



## The Economic Impact of Physician-Owned Hospitals in Eight States

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### **Summary**

We measure the net economic impact of physician-owned hospitals (including specialized and general hospitals) on the statewide economy in eight states: Arkansas, Indiana, Louisiana, South Dakota, Nebraska, Ohio, Pennsylvania, and Texas. We use an economic method referred to as “input-output” analysis. These models describe each state’s economy as a series of inter-linked industries and sectors. A stimulus to one sector, such as a new firm or cluster of firms, impacts all other sectors in the economy, to varying degrees, through a “multiplier effect.” We use statewide industry data (IMPLAN) combined with operating expenditure data from physician-owned hospitals in order to calculate the economic impact of physician-owned hospitals. We find that physician-owned hospitals add considerable value to state economies, ranging from a net effect of \$117.8 million in Pennsylvania to \$2.3 billion in Texas. The combined impact across all eight states is \$2.9 billion. This implies that physician-owned hospitals, through their employment and capital expenditures, generate a total of \$3.9 billion in economic activity in these eight states alone.

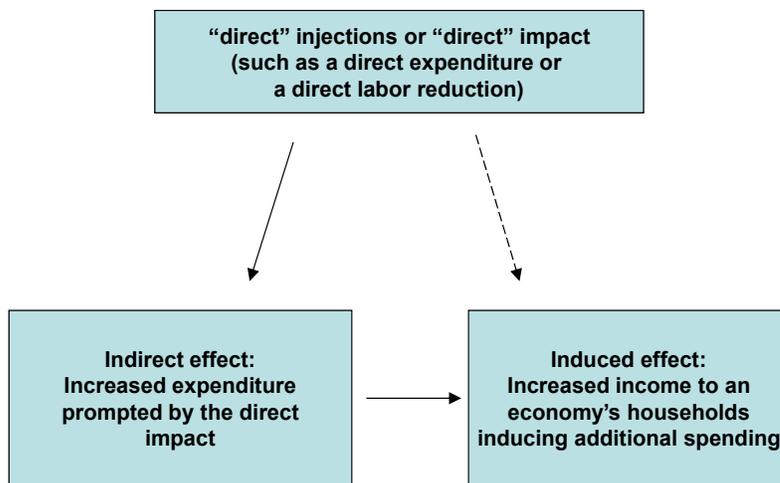
### **Methods**

To obtain a measure of the total impact that a policy might have on an economy, several components of that total impact need to be measured. The first component is the “direct” effect. This is the initial effect that a policy is to have on an economy. In our case, the direct effect is the added payroll and capital expenditures generated by physician-owned hospitals in each state. The remaining effects are referred to as the “indirect” and

“induced” effects (described below). To measure these effects, an Input/Output (IO) model of a local economy is employed.

An IO model describes an economy as a series of inter-linked industries or sectors. A stimulus to one sector, say a tax on a particular sector, then impacts all other sectors in the economy, to varying degrees, through a “multiplier effect.” This is illustrated in the figure below.

**Figure 1**  
The Multiplier Effect



The multiplier effect measures the indirect and induced impact of a direct injection. As a matter of technical exposition, indirect effects are those “re-spending” effects that filter through other industries in an economy as a result of the direct injection. For instance, suppose a direct impact on hotel expenditures boosts demand for cleaning services at these hotels (an initial indirect effect). This stimulates demand for those sectors that supply cleaning capital and cleaning products (a secondary indirect effect). This secondary indirect effect stimulates demand in other sectors, and so on. The sum of all these effects on other industries is the indirect effect. The induced effect is the effect on final demand in an economy. Final demand can be characterized in the following way. All of these sectors employ people locally. Increased demand for output from these sectors induces additional labor inputs, paid for via wages and salaries. The resulting increase in employee incomes *induces* additional spending locally. This additional

spending is the induced effect. The continual “re-spending” of the original direct injection accumulates through to the local economy.<sup>1</sup>

The total effect is then the sum of the direct, indirect, and induced effects. From these figures, we obtain economic multipliers, which can be thought of as measures of the impact of one dollar’s worth of direct injections. For instance, if an additional \$100 of direct expenditure is spent on, say, groceries, this would stimulate spending by the grocery sector to source grocery items from suppliers. This spending might be \$40. In turn, there may be a need for additional labor in the grocery sector, generating additional income and thus additional spending, of say, \$15. Taken together, the aggregate impact of the initial \$100 injection was \$155 to the economy.

In order to conduct these simulation models, we employ specialized software and obtain state-level economic data from one central source.<sup>2</sup> The stimulus that we model is simply the total payroll and capital expenditures for each POH in the state. We were able to obtain the vast majority of these data from the data archives of Physician Hospitals of America (PHA). In cases of missing data, we used standard imputation techniques, taking into account the average size and payroll of peer hospitals (for which reported data were available) in the same state. These imputations affected approximately 18% of the data points, and were cross-checked and verified within and between states. The simulation models use economic data from 2007 and POH data from 2008, but the models project to 2009 by taking into account POH projects that are currently under development.

