

## 2012-14 Profitability of Urban and Rural Hospitals by Medicare Payment Classification

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### OVERVIEW

More Americans are now aware of the financial challenges faced by rural hospitals. Media coverage of the 66 rural hospital closures between January 2010 and January 2016 has highlighted the health care access and economic challenges facing rural America. Rural hospital closures are not a new phenomenon – hundreds of rural hospitals closed in the 1980s and 1990s.<sup>1</sup> Recognizing that many rural hospitals are the only health care facility in their community and that their survival is vital to ensure access to health care, federal policymakers created four classifications of rural hospitals that qualify for special payment provisions under Medicare: Critical Access Hospitals (CAHs), Medicare Dependent Hospitals (MDHs), Sole Community Hospitals (SCHs), and Rural Referral Centers (RRCs).

This study compares the fiscal years (FY) 2012-2014 profitability of urban hospitals to that of rural hospitals. Rural hospitals are further divided by “size” of rural Prospective Payment System hospitals (R-PPS <26 beds, 26-50 beds, and >50 beds) and by the four rural Medicare payment classifications (CAH, MDH, SCH, and RRC) despite the urban location of some.<sup>2</sup> The study method and the definition of each ratio are shown at the end of the brief.

### KEY FINDINGS

- Overall, profitability of rural hospitals decreased while the profitability of urban hospitals increased between 2012 and 2014, further widening the gap between urban and rural hospitals.
- Rural Referral Centers and urban hospitals had the highest profitability compared to other hospitals.
- Rural Prospective Payment System hospitals with 26-50 beds and Medicare Dependent Hospitals had the lowest profitability compared to other hospitals.

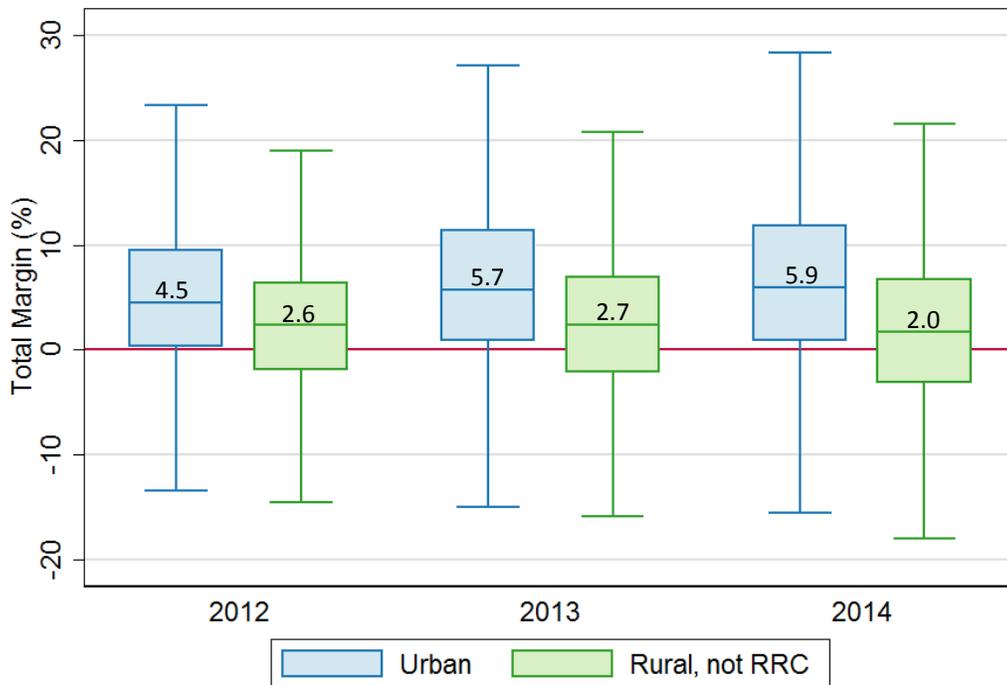
### RESULTS

#### Total Margin

Total margin measures the control of expenses relative to revenues, and expresses the profit<sup>3</sup> a hospital makes as a proportion of revenue brought in. For example, a 5% margin means that a hospital makes five cents of profit on every dollar of revenue. Because the 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% margin and \$50 million in total revenues will have \$2.5 million in profits, whereas a hospital with the same total margin but only \$5 million in revenue will have only \$250,000.

