NC RHRP

Findings Brief
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2016-18 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 170 rural hospital closures[1] since January 2005 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.[2] 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 in the 1980s and 1990s 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).[3] The North Carolina Rural Health Research Program has been tracking profitability of rural hospitals for more than a decade, as many small rural hospitals struggle with profitability compared to their urban counterparts.[4]

This study compares the 2016-18 profitability (revenues greater than expenses) of urban Prospective Payment System (PPS)[5] hospitals (Urban) to that of rural hospitals. Rural hospitals are further divided by size of rural PPS hospitals (PPS 0-25 beds, 26-50 beds and > 50 beds) and by the four rural Medicare payment classifications (CAH, MDH, SCH, and RRC).[6]

KEY FINDINGS

- Overall, profitability of rural hospitals decreased while the profitability of urban hospitals increased between 2016 and 2018.
- Compared to other hospitals, Rural Referral Centers and urban hospitals had the highest profitability in every year between 2016 and 2018.
- In 2018, Rural Prospective Payment System hospitals with 0-25 beds and Medicare Dependent Hospitals had the lowest profitability compared to urban hospitals and other rural hospitals.

STUDY METHOD

The research design is based on standard financial statement analysis. Project data came from the Centers for Medicare & Medicaid Services (CMS) Healthcare Cost Report Information System (HCRIS) and the CMS Fiscal Year Impact Files and continues previous work by the North Carolina Rural Health Research Program on rural hospital profitability.[7] 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 each cost report period for fiscal years 2016 through 2018. 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 2016 through 2018 Impact Files. The RRC payment classification includes hospitals designated as RRCs, MDH/RRCs, and SCH/RRCs.

The Medicare cost report (2010) definition of each profitability ratio and the number of Medicare cost reports used are shown in the tables below.

Table 1. Profitability Indicator Definition 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

Total margin was defined as net income (Worksheet G-3, line 29) divided by total revenue (Worksheet G-3, lines 3+25). Total margin measures the control of expenses relative to revenues, and expresses the profit[8] a hospital makes as a proportion of revenue brought in. For example, a 5% total margin means that a hospital makes 5 cents of profit on every dollar of revenue. Because the total margin is a proportion, two hospitals with the same total 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 $2.5 million in profits, whereas a hospital with the same total margin but only $5 million in revenue will have only $250,000 in profits.

RESULTS

Figure 1 is a boxplot of the 2016-2018 total margins of urban hospitals and all rural hospitals (excluding RRCs[9]). 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 1st percentile total margins, respectively. The figure shows that the median total margin for urban hospitals increased while the median total margin for all rural hospitals decreased every year between 2016 and 2018. Furthermore, in every year, the blue boxes are centered higher than the green boxes, showing that the bulk of urban hospitals had total margins greater than the bulk of rural hospitals.

Figure 1. 2016-2018 Total Margins of Urban Hospitals and Rural Hospitals (excluding RRCs)

