



The Economic Impacts of 26-50 Bed PPS Hospitals & 51-100 Bed PPS Hospitals on the Local Economies

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Key Findings:

- Survival of rural hospitals is important to the local economy, as well as to the health of the local residents.
- The 26-50 bed PPS hospital sample of 82 hospitals (37.1 percent) has an average of 39 beds, 185 employees and \$11.8 million labor income.
- The 51-100 bed PPS hospital sample of 49 hospitals (37.4%) has an average of 72 beds, 287 employees and \$19.9 million labor income.
- The 26-50 bed PPS hospital sample has average total impact of 259 employees and \$14.3 million labor income.
- The 51-100 bed PPS hospital sample has average total impact of 413 employees and \$24.9 million labor income.
- A template is provided for PPS hospitals to estimate their economic impact.

the closure of 56 rural hospitals from January 1, 2010 through August 10, 2015.^{1,2} Another report issued in May of 2015 has indicated that another 283 hospitals are vulnerable to closure.³ The importance of the health care sector to the local economy has been well documented and the hospital is the cornerstone of the health care sector. Health care and, especially, the hospital, are important to business and industry and to the retirement community, as well as to the health care of all community residents.^{4,5} Survival of rural hospitals is important to the local economy, as well as to the health of the local residents.

Prior studies completed by the National Center for Rural Health Works (RHW) have illustrated the economic impact of critical access hospitals and the economic impact of hospital closures.^{6,7} This study illustrates the economic impact of the next larger rural hospitals, the 26-50 bed PPS hospitals and the 51-100 bed PPS hospitals. The study also compares the PPS hospital data to the hospital closure data.⁷

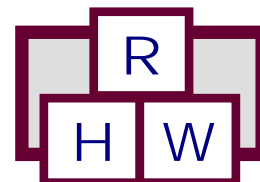
Background

The economic impacts of rural prospective payment system (PPS) hospitals for 26-50 beds and 51-100 beds are illustrated in this study. The economic impact of rural hospitals is of utmost concern with

Study Data

Data were available on these two groups of PPS hospitals from the American Hospital Association database.⁸ These data included all the hospitals in

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the 26- 50 bed category and the 51-100 bed category. The data were reviewed and a sample of these hospitals was selected based on the availability of IMPLAN data. The resulting samples are illustrated in **Table 1** and described below.

The 26-50 bed PPS hospital data are in the top half of **Table 1**. The sample included a total of 221 hospitals. Closed hospitals were removed from the sample, as well as any hospitals receiving any other enhanced payments. A sample of 82 hospitals was determined based on the availability of IMPLAN

data to derive county multipliers. The sample represents 37.1 percent of the total 26-50 bed PPS hospitals.

The average number of beds in the 26-50 bed PPS hospital sample was 39, with a range from 26 to 50 beds. The sample included hospitals from twelve states. The U.S. Census Bureau population data are shown for the hospital communities and counties for the 2000 and 2010 Census years. For the 26-50 bed PPS hospital sample, the average community population was 6,555 for 2000 and 6,707 for 2010, representing an increase of 2.3 percent. The average county population was 25,732 for 2000 and 26,987 for 2010, representing an increase of 4.9 percent.

The 51-100 bed PPS hospital data are presented in the bottom half of **Table 1**. The sample included a total of 131 hospitals. Closed hospitals were removed from the sample, as well as any

Table 1

Sample Data for 26-50 Bed PPS Hospitals and 51-100 Bed PPS Hospitals,

Sample Data for 26-50 Bed PPS Hospitals				
	Number	Average	Minimum	Maximum
Sample Data				
Total Number of Hospitals	221			
Number in Sample	82			
Sample - Percent of Total	37.1%			
Number of beds in Sample		39	26	50
Number of states in sample	12			
Population Data for Sample				
Community 2000 population		6,555	1,274	18,637
Community 2010 population		6,707	1,356	19,949
% Change 2000 to 2010		2.3%		
County 2000 population		25,732	3,496	125,761
County 2010 population		26,987	3,233	136,885
% Change 2000 to 2010		4.9%		
Sample Data for 51-100 Bed PPS Hospitals				
	Number	Average	Minimum	Maximum
Sample Data				
Total Number of Hospitals	131			
Number in Sample	49			
Sample - Percent of Total	37.4%			
Number of beds in Sample		72	52	95
Number of states in sample	7			
Population Data for Sample				
Community 2000 population		8,063	1,244	15,991
Community 2010 population		8,588	1,487	17,938
% Change 2000 to 2010		6.5%		
County 2000 population		32,019	3,904	73,143
County 2010 population		34,665	3,958	107,431
% Change 2000 to 2010		8.3%		

SOURCES: American Hospital Association database [www.aha.org (Accessed February and March 2015)]; U.S. Census Bureau [www.census.gov (July 2015)].

