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George A. Erickcek

W.E. Upjohn Institute, erickcek@upjohn.org

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By
George A. Erickcek

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Executive Summary

This report estimates the current and future economic impact of Oaklawn Hospital on the Marshall area¹ and on Calhoun County from 2009 to 2014. Oaklawn Hospital is not only the city's largest employer; it has also become a significant part of the city's economic base. In 2009, Oaklawn Hospital employed 794 employees in Calhoun County: 784 employees in the Marshall area, and 10 employees who worked at locations in the rest of Calhoun County. By 2014, the hospital expects to employ 904 persons in the county, of which 883 employees will be working in the Marshall area. [Dan notes we're already 900+ so will it not be increasing in the next 4 years?]

In 2009, Oaklawn Hospital paid approximately \$40.8 million in wages and salaries in the county, with just under \$40 million going to its employees who live in the Marshall area.

As detailed in the end-section on methodology, The W.E. Upjohn Institute maintains a proprietary economic computer model specially designed to estimate the economic impact of changes in Calhoun County. A key aspect of this model allows us to envision a future scenario in which one or more economically-critical organizations suddenly disappears from a local landscape.

The loss of Oaklawn Hospital would have two major negative economic impacts on the region:

1. It would result in the loss of jobs and income in the city and surrounding townships. In addition to the loss of direct jobs, many indirect jobs would also be lost among the area's retailers, the hospital's local suppliers and contractors, and other employers in the Marshall area. Moreover, the loss of the hospital would eliminate its many middle-skilled, middle-wage positions that provide employment opportunities and career ladders for area residents.
2. It would decrease the attractiveness of the city to potential employers and to new and

¹ In this study the Marshall area is defined as City of Marshall, Marshall Township, Fredonia, Marengo, and Eckford Townships.

existing residents. Previous studies have found that businesses are attracted to communities that have a good hospital. This is also true for older residents who view the availability of quality health care as a vital component to an area's quality of life.

As mentioned above, the overall economic impact of the hospital is much greater than simply the number of people it employs or the size of its payroll. A portion of the money the hospital paid in wages, salaries and on locally produced goods and services is re-spent in the community, sometimes more than once. With each round of expenditures, these monies generated additional employment opportunities and increased income to area residents. In addition, the hypothetical closing of the hospital would likely have a negative impact on housing prices in the city, which in turn would lower the city's property tax revenues. The negative impact on the city housing prices could be highly localized to the city's central business district due to the loss of its major economic anchor. Were the hospital to leave, the central business district would likely decline due to the loss of the hundreds of employees, patients, and visitors that drive through the district every day on their way to or from the hospital.

In 2009, the Hospital's 784 (note + 15 increase) Marshall area employees supported an estimated 212 (note +4 increase) additional jobs in the city and its surrounding townships. In other words, every 10 hospital workers generated approximately three additional workers in the Marshall area. Every \$100 in wages and salaries paid out by the hospital generated an additional \$25 (note + 15 increase) in wages and salaries in the area. Oaklawn Hospital generated just over \$50 million in personal earnings in the Marshall area in 2009.

Economic Importance of Oaklawn Hospital to Marshall's Economic Base.

During the past 10 years the economic base of the City of Marshall has been hit hard by plant closings and downsizing. An area's economic base is comprised of those activities which bring new dollars or retain existing dollars in the area. Manufacturers have always been a major element of Marshall's economic base because they make goods that are sold outside the area. State Farm Insurance was also a major component of its economic based before it closed in 2004. Fortunately, tourism has provided a growing segment of Marshall's economic base during this time period.

In addition to producing goods and providing services sold outside the area, another important test to determine if an entity is truly part of an area's economic base is whether it would be replaced if it were to close. The closure of a restaurant is typically followed by the re-opening of another one or the expansion of an existing one. The same is true with a food store. However, as all economic developers will tell you if a manufacturing plant closes, even if it leaves a move-in ready building, there is no guarantee that the facility will be occupied any time soon.

If Oaklawn Hospital were to close, it is very unlikely that another hospital would take its place. Instead, Marshall area's residents would seek medical services in Battle Creek, Jackson or in another nearby metropolitan area. It is possible that a prompt care facility could open up in Marshall to treat minor injuries, but persons requiring more sophisticated care would have to go to other location. For this reason, Oaklawn Hospital has become a major and growing component of the city's economic base.

