



## Geographic Variation in the Profitability of Critical Access Hospitals

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### OVERVIEW

Concerns about the use of the Medicare Prospective Payment System (PPS) for rural hospitals arose in the 1990s. Rural and small hospitals face factors, such as diseconomies of scale, which could hinder financial performance in comparison to urban and larger hospitals. For these reasons, Federal law makers created special payment classifications under the Medicare program, recognizing that many rural hospitals are the only health facility in their community, and their survival is vital to ensure access to health care. One of these classifications is Critical Access Hospital (CAH). CAHs are limited to 25 beds and primarily operate in rural areas. Unlike traditional hospitals (which are paid under prospective payment systems), Medicare pays CAHs based on each hospital's reported costs. Each CAH receives 101 percent of allowable Medicare costs for outpatient, inpatient, laboratory and therapy services, as well as post-acute care in the hospital's swing beds.

### KEY FINDINGS

- Profitability of CAHs varies greatly across states and U.S. Census divisions.
- CAHs in Hawaii, Georgia, and Kansas had both the lowest total margin and lowest operating margin.
- CAHs in South Atlantic and East South Central had both the lowest total margin and the lowest operating margin. CAHs in East North Central had both the highest total and highest operating margins.
- The decertification of CAHs and the loss of cost-based reimbursement are likely to reduce hospital profitability, with some states and regions being more adversely affected than others.

To qualify for the CAH program, a hospital had be at least 35 miles by primary road from the nearest hospital (or 15 miles in areas with mountainous terrain or only secondary roads) or be declared a "Necessary Provider" by a state. Over the past year, there have been several policy proposals to redefine CAH status relative to the distance requirement and to remove Necessary Provider CAHs' permanent exemption from the distance requirement. Decertification as a CAH and subsequent loss of cost-based reimbursement could lead to substantial reduction in the profitability of the affected hospitals.<sup>1</sup>

To understand some of the regional differences in the potential effects of implementing the policy proposals, this study describes geographic variation in the 2012 profitability of CAHs. Two financial ratios are used to compare the profitability of CAHs across nine areas of the country (the regional divisions produced by the U.S. Census Bureau as shown in Appendix 1) and 45 states (those with 3 or more CAHs as shown in Appendix 2.)

## TOTAL MARGIN

Total margin is defined as net income divided by total revenue. It measures the control of expenses relative to revenues, and expresses the profit a hospital makes as a proportion of revenue brought in. For example, a 5% total margin means the hospital makes 5 cents of profit on every dollar of total revenue. Because total margin is a proportion, two hospitals with the same margin can have vastly different absolute dollars of profit. For example, a hospital with a 5% total margin and 50 million in total revenues will have \$2,500,000 in profits, whereas a hospital with the same total margin but only 5 million in revenue will have only \$250,000.