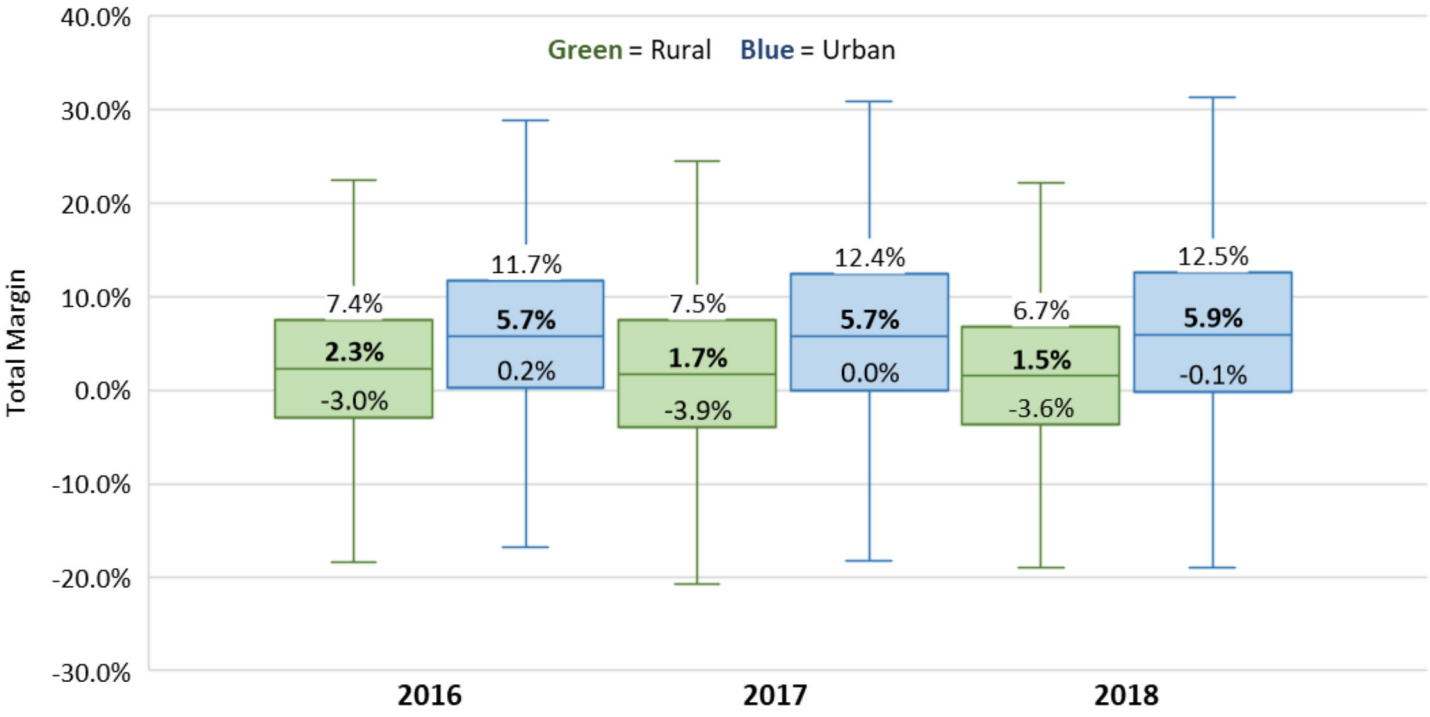


Figure 2 and Table 3 (at the end of the brief) show the median total margin of each hospital type between 2016 and 2018. For all rural hospital types except RRC and SCH, median total margins decreased by at least 0.5% from 2016 to 2018, including a 2.6% decrease in rural PPS hospitals with 0-25 beds. Conversely, the median total margins for urban hospitals, RRCs, and SCHs increased slightly between 2016 and 2018.

Figure 2. 2016-2018 Median Total Margins of Urban Hospitals and Rural Hospitals by Medicare Payment Classification