Figure 1 (next page) is a boxplot of the 2012-2014 total margins of urban hospitals and all rural hospitals (excluding RRCs<sup>4</sup>). In the shaded box, the horizontal line in the middle is the median, the top of the box is the 75th percentile, and the bottom of the box is the 25th percentile total margin. The “whiskers” above and below the shaded box are the 99th and first percentile total margins, respectively. The figure shows that the median total margin for urban hospitals increased every year between 2012 and 2014. The median total margin for rural hospitals decreased from 2012 to 2014. Furthermore, in every year the blue boxes clearly dominate the green boxes, showing that the bulk of urban hospitals had total margins greater than the bulk of rural hospitals.

**Figure 1: 2012-2014 Total Margins of Urban Hospitals and Combined Rural Hospitals (excluding RRCs)**



Source: NCRHRP calculations; excludes outside values

Figure 2 (and Table 3 at the end of the brief) shows the median total margin of each hospital type between 2012 and 2014. For both urban hospitals and RRCs, the median total margins increased every year. In contrast, the 2014 median total margins for all R-PPS hospitals, CAHs, MDHs, and SCHs were less than the 2012 median total margins.

**Figure 2: 2012-2014 Median Total Margins of Urban Hospitals and Rural Hospitals by Medicare Payment Classification**

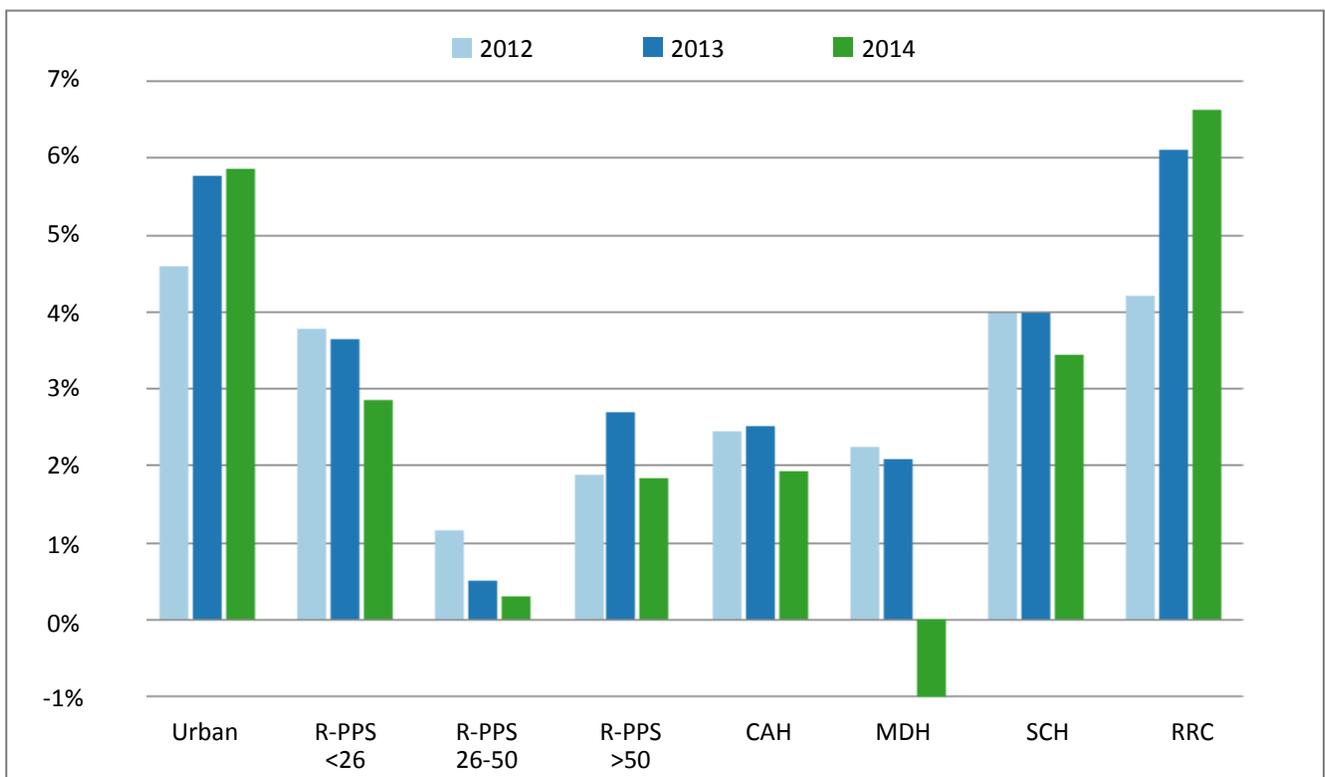
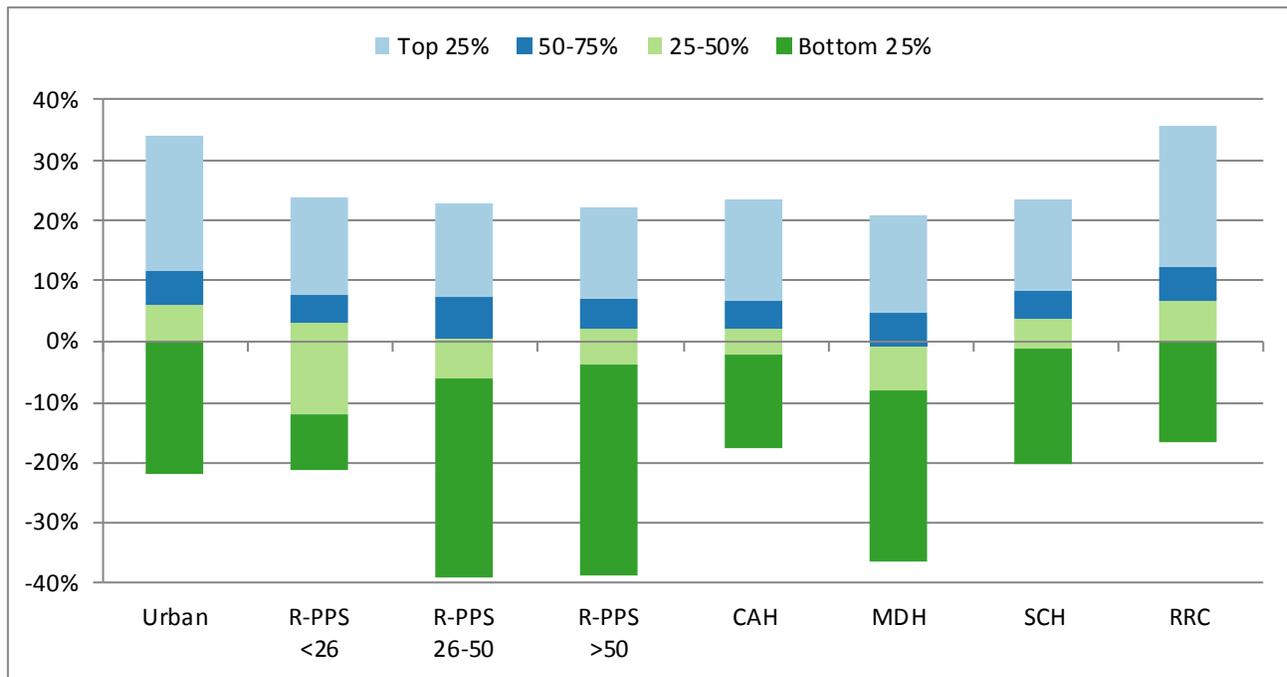


Figure 3 shows that, in 2014, urban hospitals and RRCs had the highest median total margins and R-PPS (26-50 beds) and MDHs had the lowest median total margins.

**Figure 3: 2014 Total Margin Quartiles of Urban Hospitals and Rural Hospitals by Medicare Payment Classification**



### Operating Margin

Operating margin measures the control of operating expenses relative to operating revenues, and reflects profitability from patient care services and other operations. Figure 4 (and Table 4 at the end of the brief) shows that urban hospitals had the highest median operating margins, increasing annually. For rural hospitals, RRCs had the highest median operating margins, increasing annually. Operating margins for MDHs and SCHs decreased each year, with MDHs having the lowest overall operating margin. Rural hospitals had the highest overall median operating margin in 2012 and the lowest in 2014.