**Figure 1. 2012 CAH Total Margin Distribution\* by Census Division**

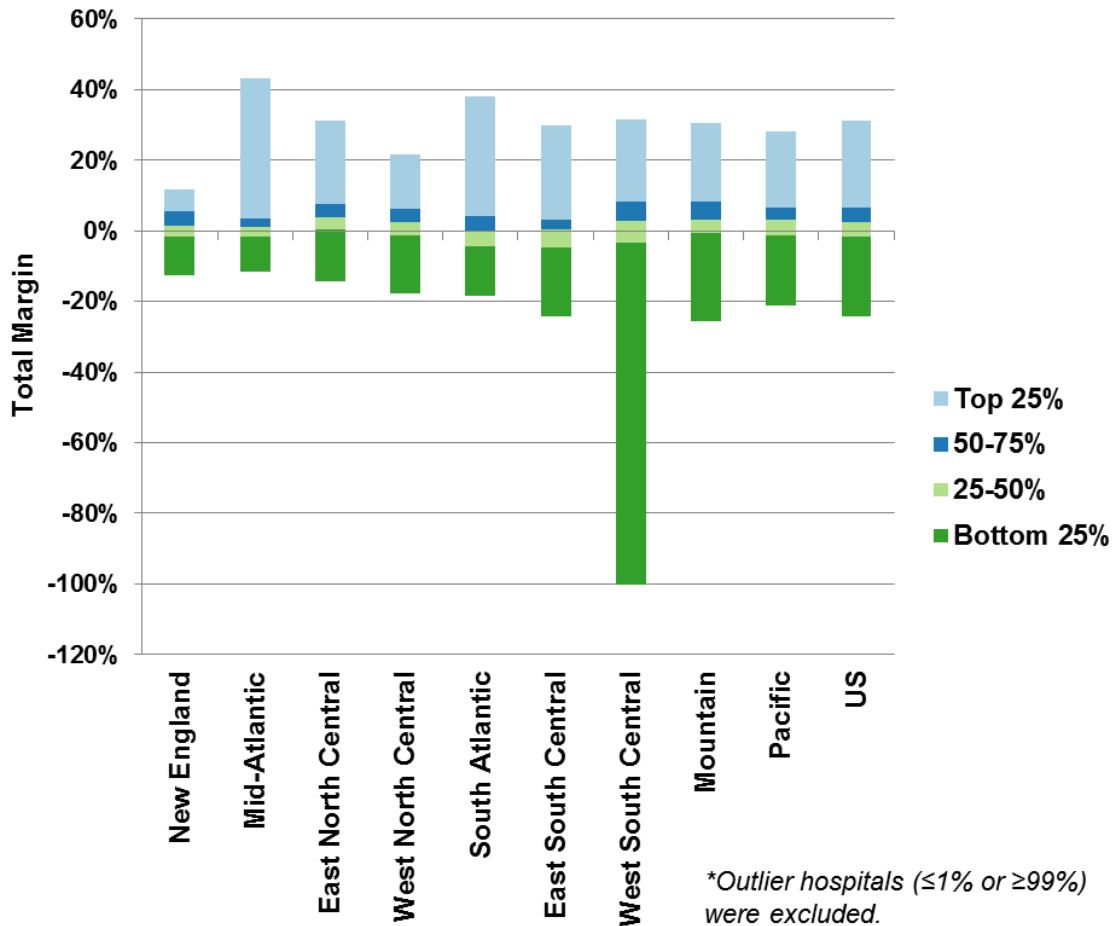


Figure 1 shows that in 2012 the highest median total margins were in East North Central (4.0%), Mountain (3.0%), Pacific (3.0%), West South Central (2.9%), and West North Central (2.6%). More than three-quarters of CAHs in East North Central had positive total margins. In contrast, the lowest median total margins were in the South Atlantic (0.2%) and East South Central (0.3%). Almost half of all CAHs in South Atlantic and East South Central had negative total margins. Appendix 2 shows that the lowest median total margins were in Hawaii (-7.4%), Virginia (-2.2%), Arkansas (-1.0%), Georgia (-0.9%), and Kansas (-0.7%).

## OPERATING MARGIN

Operating margin is defined as operating income divided by operating revenue. It measures the control of operating expenses relative to operating revenue. A positive value indicates an operating profit because operating revenue is greater than operating expenses. High positive values often indicate greater patient volumes, which drive down the cost per unit of service. A negative value indicates an operating loss because operating revenue is less than operating expenses.