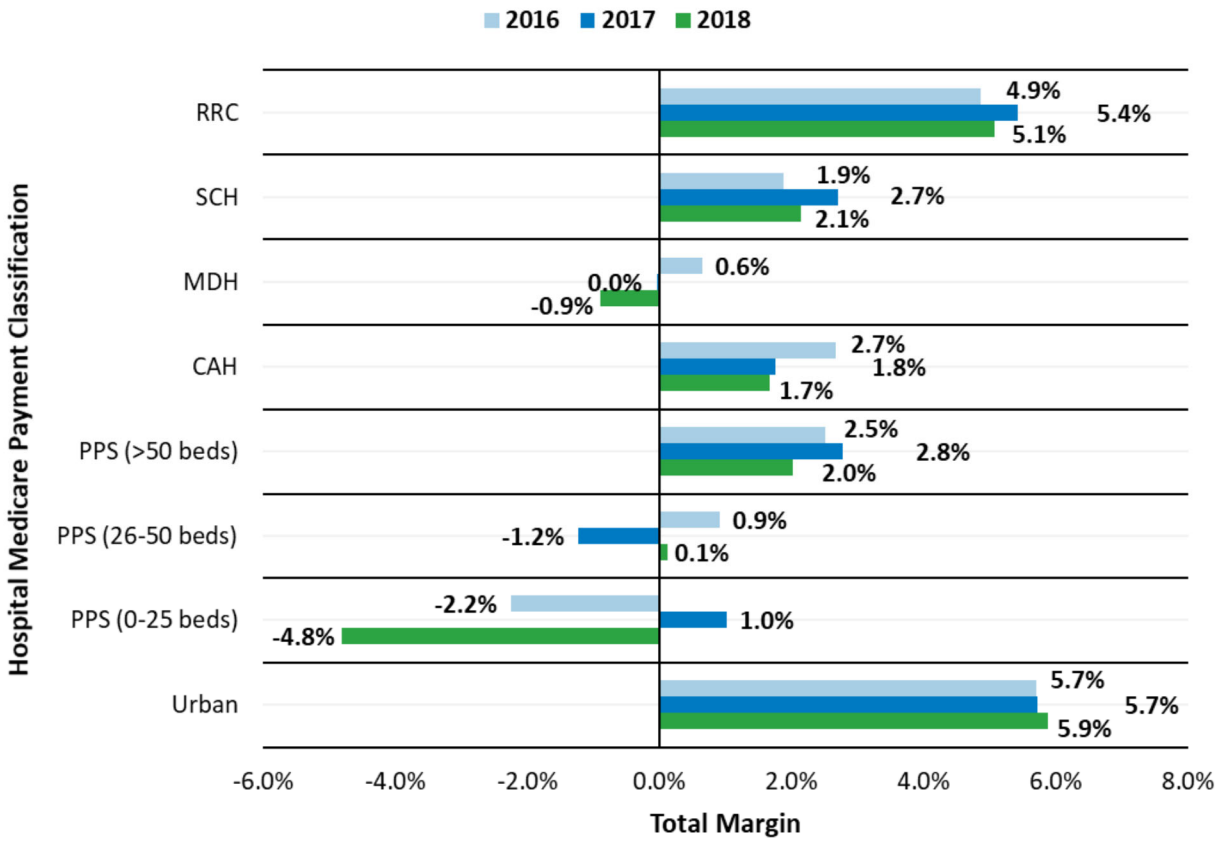
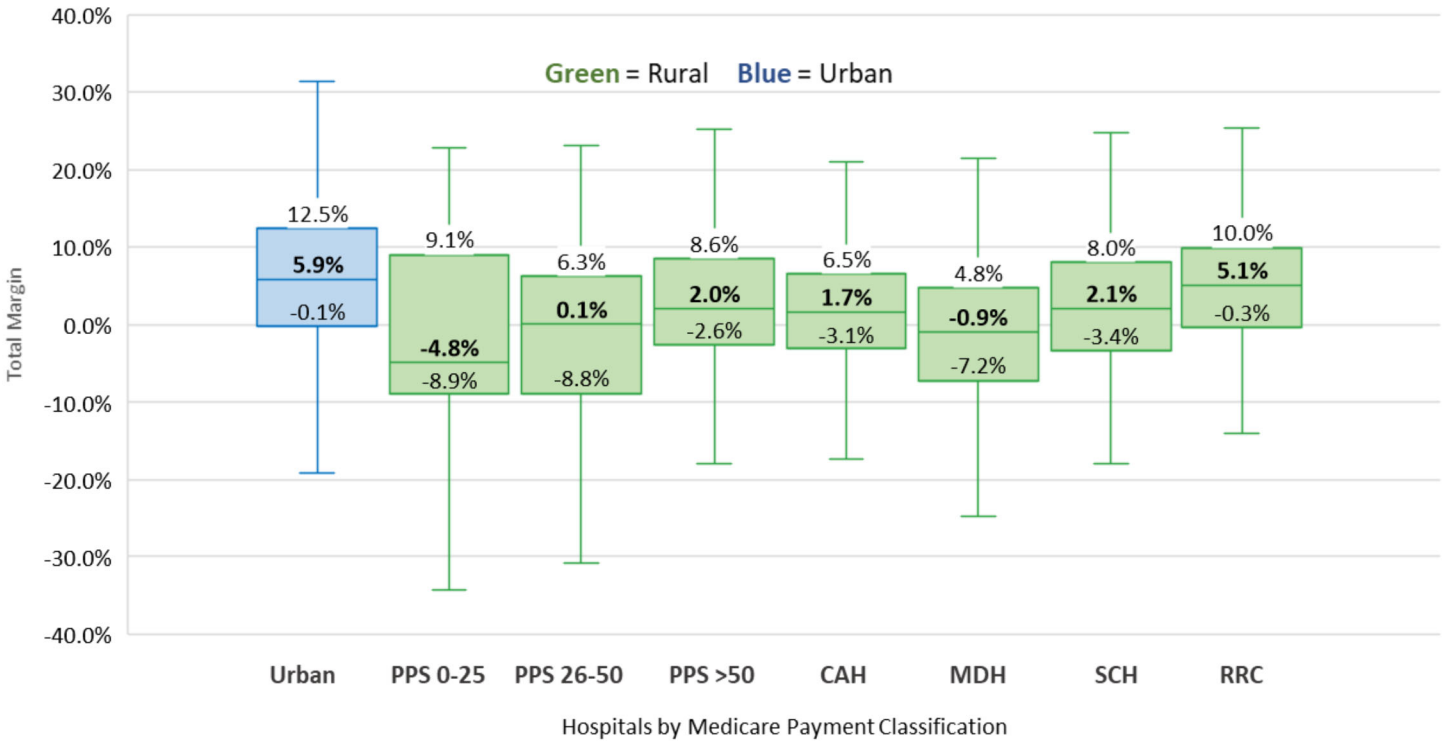


Figure 3 shows that, in 2018, urban hospitals and RRCs had the highest median total margins, and PPS (26-50 beds) and MDHs had the lowest median total margins.

Figure 3. 2018 Total Margin Quartiles of Urban-PPS Hospitals and Rural Hospitals by Medicare Payment Classification



DISCUSSION

There are three principal findings from this study.