## Results

The results are summarized in Figures 1 and 2 and Table 1. Figure 1 shows the level of full-time equivalent (FTE) employment in the POH industry in each of the eight states. Employment ranges from about 1,000 employees in Nebraska to more than 22,000 in Texas.

Figure 2 shows the total economic impact of the POH industry in the eight states. In Table 1, two levels of effects are shown: the direct, effect, which is the sum of payroll

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<sup>1</sup> For a complete survey of IO models and their various strengths and weaknesses, see for example Raa, T.T., (2005) “The Economics of Input-Output Analysis” Cambridge University Press

<sup>2</sup> To create a detailed Social Accounting Matrix and multiplier model of a regional economy and then conduct impact analyses with it, two Minnesota IMPLAN Group (MIG) products are required: (1) IMPLAN Professional® 2.0 software and (2) the IMPLAN® data file(s) relating to the Study Area being analyzed. The Study Area may consist of a state, county, sub-county area such as ZIP code areas, or group of any of these areas. IMPLAN Professional® 2.0 is used to create a detailed Social Accounting Matrix for the indicated Study Area, as well as computing the location-specific multipliers. IMPLAN Professional® 2.0 also provides an environment for managing information about your specific project and calculating the economic impacts your project may have on the Study Area. Impact results show how attributes such as employment and income of more than 500 different types of industries in a Study Area are affected.

and capital expenditures for each POH in the state, and the total effect, which is the product of multiplying the direct effect by the multiplier in accordance with the preceding methods discussion. The main overarching finding is that the hospital sector in each of these states makes a markedly large contribution to each state's economy, with no single state multiplier less than 1.6. This compares to retail and manufacturing multipliers typically in the 1.2 to 1.4 range. The average multiplier across all eight states is 1.75, which implies that for every dollar spent in the hospital sector, \$1.75 worth of economic value is created. The POH contribution to the state economy is through payroll and capital expenditures. When we track these expenditures through the direct, indirect, and induced levels of effects, the result is total effects ranging from \$118 million in Pennsylvania (which has a relatively small POH industry compared to the other states), to a large effect of \$2.3 billion in Texas, which has a large and growing POH market. Although the Pennsylvania POH market is relatively small, it is associated with the largest multiplier (1.92), implying that a dollar spent in by POHs in that state nearly doubles in value as it percolates through the economy.

Data for general POHs (i.e., those that have service offerings similar to their non-POH community hospital counterparts) is shown separately, as is data for POH projects currently under development. The data on general hospitals emphasize that not all physician-owned hospitals are specialty hospitals. Moreover, in most states general POHs comprise on relatively large proportion of the POH market—as much as half the market in Indiana and Texas and about a third of the market in Ohio. All together, in these eight states general POHs account for \$1.3 billion in economic activity. In Texas alone general POHs generate close to \$1 billion in economic activity.

It is also important to consider projects currently under development. Apart from Nebraska and South Dakota, each of the states has a significant amount of POH growth planned or underway. We estimate the 2009-2010 economic activity for these projects to be close to \$1 billion across all eight states. Again, Texas, with its large number of existing POHs, is home to a large number of new projects which taken together will generate \$566 million of economic activity in the state.

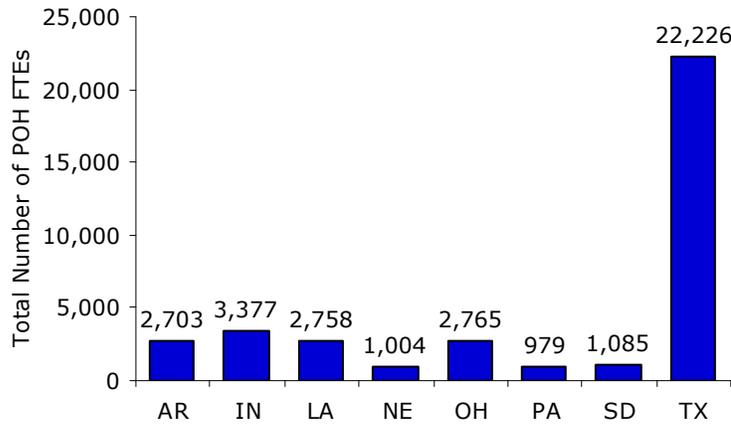
Finally, POHs pay a considerable amount of tax, including property, payroll, and income taxes. The vast majority of these taxes accrues to states' general tax funds and is in turn used to support a variety of state programs. Across all eight states, POHs will pay an estimated \$207.4 billion in taxes in 2009.