**Figure 2. 2012 CAH Operating Margin Distribution\* by Census Division**

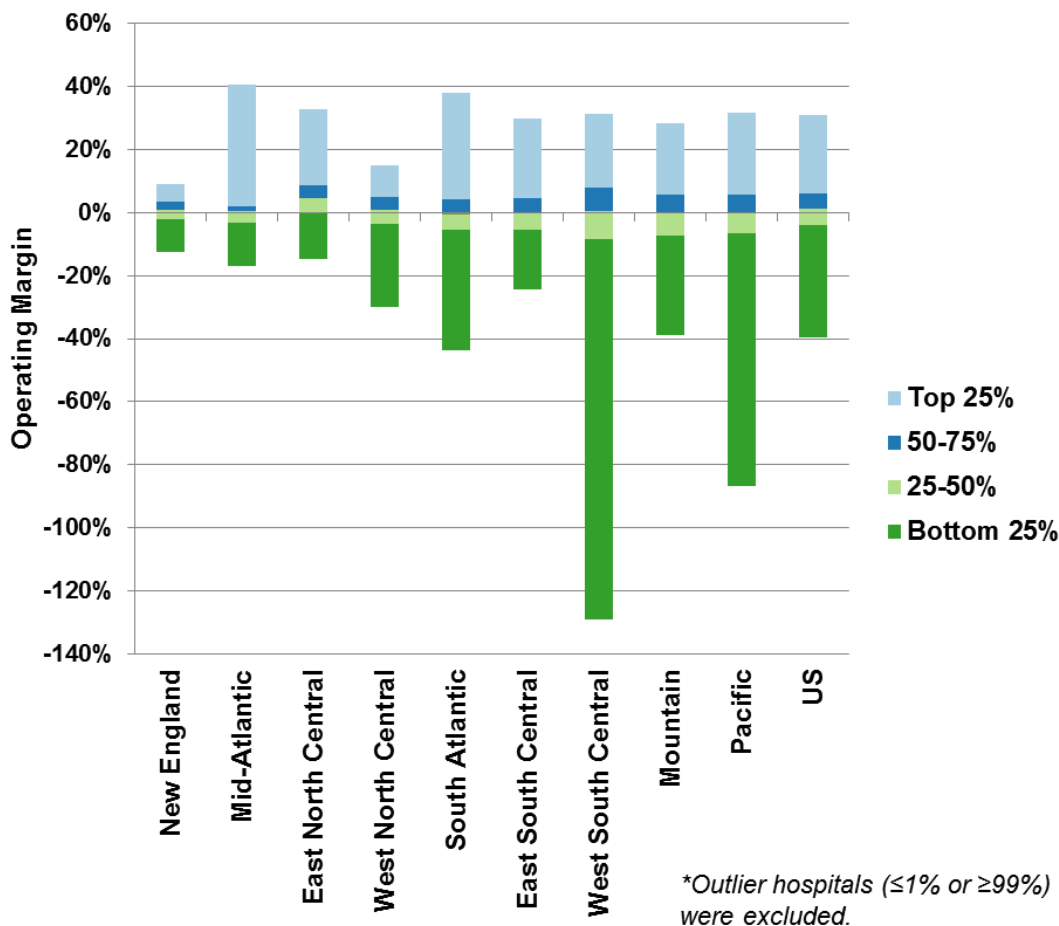


Figure 2 shows that in 2012 the highest median operating margin was in East North Central (4.4%). Almost three-quarters of CAHs in East North Central had positive operating margins. In contrast, the lowest median operating margins were in South Atlantic (-0.5%) and Mountain (-1.3%). Appendix 2 shows that the lowest median operating margins were in Hawaii (-32.0%), Kansas (-6.6%), Georgia (-4.4%), Montana (-3.5%), and Oklahoma (-2.7%).

## DISCUSSION

This study compares the profitability of CAHs in different census divisions and states in 2012. Profitability varied, with CAHs in East North Central having both the highest total and operating margins, CAHs in South Atlantic having the lowest, and CAHs in Hawaii, Georgia, and Kansas having both the lowest total and operating margins. The hospitals under the greatest financial pressure have greater risk of closing and warrant the greatest concern by policy makers and those concerned with access to hospital care by rural residents. This study did not investigate the reasons for the poor profitability, but they may include patient volume, payer mix, and geographic location.

## STUDY METHOD

The research design is based on standard financial statement analysis. Project data came from 2012 CMS Hospital Cost Report Information System (HCRIS). The financial indicator definitions and Medicare cost report account codes for them were verified with a technical adviser and compared to other sources of financial ratios. An analytical file with the Medicare cost report data was created for each hospital with at least 360 days in a cost report period. Data were missing for some indicators and some hospitals; therefore, the number of hospital cost reports used to calculate an indicator median was sometimes less than the total number of hospital cost reports.