Overall, median profitability of rural hospitals decreased while the median profitability of urban hospitals increased between 2016 and 2018. The steady financial performance of urban hospitals compared to the downward trend of rural hospitals highlights the challenges of sustaining a viable rural hospital with the current rural reimbursement structures. Causes of the profitability gap may include declines in patient volume[10] and cuts in reimbursements from Medicaid and Medicare[11] among other factors that disproportionately impact rural hospitals.

Compared to other hospitals, RRCs and urban hospitals had the highest profitability in every year between 2016 and 2018. RRCs have an average of 245 acute beds, and most are located in urban areas.[12] As such, RRCs can generate higher revenue and may be better able to manage fixed costs.

In 2018, rural PPS hospitals with 0-25 beds and MDHs had the lowest profitability compared to other hospitals. Rural PPS with 0-25 beds and MDHs were the only hospitals with negative median total margins. Among rural hospital types, MDHs are smaller and have a range of 40-60 acute care beds. 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 and higher percentages are uninsured.[13] Additionally, because of their smaller size and lower patient volumes, rural hospitals are particularly vulnerable to shifts in the economy and demographics of their markets as well as to state and federal policy changes. This puts rural hospitals at higher risk of financial distress, complete closure, or conversion of the hospital to some other type of non-inpatient 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.

Table 2. Number of Medicare Cost Reports* by Payment Type and Year

		Rural Hospitals						
	Urban	PPS 0-25 beds	PPS 26-50 beds	PPS > 50 beds	CAH	MDH	SCH	RRC
2016	2,064	39	117	147	1,306	123	311	322
2017	1,988	37	112	142	1,300	134	299	388
2018	1,874	29	109	129	1,301	128	292	465

*The number of hospitals having total margin values for Medicare cost reports having at least 360 days in production falling between fiscal year 2016 and 2018.

Table 3. 2016-2018 Median Total Margins of Urban Hospitals and Rural Hospitals by Medicare Payment Classification

		Rural Hospitals						
	Urban	PPS 0-25 beds	PPS 26-50 beds	PPS > 50 beds	CAH	MDH	SCH	RRC
2016	5.7%	-2.2%	0.9%	2.5%	2.7%	0.6%	1.9%	4.9%
2017	5.7%	1.0%	-1.2%	2.8%	1.8%	0.0%	2.7%	5.4%
2018	5.9%	-4.8%	0.1%	2.0%	1.7%	-0.9%	2.1%	5.1%

REFERENCES AND NOTES

1. Hospital closures are defined as hospitals that ceased providing inpatient services.
2. Ricketts TC. The Changing Nature of Rural Health Care, *Annual Review of Public Health*, May 2000;21:639-657.
3. Holmes GM, Pink GH, Friedman SA, Howard HA. A comparison of Rural Hospitals with Special Medicare Payment Provisions to Urban and Rural Hospitals Paid Under Prospective Payment (2010). NC Rural Health Research Program, Sheps Center, UNC Chapel-Hill. https://www.shepscenter.unc.edu/rural/pubs/report/FR98.pdf.
4. Holmes, GM, Pink GH, Howard HA. Profitability of Rural Hospitals Paid under Prospective Payment Compared to Rural Hospitals with Special Medicare Payment Provisions (September 2010). NC Rural Health Research Program, Sheps Center, UNC -Chapel Hill. FB97. https://www.shepscenter.unc.edu/rural/pubs/finding_brief/FB97.pdf.
5. A Prospective Payment System (PPS) is one of Medicare's methods of facility reimbursement in which the payment is based on a predetermined, fixed amount. Centers for Medicare & Medicaid Services. Prospective Payment Systems – General Information. https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ProspMedicareFeeSvcPmtGen.
6. 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.
7. Pink G, Freeman V, Randolph R, Holmes GM. Profitability of Rural Hospitals (2013). NC Rural Health Research Program, Sheps Center, UNC-Chapel Hill. http://www.shepscenter.unc.edu/wp-content/uploads/2013/09/Profitability-Findings-Brief-Final_August-2013.pdf.
8. 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 (see http://www.accountingcoach.com/nonprofit-accounting/explanation/2).
9. 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).
10. American Hospital Association. Trendwatch: The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform. April 2011. https://www.aha.org/guidesreports/2011-04-18-trendwatch-opportunities-and-challenges-rural-hospitals.
11. 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)2015:1721-1729.
12. Rural Referral Centers and Sole Community Hospitals can apply for reclassification to an urban area without losing their payment status. Rural Referral Centers are reclassified to the nearest urban area if approved.
13. National Advisory Committee on Rural Health and Human Services. The 2008 Report to the Secretary: Rural Health and Human Services Issues. 2008. https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/rural/reports-recommendations/2008-report-to-secretary.pdf.

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