**Figure 4: 2012-2014 Median Operating Margins of Urban Hospitals and Rural Hospitals by Medicare Payment Classification**

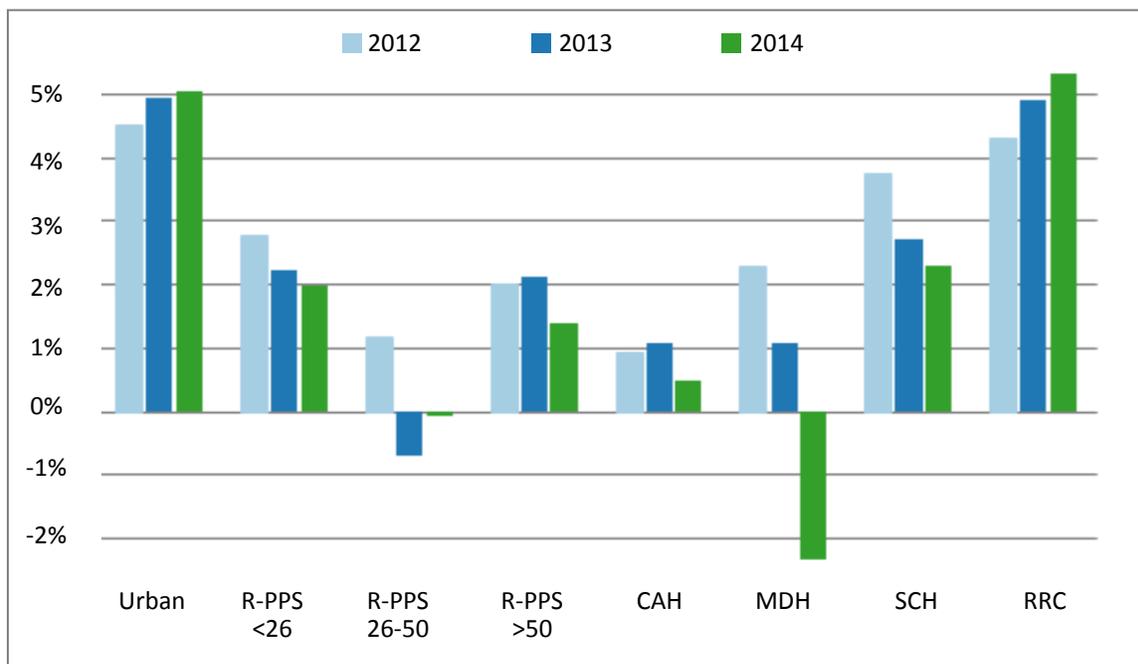
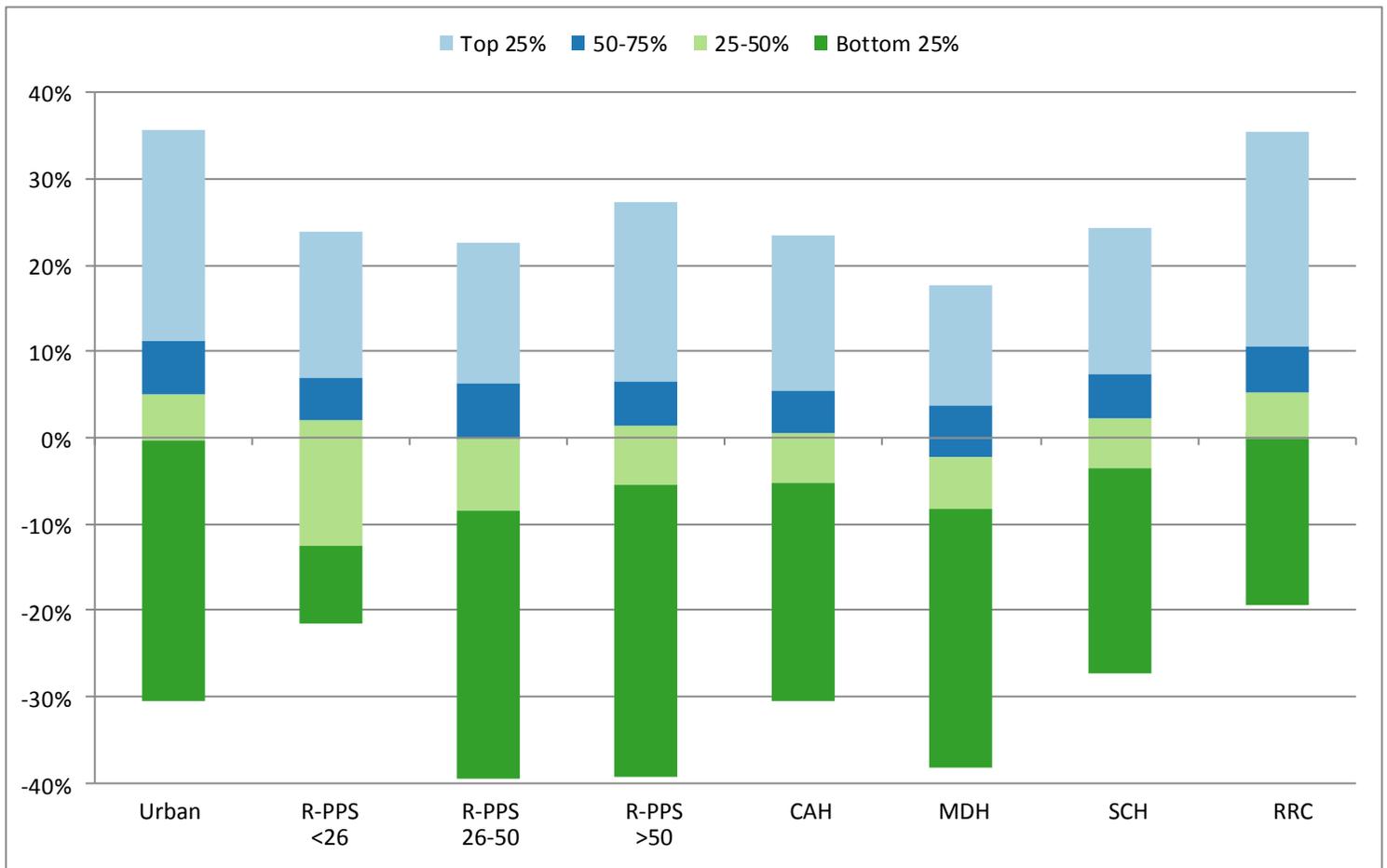