In 1996, Oaklawn Hospital employed 469 workers. State Farm Insurance employed more than 600 workers. In 1998, the city's manufacturers employed nearly 3,000 workers (Table 1), and we estimate that tourism generated an additional 184 jobs in the City of Marshall. Indeed, the city enjoyed a very diverse economic base. Unfortunately, due to State Farm's decision to close its Marshall regional office, the harsh manufacturing climate of the 2000s, and the severe 2008-2009 recession, the city's economic base has shrunk significantly. Its manufacturers now employ approximately 800 workers, representing a total 2,200 workforce reduction since 1998. At the same time, employment at Oaklawn Hospital has increased to 769 workers in the City of Marshall and tourist-related employment has increased by an estimated 276 workers. Summarizing a period of 13 years, the Hospital's share of the City's economic base has increased from 11 percent to 42 percent (Table 2).

Table 1

Manufacturing Employment in Marshall				
Sector	1998	2003	2009	Percent Change 98 to 09
Wood products	65	159	12	-82%
Nonmetallic mineral products	200	200	0	-100%
Primary metals	120	0	0	-100%
Fabricated metal products	302	301	118	-61%
Machinery	110	70	5	-95%
Computer & electronic products	0	0	0	
Electrical equipment & appliances	90	100	90	0%
Motor vehicles and parts	850	850	300	-65%
Other transportation equipment	0	0	0	
Furniture	0	0	0	
Food processing	200	216	182	-9%
Beverage and tobacco	0	0	0	
Textile mills	0	0	0	
Textile products	35	0	0	-100%
Apparel	0	0	0	
Leather	0	0	0	
Paper	16	0	0	-100%
Printing	64	56	15	-77%
Petroleum	0	0	0	
Chemical	64	41	41	-36%
Plastics	515	714	0	-100%
Miscellaneous manufacturing	266	107	24	-91%
Total	2897	2814	787	-73%

Source: *Harris Industrial Directories 1998, 2003, 2009*

Table 2

Percent of Marshall's Economic Base Employment		
Oaklawn Hospital	11.2%	42.0%
Manufacturing	69.0%	42.1%
State Farm	15.5%	0.0%
Tourism	4.4%	15.9%

Source: Harris Manufacturing Directory and the W.E. Upjohn Institute

Economic Impact Analysis of Oaklawn Hospital

This study offers an estimation of the economic impact of the day-to-day operations of Oaklawn Hospital on the Marshall area and Calhoun County. We estimate the economic difference between the current local economy of the Marshall area and the hypothetical local economy if Oaklawn Hospital closed.

Economic Impact on Marshall Area

In large metropolitan areas, the closure of a hospital would 1) trigger the reopening of another medical institution that would provide the basis level of medical care that is supported by the demographics of the region or 2) the expansion of the other hospitals in the metro area to serve the patients who had been treated at the close facility. In Marshall, there is no clear reason why the Oaklawn Hospital would be replaced by a similar high-value medical center offering multiple specialties and a full-range of services. Area residents would have to seek treatment at the hospitals in Battle Creek, Jackson, Kalamazoo, or facilities at other locations.

In 2009, the hospital employed 784 full-time and part-time employees in the Marshall area and the local wages and salaries it paid out reached nearly \$40 million. The full impact of Oaklawn Hospital is more than these direct hires and wages and salaries, however. First, the full impact must include the consumer expenditures of its employees. Second, it must incorporate the impact of the additional rounds of economic activity that occur in the area. For instance, revenues from the area's retailers and the hospital's local vendors are re-spent in the area through the consumer expenditures of their workers.

The methodology used to estimate the impact of Oaklawn Hospital on the greater Marshall area as well as Calhoun County is described later in this report. We now turn to the report's findings.

As shown in Table 3, an estimated 212 jobs were created in the Marshall areas due to ongoing operations of Oaklawn Hospital in 2009, across a wide range of industries. Every 10 employees at Oaklawn Hospital generated an additional 2.7 jobs in the Marshall area. The hospital impacted nearly all sectors of the City's economy, including: an increase of 28 jobs in retail trade; 35 administrative positions; and 46 additional health care jobs outside of the hospital itself.

In addition, the hospital's presence generated \$10.3 million in workplace earnings in the Marshall area on top of its own \$39.9 million payroll. In other words, every \$100 in wages and

salaries earned at the hospital created another \$25 in wages and salaries in the Marshall area in 2009.