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hospitals receiving any other enhanced payments. A sample of 49 hospitals was determined based on the availability of IMPLAN data to derive county multipliers. The sample represents 37.4 percent of the total 51-100 bed PPS hospitals.

The average number of beds in the 51-100 bed PPS hospital sample was 72, with a range from 52 to 95 beds. The sample included hospitals from seven states. The U.S. Census Bureau population data are shown for the hospital communities and counties for the 2000 and 2010 Census years. For the 51-100 bed PPS hospital sample, the average community population was 8,063 for 2000 and 8,588 for 2010, representing an increase of 6.5 percent. The average county population was 32,019 for 2000 and 34,665 for 2010, representing an increase of 8.3 percent.

In comparing the two samples of PPS hospitals, the 51-100 bed hospital with its larger bed size has resulting larger community and county populations, with both the community and county populations increasing at a more rapid rate.

Economic Impacts

Utilizing IMPLAN, the county employment and labor income multipliers were derived for the hospitals in the two PPS hospital samples for the county location of each sample hospital. The resulting

multipliers and economic impacts are presented in **Table 2**.

The 26-50 bed PPS hospital sample economic impact data are presented in the top half of **Table 2**. The average employment multiplier is 1.40 and the average labor income multiplier is 1.21. From the AHA database, the employment and labor income were available for each of the sample hospitals. The average employment was 185 and the average labor income was \$11.8 million. The resulting economic impact is an average total employment impact of 259 and average labor impact of \$14.3 million.

Table 2
Economic Impact of 26-50 bed and 51-100 Bed PPS Hospitals, 2015

Economic Impact of 26-50 Bed PPS Hospitals			
	Average	Minimum	Maximum
Multipliers			
Employment Multipliers	1.40	1.20	1.73
Labor Income Multipliers	1.21	1.13	1.49
Employment and Labor Income			
Employment	185	43	523
Labor Income	\$11,840,772	\$1,788,813	\$48,488,880
Average Impacts			
Employment	259		
Labor Income	\$14,327,334		
Economic Impact of 51-100 Bed PPS Hospitals			
	Average	Minimum	Maximum
Multipliers			
Employment Multipliers	1.44	1.28	1.66
Labor Income Multipliers	1.25	1.16	1.47
Employment and Labor Income			
Employment	287	84	908
Labor Income	\$19,892,213	\$5,094,875	\$64,583,499
Average Impacts			
Employment	413		
Labor Income	\$24,898,054		

SOURCES: American Hospital Association database [www.aha.org (Accessed February and March 2015)]; IMPLAN Group LLC (www.implan.com [2015]).

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Table 4
Compare Economic Impacts for Hospital Closures,
26-50 Bed and 51-100 Bed PPS Hospitals

Hospital Closures	Avg	Min	Max
Multipliers			
Employment Multipliers	1.35		
Labor Income Multipliers	1.21		
Employment & Labor Income			
Employment	73	19	139
Labor Income	4,363,978	745,482	7,883,605
Average Impacts			
Employment	99		
Labor Income	5,280,413		
26-50 Bed PPS Hospitals			
	Avg	Min	Max
Multipliers			
Employment Multipliers	1.40	1.20	1.73
Labor Income Multipliers	1.21	1.13	1.49
Employment & Labor Income			
Employment	185	43	523
Labor Income	\$11,840,772	\$1,788,813	\$48,488,880
Average Impacts			
Employment	259		
Labor Income	\$14,327,334		
51-100 Bed PPS Hospitals			
	Avg	Min	Max
Multipliers			
Employment Multipliers	1.44	1.28	1.66
Labor Income Multipliers	1.25	1.16	1.47
Employment & Labor Income			
Employment	287	84	908
Labor Income	\$19,892,213	\$5,094,875	\$64,583,499
Average Impacts			
Employment	413		
Labor Income	\$24,898,054		

SOURCES: Multipliers from IMPLAN Group LLC (www.implan.com [May and June 2015]); Direct employment and labor income from American Hospital Association database [www.aha.com (Accessed February and March 2015)].

hospital closure data had a sample of 16 hospitals representing 13 states, compared to the 26-50 bed PPS hospital sample with 82 hospitals representing twelve states and the 51-100 bed PPS hospital sample with 49 hospitals representing seven states. The closure hospital data had average bed size of 31 beds, while the 26-50 bed PPS hospital sample had an average of 39 and

the 51-100 bed PPS hospital sample with an average of 72 beds. From the 2010 U.S. Census, the hospital closure data had average community population of 3,135, compared to the 26-50 bed PPS hospital sample with an average of 6,707 and the 51-100 bed PPS hospital sample with an average of 8,588.