Figure 5 shows that, in 2014, urban hospitals and RRCs had the highest median operating margins and R-PPS hospitals (26-50 beds) and MDHs had the lowest.

**Figure 5: 2014 Operating Margin Quartiles of Urban Hospitals and Rural Hospitals by Medicare Payment Classification**



## DISCUSSION

This study compares the profitability of rural hospitals between FY 2012 and FY 2014 by Medicare payment classification. Two financial ratios, total margin and operating margin, were used to compare the profitability of hospital groups. There are three principal findings:

***Overall, profitability of rural hospitals decreased while the profitability of urban hospitals increased since FY 2012.*** The upward trend in profitability of urban hospitals compared to the downward trend of rural hospitals further widened the urban-rural gap in hospital financial performance. Causes of this gap may include declines in patient volume<sup>5</sup> and cuts in reimbursements from Medicaid and Medicare<sup>6</sup> among other factors that impact rural hospitals disproportionately than urban hospitals.

***RRCs and urban hospitals had the highest profitability compared to other hospitals.*** RRCs are the largest among rural hospitals and more similar to urban hospitals. RRCs have on average, 140 acute beds, an acute average daily census of 57, and most are located in large urban areas. As such, RRCs can generate higher revenue and may be better able to manage fixed costs.

***R-PPS hospitals with 26-50 beds and MDHs had the lowest profitability compared to other hospitals.*** Interestingly, the smallest R-PPS category (<26 beds) was not the most unprofitable: it may be that most hospitals in this group previously converted to a CAH and only the most financially viable hospitals remain. Among rural hospital types,

MDHs are the smaller having a range of 25-50 acute beds and an acute care average daily census range of 3-13 patients. Most of these hospitals are located in more rural areas with a higher percentage of elderly.

Compared to urban hospitals, rural hospitals serve older, poorer, and sicker communities where higher percentages of patients are covered through public insurance programs if they are covered at all.<sup>7</sup> Additionally, because of their smaller size and lower patient volumes, rural hospitals are particularly vulnerable to shifts in the economy and demography of their markets as well as to state and federal policy changes. This puts rural hospitals at higher risk of financial distress, closure, or conversion to some other type of health care facility. All of these outcomes may have implications for the communities served by rural hospitals. For all these reasons, it is important for policy makers to monitor the financial performance of rural hospitals.