For 2014, we forecast that the total employment impact of the hospital in the Marshall area will reach 883 workers, with the medical facility generating another 237 jobs in the Marshall area.²

Table 3

Employment Impact of Oaklawn Hospital on the Marshall Area						
	2009	2010	2011	2012	2013	2014
Oaklawn Hospital	784	838	853	868	827	883
Indirect Impact						
Construction	12	17	19	20	20	20
Manufacturing	2	0	-1	-2	-4	-5
Retail Trade	28	31	32	32	32	33
Finance and Insurance	4	4	4	3	3	3
Real Estate & Rental	5	5	5	5	5	5
Professional and Technical Services	6	7	7	7	6	6
Administrative and Waste Services	35	37	37	37	37	37
Health Care and Social Assistance	46	50	50	51	100	53
Accommodation and Food Services	17	20	21	23	24	24
Other services	25	26	25	25	24	24
Government	32	35	36	37	37	37
Total Direct Impact	212	232	236	238	286	237
Total Impact						
Total Employment Impact	996	1070	1089	1106	1113	1120

Economic Impact on Calhoun County

As discussed previously, in the purely hypothetical scenario where Oaklawn Hospital closed, the net economic impact on Calhoun County could be partially offset by the resulting expansion of the Battle Creek Health System to meet an increased demand generated by the absence of Oaklawn Hospital.

As shown in Table 4, while Oaklawn Hospital employed 794 workers in Calhoun County in 2009, its overall net impact on Calhoun County is actually estimated to be only 439 workers. The reason for this: if Oaklawn Hospital were to close, we estimate that employment in the county's other hospital would increase by 490 workers. Therefore, the net employment impact of Oaklawn Hospital on Calhoun County would be 439 in 2009.

² Although it is minor, Oaklawn is forecasted to have a negative impact on Marshall's manufacturers. This is because its presence in the city puts upward pressures on the area's average wage rates. This is true for any major employer in a region.

Table 4

Employment Impact of Oaklawn Hospital on Calhoun County						
	2009	2010	2011	2012	2013	2014
Oaklawn Hospital (County Employment)	794	849	866	885	894	904
Indirect Impact						
Construction	10	14	16	17	17	17
Manufacturing	1	0	-1	-2	-3	-4
Retail Trade	23	25	26	27	27	28
Finance and Insurance	4	3	3	3	3	2
Real Estate & Rental	4	4	4	4	4	4
Professional and Technical Services	5	5	5	5	5	5
Administrative and Waste Services	28	30	30	31	31	31
<i>Health Care and Social Assistance</i>	<i>-490</i>	<i>-524</i>	<i>-533</i>	<i>-544</i>	<i>-548</i>	<i>-552</i>
Accommodation and Food Services	14	16	18	19	20	20
Other services	20	22	22	21	20	20
Government	26	29	30	30	31	31
Total Direct Impact	-355	-376	-380	-389	-393	-398
Total Impact						
Total Employment Impact	439	473	486	496	501	506

Methodology

The W.E. Upjohn Institute maintains an economic computer model specially designed to estimate the economic impact of changes in Calhoun County. The model was constructed by Regional Economic Models Incorporated (REMI) and contains three separate components that together capture the resulting total impact to the local economy due to a change in employment. These components are:

- An input-output model that estimates the impact on the local economy of changes in inter-industry purchases. This component of the model captures the impact of an increase in orders to local suppliers of goods and services, as well as the impact of households increasing their purchases of consumer goods and services.
- A relative wage component that estimates the impact of the expected changes in the area's cost structure due to changes in economic activity. For instance when a major employer moves into the area, it can cause wages to increase across almost all industries due to the increased demand for workers and other local resources. This boost in wages, while generating additional consumption expenditures, increases the cost of doing business in the area, making the area slightly less attractive to other industries.
- A forecasting and demographic component that forecasts the resulting changes in future employment and population levels due to a change in economic activity.

The model generates two separate "realities" for the 2009-2014 forecast period, one with Oaklawn Hospital and the other without Oaklawn. The difference between the two estimates the economic impact of the hospital on the county.

In estimating the impact of the hypothetical closing of Oaklawn Hospital on the Marshall area, several factors were considered. First, we identified the residential location of the hospital's employees. In 2009, 404 of the hospital's employees lived in the greater Marshall zip code areas (49068, 49014, and 49224), accounting for 52.5 percent of the hospital's workforce.

The second factor considered was retail opportunities offered in the greater Marshall area as compared to the rest of the county. As of 2007, 12 percent of the county's retailers were located in Marshall according to the *Census of Retail Trade* published by the U.S. Bureau of the Census.

In determining the market areas of neighboring communities, we used Reilly's "Law of Retail Gravitation." Reilly's law suggests that the market boundary between neighboring areas is based on their population base and distance.³ According to the calculation, Marshall's market area reached approximately five miles from the city's center, which places it near the western border of Marshall Township. Due to these factors, we estimate that approximately 45 percent of the county-wide impact of Oaklawn Hospital would take place in Marshall.

Finally, in estimating the impact of tourism on the City of Marshall we prepared a comparison analysis of Marshall and similar-sized cities in the state using the U.S. Bureau of the Census *Economic Census* for 1997 and 2007. Eliminating all tourist-related cities from the sample, we calculated the per capita receipts for lodging places, eating and drinking places, and retail stores for the state's small non-tourist cities. We then calculated the difference between the City of Marshall's per capita receipts and the average for these cities. Finally, we multiplied this difference by the city's total population.