## **Conclusions**

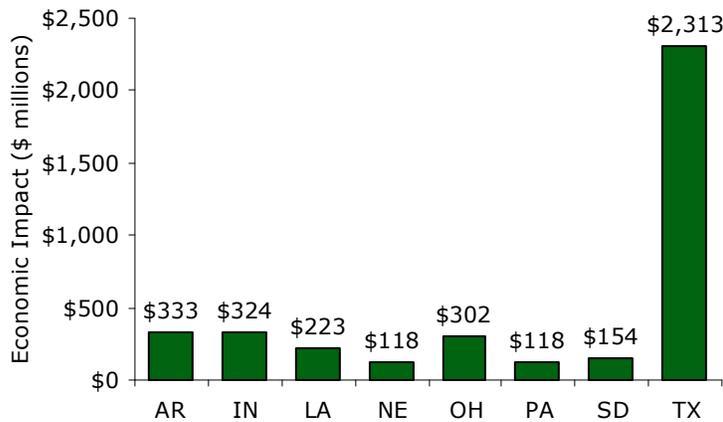
POHs provide a vital component of the economy in each of these eight states. The hospital industries in these states are associated with relatively high multipliers, which results in a large amount of economic activity attributable to POHs of all kinds. If we consider the property, payroll and profit taxes paid by each of these POHs, the economic value to states grows even larger. We estimate that the economic value generated by POHs is \$3.9 billion in the eight states combined, ranging from \$118 million in

Pennsylvania to \$2.3 billion in Texas. As Congress considers new policies aimed at POHs, policy makers must take into consideration the large economic value generated by POHs.

**Figure 2.** Total POH FTEs by State, 2009



**Figure 3.** Total POH Economic Impact by State, 2009



**Table 1.** Summary Results of POH Economic Impact in Eight States, 2009

State	Total FTEs	Direct Effect	Mult. Effect	Total Effect	Taxes Paid	Total Effect Plus Taxes Paid
<b>Arkansas</b>						
Total	2,703	\$198,200,962	1.63	\$323,067,567	\$9,507,883	<b>\$332,575,450</b>
General Hospitals	582	\$24,025,794	1.63	\$39,162,044	\$2,715,900	\$41,877,944
Under Development	780	\$100,680,000	1.63	\$164,108,400	\$2,550,000	\$166,658,400
<b>Indiana</b>						
Total	3,377	\$174,621,644	1.78	\$310,826,526	\$13,373,162	<b>\$324,199,688</b>
General Hospitals	1,637	\$83,284,586	1.78	\$148,246,563	\$4,645,094	\$152,891,657
Under Development	501	\$29,250,000	1.78	\$52,065,000	\$3,400,000	\$55,465,000
<b>Louisiana</b>						
Total	2,758	\$121,434,864	1.64	\$199,153,177	\$23,823,818	<b>\$222,976,995</b>
General Hospitals	82	\$4,495,000	1.64	\$7,371,800	\$1,444,360	\$8,816,160
Under Development	489	\$26,955,440	1.64	\$44,206,922	\$3,501,500	\$47,708,422
<b>Nebraska</b>						
Total	1,004	\$56,215,281	1.73	\$97,252,436	\$20,336,040	<b>\$117,588,476</b>
General Hospitals	NA	NA	1.73	NA	NA	NA
Under Development	NA	NA	1.73	NA	NA	NA
<b>Ohio</b>						
Total	2,765	\$166,964,001	1.73	\$288,847,722	\$13,609,501	<b>\$302,457,223</b>
General Hospitals	1,089	\$58,004,497	1.73	\$100,347,780	\$2,116,584	\$102,464,364
Under Development	900	\$52,500,000	1.73	\$90,825,000	\$5,100,000	\$95,925,000
<b>Pennsylvania</b>						
Total	979	\$55,588,739	1.92	\$106,730,379	\$11,084,700	<b>\$117,815,079</b>
General Hospitals	103	\$2,568,739	1.92	\$4,931,979	\$1,214,700	\$6,146,679
Under Development	356	\$26,870,000	1.92	\$51,590,400	\$3,400,000	\$54,990,400
<b>South Dakota</b>						
Total	1,085	\$72,188,290	1.72	\$124,163,859	\$29,569,286	<b>\$153,733,145</b>
General Hospitals	NA	NA	1.72	NA	NA	NA
Under Development	NA	NA	1.72	NA	NA	NA
<b>Texas</b>						
Total	22,226	\$1,223,651,262	1.82	\$2,227,045,297	\$86,122,456	<b>\$2,313,167,753</b>
General Hospitals	9,861	\$530,168,130	1.82	\$964,905,997	\$16,445,796	\$981,351,793
Under Development	4,802	\$294,344,513	1.82	\$535,707,014	\$30,600,000	\$566,307,014
<b>All Eight States</b>						
Total	36,897	\$2,068,865,043	1.75	\$3,677,086,963	\$207,426,846	<b>\$3,884,513,809</b>
General Hospitals	13,354	\$702,546,746	1.75	\$1,264,966,162	\$28,582,434	\$1,293,548,596
Under Development	7,828	\$530,599,953	1.75	\$938,502,735	\$48,551,500	\$987,054,235