## STUDY METHOD

The research design is based on standard financial statement analysis. Project data came from the Healthcare Cost Report Information System (HCRIS) and the Centers of Medicare and Medicaid Services (CMS) Fiscal Year Impact Files and continues previous work by the Center on rural hospital profitability.<sup>8</sup> Longitudinal files were created that included Medicare cost report worksheets required for provider identification and calculation of financial indicators. The financial indicator definitions and the 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 for fiscal years 2012 through 2014. There were missing data for some indicators and outlier values were excluded; therefore, the number of hospital cost reports used to calculate an indicator median was sometimes less than the total number of hospital cost reports in a fiscal year. Medicare payment designation was verified using the CMS FY 2012 through 2014 Impact Files.

The Medicare Cost Report (2010) definition of each profitability ratio and the number of Medicare Cost Reports used are shown in Tables 1 and 2 below.

**Table 1: Profitability Indicator Definitions and Medicare Cost Report Accounts**

Ratio	Definition	Numerator	Denominator
Total margin	$\frac{\text{Net income}}{\text{Total revenue}}$	Worksheet G-3, line 29	Worksheet G-3, lines 3+25
Operating margin	$\frac{\text{Net operating income}}{\text{Operating revenue}}$	Worksheet G-3 (Line 3+ Lines 8 to 22 + Line 24 - Line 4)	Worksheet G-3 (Line 3+ (Lines 8 to 22) + Line 24)

**Table 2: Hospital Medicare Cost Reports\* by Medicare Payment Classification and Fiscal Year**

Fiscal Year	Urban	R-PPS < 26	R-PPS 26-50	R-PPS > 50	CAH	MDH	SCH	RRC
2014	1,944	35	96	157	1,199	157	408	179
2013	1,955	37	93	162	1,213	180	399	177
2012	2,011	35	101	165	1,212	188	405	176

\*The number of hospitals having total and operating margin values for Medicare Cost Reports having at least 360 days in production falling between FY 2012 and 2014.

**Table 3: Median Total Margins by Medicare Payment Classification and Fiscal Year**

Fiscal Year	Urban	R-PPS < 26	R-PPS 26-50	R-PPS > 50	CAH	MDH	SCH	RRC
2014	5.9%	2.9%	0.3%	1.8%	1.9%	-1.0%	3.5%	6.6%
2013	5.8%	3.6%	0.5%	2.7%	2.5%	2.1%	4.0%	6.1%
2012	4.6%	3.8%	1.2%	1.9%	2.5%	2.2%	4.0%	4.2%

**Table 4: Median Operating Margins by Medicare Payment Classification and Fiscal Year**

Fiscal Year	Urban	R-PPS < 26	R-PPS 26-50	R-PPS > 50	CAH	MDH	SCH	RRC
2014	5.1%	2.0%	-0.1%	1.4%	0.5%	-2.3%	2.3%	5.3%
2013	4.9%	2.2%	-0.7%	2.1%	1.1%	1.1%	2.7%	4.9%
2012	4.5%	2.8%	1.2%	2.0%	0.9%	2.3%	3.8%	4.3%

## REFERENCES AND NOTES

1. Ricketts TC. The Changing Nature of Rural Health Care. *Annual Review of Public Health*. May 2000;21:639-657.
2. A rural hospital is any short-term, general acute, non-federal hospital that is a) not located in a metropolitan county OR b) is located in a RUCA type 4 or higher OR c) is a Critical Access Hospital.
3. For not-for-profit hospitals, the difference between revenues and expenses is technically termed “change in net assets,” but the term “profit” is used for all hospitals. <http://www.accountingcoach.com/nonprofit-accounting/explanation/2>. Accessed 12/4/2015.
4. Rural Referral Centers are excluded from this figure because 94% of RRCs are located in large urban areas and they are much larger than other rural hospitals (median bed size of 140 beds).
5. Trendwatch: The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform. April 2011. American Hospital Association. <http://www.aha.org/research/reports/tw/11apr-tw-rural.pdf>. Accessed 12/4/2015.
6. Reiter K, Noles M, Pink G. Uncompensated care burden may mean financial vulnerability for rural hospitals in states that did not expand Medicaid. *Health Affairs*. 2015;34(10):1721-1729.
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