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Do the insured make greater use of medical services?

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Do the insured make greater use of medical services?

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Abstract

Conventional wisdom states that policy-makers set the goal of increasing the number of patients with health insurance, visits to the emergency room (ER) will decrease while visits to a usual source of care (USC), such as a general practitioner, will increase. In examining year 2007 of the Medical Expenditure Panel Survey, this study seeks to test this hypothesis by answering two questions: 1. whether having insurance affects ER and USC utilization, and 2. whether greater USC utilization affects ER utilization. The analysis accounts for endogeneity issues with insurance and USC utilization. In order to account for the drug use data, nonnegative nature of the dependent variable as well as endogeneity of regressors, a Proportion with an instrumental variable framework was utilized. The study identifies the notion that, in general, the insured have lower ER utilization but higher USC utilization, but only USC utilization is statistically significant. Also, when considering the effect of USC utilization on ER utilization, ER visits increase, albeit slightly, with an increase in USC visits.

Introduction

Conflicting opinions emerge on how often emergency rooms across the nation are utilized by the insured versus the uninsured. As individual states have passed health reform measures, the fear is as more citizens are added to the ranks of the insured, emergency rooms will be forced further beyond their capacities. This could lead, at best, to a decrease in quality and at worst, a greater frequency of preventable death and illness.

Many researchers hypothesize a positive correlation of possessing insurance with the frequency of ER visits. One such hypothesis is how the acquisition and possession of insurance affects access to care. The Urban Institute (UI), USC in particular, rank near the bottom in terms of long distance travel to the ER. In other words, the increase in demand (created by mandating insurance) has not been met with an increase in supply. The number of USCs, creating a supply shortage. In this scenario, residents would be forced to obtain basic care at ERs. If such a scenario existed, it would support antagonistic wisdom, namely a greater number of uninsured increases ER utilization because it is the only source of care for the uninsured.

Still others argue the problem already exists, and the next step is to find out how to reduce "unnecessary visits" to the ER. The study found that instead of trying to alert the patient's behavior by encouraging them to go elsewhere, ER departments should adjust related practice to be more appropriate for the patient.

As to implementing an empirical model to study potential correlations, previous studies hypothesized that the choice of insurance could be endogenous to the frequency of visits to the ER. The study developed an instrumental variables regression model using employment variables as instruments, the researchers successfully demonstrated the hypothesis.

Methods

The data and research questions present unique statistical challenges. First, the dependent variable, whether the frequency of ER visitation or the frequency of USC visitation, is a count variable, meaning that the response variable can be greater than or equal to 0. It also follows a Poisson distribution, in which the distribution's expected value is equal to its variance. Second, there is often a high degree of correlation between the independent variable, insurance, which measures whether or not a person possesses health insurance, and when the frequency of USC visitation is included as an regressor on ER visitation, it is also assumed to be endogenous.

To deal with these challenges, I conducted a Poisson regression analysis within an instrumental variables framework. Sources of data include the USCS, insurance and USC visitation data include measures whether or not the person was employed, as well as whether and whether they were employed at a place of business, and whether they were self-employed.

The instrumental variables model was also helpful in dampening potential reverse causality.

The data used as a subset of a random sample from the Medical Expenditure Panel Survey for 2007. The persons included in the analysis were randomly assigned the self-administered questionnaire (SAQ), which features health-related questions that are used as controls for the study. The sample size is 5,357 individuals.

REGRESSIONS

DEPENDENT VARIABLE: (1) # of doctor visits (2) # of ER visits (3) Insurance is endogenous in all specifications. The # of doctor visits is on endogenous regressor in spec. (2) (3)

<table>
<thead>
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<th>INSURANCE</th>
<th># of doctor visits</th>
<th># of ER visits</th>
<th>Insurance is endogenous in all specifications. The # of doctor visits is on endogenous regressor in spec. (2) (3)</th>
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Conclusion

Using a novel approach to estimating the effect of insurance and access to a usual source of care in emergency room visitation, it is determined the effect of insurance on ER visitation directly. It may indirectly affect ER utilization. Because possession of insurance increases a person's usage of a general practitioner by approximately three visits per year, and since shortages in general practitioners may result in shorter increases in the number of insured, these people may have nowhere to go for medical care than the emergency room.

Because of these results, examining data such as panel data of residents in Massachusetts can shed light on the extent to which there is a causal effect of insurance and/or USC utilization on ER visitation, since the number of insured increased abruptly starting in 2006 as a result of health care legislation. In light of new health care legislation from Congress and a potential explosion in the number of insured, such an analysis could use techniques presented in this study, such as instrumental variables regression, to more accurately evaluate causal effects on ER utilization.

References


2. Murphy, Andrew W. Inappropriate attenders at accident and emergency departments II: health economics. 2006. 15: 743


Results

Since those who filed out the SAQ per 16 years of age or older, the age distribution is higher than that of the original survey sample.

The average income for the sample is around $30,000 and the average educational attainment is a high school diploma.