Literature Review

Past economic impact studies have used two separate, but reasonable, methodologies in estimating the economic impact of hospitals in small towns and rural areas. Unfortunately, their findings and conclusions are mixed.

Several have taken the route used by this study and have estimated the hospital's economic impact by using an economic impact model and treating the hospital as part of the economic base of the town or county. A number have made the point that the presence of the hospital brings in thousands of dollars in both Medicare and Medicaid expenditures, which help support the hospitals and generate additional economic activity in the area.

Doeksen, et. al. (1997) in their survey of other impact studies found that, overall, rural hospitals in Wisconsin received over 40 percent of their revenues from Medicare payments. The authors also uncovered similar findings in Mississippi and Nebraska. In their report, their review of

³Mathematically, according to Reilly the boundary between two areas can be estimated by the equation:

$$B = (\sqrt{p/(1+p)}) * d \quad \text{where}$$

B = boundary line from the larger of the two communities

p = the proportion (pop of the larger/pop of the smaller)

d = distance between the two communities.

other studies reached a consensus employment impact of four additional jobs in the rural areas for every 10 hospital workers. The authors also cited a previous study that examined 132 towns that suffered the closing of their hospitals and found that, overall, they experienced a 12.8 percent decline in the number of physicians in their areas. They also found evidence that industry rank the availability of a hospital high on their list of significant site location factor. They also reported evidence that older residents in search for a retirement community rank the availability of a hospital as a “must have.” Finally, Doeksen, G. A. and Scott, V. (2003) found in their study of Atoka County in Oklahoma that when a county hospital closed, an additional seven jobs were lost in the county for every 10 jobs eliminated at the hospital.

Wakefield, M. (2000) found that health care directly provides 10 to 15 percent of the jobs in many rural counties in Oklahoma and supports up to 20 percent of all jobs in the area. He also found that when industry and businesses consider location, schools and health services are the most important quality-of-life factors influencing their choices and that a strong health care system also attracts retirees.

[note whether these four major roles could be id'd up front in the executive summary section]
Scorsone E. (2004) found four major economic roles for health care: 1) rural health care services keep local dollars at home within the community, 2) they attract external dollars into the community from outside the local area 3) the local health care system attracts and retains industries and companies into the community and 4) the health care system can promote a healthy and productive workforce within a rural community. Using an economic impact model, Scorsone found that every 10 hospital jobs generated 2.3 additional jobs in his study of Marshall County Tennessee. Finally, Holmes, et.al. (2006) found that a hospital closure has a negative direct effect on the economic health of the county only if the hospital is the only one in the community. However in counties such as Calhoun County, the impact, countywide, would be small because the other remaining hospitals would grow to handle the increased demand.

Ona, et. al. (2007) used an alternative quasi-experimental approach that tracked and compared small rural areas that witness a hospital closing with similar areas where the hospitals stayed open. Their main finding was that they could not identify any significant economic differences in the growth rate of these two areas. However, they also admitted that their findings could be subject to error because they did not adjust for the existence of alternative health service providers in neighboring towns, and that the comparison groups had other uncontrolled-for differences that may have impacted the results. Still, Pearson D.R., Tajalli, H. (2003) followed the same approach in 24 rural counties in Texas and found that there was no short-term or long-term economic differences between the counties.

Conclusions

Oaklawn Hospital and its activities created an additional 212 jobs in the Marshall area in 2009. This created a total of \$10.3 million in workplace earnings in addition to its payroll of \$39.9 million. In other words, the economic impact of Oaklawn Hospital on the Marshall area was slightly more than \$50 million in personal earnings alone in 2009. Moreover, hospital's impact on the city and its surrounding township is only expected to grow in the coming years.

In many respects, this finding gives an incomplete assessment of the importance of Oaklawn Hospital to the Marshall area. The overall economic impact of Oaklawn Hospital cannot be measured solely in the number of additional jobs or extra dollars in wages and salaries that it generates in the community. First, the presence of a well-respected and professionally staffed hospital adds immeasurably to the area's quality of life for its residents. Second, for some businesses, it can put Marshall on the short list of expansion sites. Third, the hospital supports the city's housing values, especially near the city's central business district, because it is the economic anchor to the city's downtown. Finally, it provides stability to the city's economic base in an environment that has been unkind to its manufacturers. One might also consider two other losses that would occur should Oaklawn disappear. The contributions that Oaklawn makes to community institutions and organizations in the form of financial assistance, and the volunteer participation that their employees bring to the community. In short, Oaklawn Hospital makes Marshall very unique.

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