1. Holmes GM, Pink GH, Friedman SA\*. The Financial Performance of Rural Hospitals and Implications for Elimination of the Critical Access Hospital Program. Journal of Rural Health. 2013 Spring;29(2):140-9. doi: 10.1111/j.1748-0361.2012.00425.x. Epub 2012 Aug 1.

## APPENDIX 1. Regional Divisions used by the United States Census Bureau

Region	Division	States	Number of CAHs with Cost Reports
1 (Northeast)	1 (New England)	ME, NH, VT, MA, RI, CT	40
	2 (Mid-Atlantic)	NY, PA, NJ	21
2 (Midwest)	3 (East North Central)	WI, MI, IL, IN, OH	208
	4 (West North Central)	MO, ND, SD, NE, KS, MN, IA	399
3 (South)	5 (South Atlantic)	DE, MD, DC, VA, WV, NC, SC, GA, FL	81
	6 (East South Central)	KY, TN, MS, AL	67
	7 (West South Central)	OK, TX, AR, LA	156
4 (West)	8 (Mountain)	ID, MT, WY, NV, UT, CO, AZ, NM	143
	9 (Pacific)	AK, WA, OR, CA, HI	95

## APPENDIX 2. 2012 CAH Median Total Margin and Operating Margin by State

State	Median Total Margin	Median Operating Margin	Number of Cost Reports	State	Median Total Margin	Median Operating Margin	Number of Cost Reports
Alabama	N/A	N/A	2	Montana	0.9%	-3.5%	43
Alaska	4.6%	4.9%	9	Nebraska	4.6%	2.7%	62
Arizona	6.6%	6.5%	9	Nevada	5.0%	3.2%	11
Arkansas	-1.0%	-1.2%	28	New Hampshire	3.8%	3.4%	13
California	2.2%	-0.2%	31	New Jersey	N/A	N/A	0
Colorado	2.6%	-0.5%	24	New Mexico	11.2%	9.9%	8
Connecticut	N/A	N/A	0	New York	-0.2%	-0.6%	9
Delaware	N/A	N/A	0	North Carolina	0.1%	-1.0%	22
D of Columbia	N/A	N/A	0	North Dakota	-0.3%	-1.3%	35
Florida	2.7%	2.7%	13	Ohio	3.5%	6.2%	31
Georgia	-0.9%	-4.4%	28	Oklahoma	0.0%	-2.7%	31
Hawaii	-7.4%	-32.0%	9	Oregon	3.8%	2.5%	23
Idaho	3.7%	2.1%	25	Pennsylvania	1.5%	0.9%	12
Illinois	3.5%	3.7%	51	Rhode Island	N/A	N/A	0
Indiana	4.2%	5.9%	35	South Carolina	-0.2%	-1.6%	5
Iowa	3.6%	1.6%	80	South Dakota	5.3%	4.7%	35
Kansas	-0.7%	-6.6%	81	Tennessee	-0.1%	-0.3%	12
Kentucky	0.1%	-0.1%	25	Texas	1.5%	-1.3%	71
Louisiana	8.7%	6.3%	26	Utah	1.3%	0.9%	8
Maine	0.4%	-0.6%	16	Vermont	2.2%	0.2%	8
Maryland	N/A	N/A	0	Virginia	-2.2%	1.3%	3
Massachusetts	1.5%	1.5%	3	Washington	1.2%	-1.2%	23
Michigan	2.9%	2.5%	35	West Virginia	1.9%	1.4%	10
Minnesota	3.3%	2.7%	72	Wisconsin	5.8%	6.7%	56
Mississippi	0.8%	-0.8%	28	Wyoming	6.7%	0.9%	15
Missouri	1.9%	0.3%	34	<b>U.S.</b>	<b>2.6%</b>	<b>1.1%</b>	<b>1210</b>

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