chartbook takes the HCCI claims data from 2012 and 2013, covering 1.8 billion claims, and distills it into state-level summary statistics for the price of care for commercially insured patients. For the 42 states from which data is available, they determined state-level average prices for 297 care bundles (e.g. emergency room visits, knee replacements, or allergy testing). The reported prices are not adjusted for state-level differences in the risk pool or input prices. For each care bundle, the chartbook authors determine how each state's prices compare to the national average, and express this as a ratio. For instance, a ratio of 0.76 indicates that a state's average price is 24% below the national average, while a ratio of 1.16 indicates that a state's average price is 16% above the national average. The chartbook then averages all such care bundle ratios for each state, generating a state-level index of health care prices in general (see HCCI 2016 p166).

Methodology and Results

We summarize how the HCCI price data differ across CON and non-CON states in Table 1 below. CON states on average have prices 3% higher than non-CON states, though this difference is not statistically significant at the 5% level when the means

are compared with a t-test.

Table 1: Summary Statistics for CON and non-CON states

Variable	Obs	Mean	Std. Dev.	Min	Max
Price non-CON	11	1.152	.249	.82	1.65
Price CON	31	1.182	.345	.81	2.62

Source: HCCI National Chartbook of Health Care Prices

Of course, CON states may differ from non-CON states in many ways, so we turn to regression analysis to investigate whether states with CON programs experience higher or lower prices than those without. We do so using the following linear regression model:

$Price_S = B_1*CON_S + B_2*Controls_S + e$

Where the controls included are state-level measures of per capita income, population density, the percentage of individuals covered by Medicare, and the percentage of under-65 individuals who are uninsured. Control variables are from the Area Health Resources File. Table 2 shows the summary statistics for the variables used, and Table 3 shows the regression results.

Table 2: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Price HCCI	42	1.174	.3203	.81	2.62
CON	42	.7380	.4450	0	1
% Uninsured (under 65)	42	15.54	4.553	4.3	24.8
Per Capita Income	42	45027	8086	33913	75329
% Medicare	42	.1664	.0238	.1027	.2211
Population Per Square Mile	42	472	1623	1.3	10588

Sources: HCCI National Chartbook of Health Care Prices, Area Health Resources File.

Table 3: Effect of CON on Overall Health Care Prices

PriceHCCI	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
CON	.1382	.0856	1.61	0.115	-.0355	.3120
% Uninsured (under 65)	-.0166	.0107	-1.55	0.130	-.0384	.0051
Per Capita Income	.00002**	7.21e-06	2.71	0.010	4.92e-06	.0000
%Medicare	.6155	1.954	0.31	0.755	-3.349	4.580
Ln(Population Per Square Mile)	-.1930***	.0293199	-6.58	0.000	-.2525	-.1335

N=42, Adjusted R^2 = .53 Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Our results show that states with CON experience health care prices that are 13.8% above those in non-CON states, but that this difference is not statistically significant. We find that prices are significantly higher in states with higher average incomes, and significantly lower in states with higher population density.

Limitations

While we are able to take advantage of new data on health care prices, the available data are still quite limited. The fact that our data are from a single point in time limits our analysis to cross-sectional regression. When subsequent years of data are released, such longitudinal data will allow researchers to control for unobserved underlying differences across states and to test the effect of changing CON laws.

The small number of observations in our dataset limits the power and precision of our analysis severely. Future releases of price data should allow for better-powered follow-up analyses.

The HCCI price index we use is imperfectly constructed. There was insufficient data for 9 states, and not all care bundles were included in the index of every available state. The index is unweighted. Weighting more expensive care bundles more heavily may yield more accurate results.
Our dataset is limited to commercially insured individuals, and so our analysis does not apply to the uninsured or those with Medicare or Medicaid.
Examination of the effect of CON laws on specific treatment prices could be useful, but the HCCI chartbook currently groups specific treatments in broad intervals. The main regression could be run on particular prices to see more specific results (where possible, adjusting the measure of CON to fit the relevant condition).

Conclusion

For the first time, data is publicly available which allows us to analyze the relationship between CON laws and prices. States with CON programs experience health care prices that are 3% higher than non-CON states, 13.8% higher after controlling for other differences across these states. However, with the available data this difference is not statistically significant. Future work should incorporate the increasing amount of data on prices that will become available, allowing better-powered analyses on CON laws and other health care policies.

Compliance with Ethical Standards

The authors have no conflicts of interest or funding sources to report.
For this type of study, no formal consent is required.

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