A comparison of the economic impact data for hospital closures and PPS hospitals is provided in **Table 4**. The employment multiplier for hospital closures is 1.35, compared to 1.40 for the 26-50 bed PPS hospitals and 1.44 for the 51-100 bed PPS hospitals. The labor income multiplier for hospital closures was 1.21, compared to 1.21 for the 26-50 bed PPS hospitals and 1.25 for the 51-100 bed PPS hospitals. Average employment for hospital closures was 73, with a range from a minimum of 19 to a maximum of 139. This compares to an average of 185 with a range from 43 to 523 employees for the 26-51 bed PPS hospitals and an average of 287 with a range from 84 to 908 employees for the 51-100 bed PPS hospitals. The average impact of hospital closures was 99 employees and \$5.3 million

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labor income; this compares to an average impact of 259 employees and \$14.3 million labor income for the 26-50 bed PPS hospital sample and an average impact of 413 employees and \$24.9 million labor income for the 51-100 bed PPS hospital sample. It must be noted that the hospital closure data may be low since these hospitals have typically been downsizing over a period of years before their actual closing.

Template for Estimating Economic Impact

A template is provided to estimate the economic impact of PPS hospitals in the 26-50 bed size and the 51-100 bed size.

Direct employment impact from hospital operations includes all full-time and part-time employees of the hospital and any contractual employees paid by the hospital. The hospital operations employment multiplier is the SAM employment multiplier from the hospital sector from IMPLAN Group LLC for the county location of the hospital; this multiplier is unique to the county location of the hospital. An optional method is to utilize the average multiplier from the samples of the two groups of PPS hospitals included in the study. For the 26-50 bed PPS hospitals, the hospitals operations average employment multiplier is 1.40. For the 51-100 bed PPS hospitals, the hospital operations average employment multiplier is 1.44.

Secondary impact is the multiplier minus one; then take the result times the direct impact to generate the secondary impact. Another way to calculate the secondary impact is to take the total impact minus

the direct impact. The total impact is the direct impact times the multiplier.

Direct labor income impact from hospital operations includes all wages, salaries, and benefits from the hospital employees and any payments for labor for the contractual employees paid by the hospital. The hospital operations labor income multiplier is the SAM labor income multiplier from the hospital sector from IMPLAN Group LLC for the county location of the hospital; this multiplier is unique to the county location of the hospital. An optional method is to utilize the average multiplier from the samples of the two groups of PPS hospitals included in the study. For the 26-50 bed PPS hospitals, the hospitals operations average labor income multiplier is 1.21. For the 51-100 bed PPS hospitals, the hospital operations average labor income multiplier is 1.25. The secondary and total impacts are the same formulas as shown above for the employment impact.

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Table 5
Template to Estimate Economic Impact of a PPS Hospital from Operations

	Employment Impact			
	Direct ¹	Multiplier ²	Secondary ³	Total ⁴
Employment	_____	_____	_____	_____
	Labor Income Impact			
	Direct ⁵	Multiplier ⁶	Secondary ³	Total ⁴
Labor Income	_____	_____	_____	_____

¹ Direct employment impact from operations includes all full-time and part-time employees of the hospital and any contractual employees paid by the hospital.

² The hospital operations employment multiplier is the SAM employment multiplier from the hospital sector from IMPLAN Group LLC for the county location of the hospital; this multiplier is unique to the county location of the hospital. An optional method is to utilize the average multiplier from the samples of the two groups of PPS hospitals included in the study. For the 26-50 bed PPS hospitals, the hospitals operations average employment multiplier is 1.40. For the 51-100 bed PPS hospitals, the hospital operations average employment multiplier is 1.44.

³ Secondary impact is the multiplier minus one; then take the result times the direct impact to generate the secondary impact. Another way to calculate the secondary impact is to take the total impact minus the direct impact.

⁴ The total impact is the direct impact times the multiplier.

⁵ Direct labor income impact from operations includes all wages, salaries, and benefits from the hospital employees and any payments for labor for the contractual employees paid by the hospital.

⁶ The hospital operations labor income multiplier is the SAM labor income multiplier from the hospital sector from IMPLAN Group LLC for the county location of the hospital; this multiplier is unique to the county location of the hospital. An optional method is to utilize the average multiplier from the samples of the two groups of PPS hospitals included in the study. For the 26-50 bed PPS hospitals, the hospitals operations average labor income multiplier is 1.21. For the 51-100 bed PPS hospitals, the hospital operations average labor income multiplier is 1.25.

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