



Market Characteristics Associated with Rural Hospitals' Provision of Post-Acute Care

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Rural residents depend on local post-acute care (PAC)¹ to be able to rehabilitate within their own communities. Patients in areas where post-acute care is available locally are more likely to receive needed care.² PAC in rural hospitals, particularly Critical Access Hospitals (CAHs), represents an important source of PAC access in rural areas. Further, rural hospitals' financial health often depends on providing services that meet local need. Given that a large percentage of rural hospitals' patients are Medicare beneficiaries, PAC is a key service. Eighty-three percent of rural hospitals received at least some revenue through provision of these services in 2015.³ Thus, it is important to understand community and hospital factors that correlate with rural hospitals' PAC provision.

For this brief, we define PAC as any type of care that is conventionally provided after an acute hospital stay. This includes the level of care that would be provided in a skilled nursing facility (SNF), inpatient rehabilitation facility (IRF), through home health, or through hospice. Rural hospitals may provide skilled nursing care either through a distinct part of the hospital, meaning a dedicated section of the facility that provides skilled nursing care, or through a swing bed. Swing beds are typically reserved for small rural hospitals and allow these facilities to "swing" their beds between skilled nursing care and inpatient care.

Over time, some changes in Medicare payment policies have adversely affected rural providers. For example, when the Balanced Budget Act of 1997 created the home health prospective payment system, a significant number of rural hospitals ended their home health services.⁴ With the increased use of more recent payment models such as Accountable Care Organizations, bundled payments, and value-based arrangements, hospitals' decision-making around PAC may be changing once again. This brief provides a window into current hospital-based PAC offerings by summarizing both hospital- and market-level factors that are associated with rural hospitals that provided post-acute care between 2012 and 2015.

How Many Rural Hospitals Provide Post-Acute Care?⁵

Table 1 shows that the majority of rural hospitals, both CAHs and Prospective Payment System (PPS), provide PAC. On average, across years, 96 percent of CAHs provided PAC or hospice care, while 70% percent of PPS facilities provided such care over that period. The percentage of both types of facilities offering PAC remained relatively steady across the time period examined; however, the percentage of PPSs providing PAC decreased slightly from 72% in 2012 to 68% in 2015.

Table 1: Number of Rural Medicare Cost Reports (2012-2015)

	2012	2013	2014	2015
Critical Access Hospitals				
Total Number	1,203	1,196	1,195	1,204
Number providing PAC	1,148	1,142	1,144	1,153
Percent Providing PAC	95%	95%	96%	96%
Prospective Payment System Hospitals				
Total Number	1,013	991	980	963
Number providing PAC	725	708	688	659
Percent Providing PAC	72%	71%	70%	68%

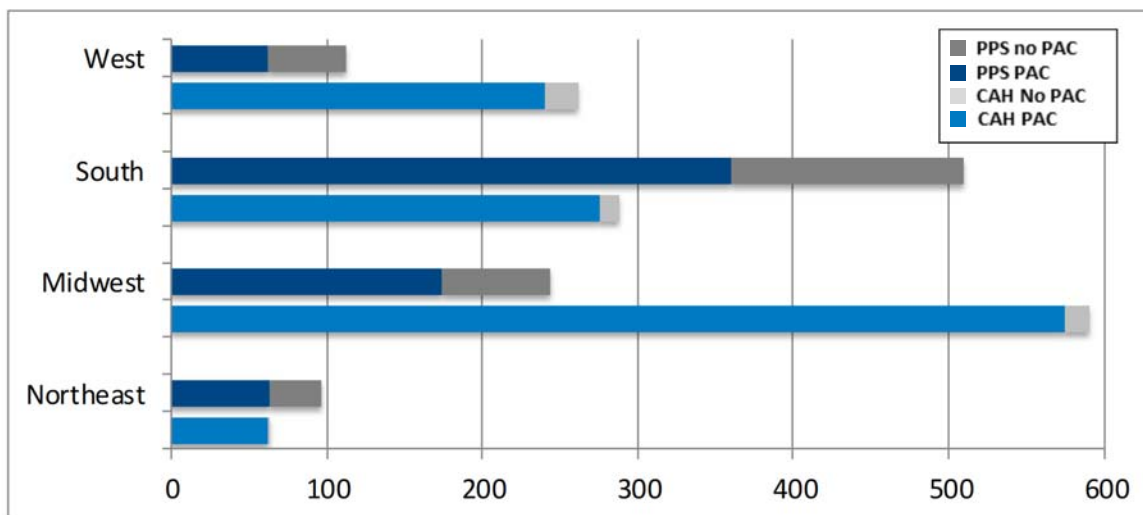
KEY FINDINGS

- In 2015, 96 percent of Critical Access Hospitals and 68 percent of PPS rural hospitals offered post-acute care (PAC).
- The percentage of rural hospitals offering PAC varies regionally and by hospital type, with the largest proportion of Critical Access Hospitals offering PAC in the Northeast and the smallest proportion in the West.
- Rural hospitals in more remote areas and in areas with fewer skilled-nursing facility beds are more likely to offer post-acute care.

How Does Provision of PAC by Rural Hospitals Vary Across Regions?

Figure 1 shows that, across the country, a higher percentage of CAHs provide PAC than PPS hospitals. Sixty-two of 63 CAHs in the Northeast provide PAC (98%), making it the census region with the largest percentage of CAHs providing PAC. In the West, 240 of 262 (92%) CAHs provide PAC, the smallest proportion of any region. The South and Midwest have very similar PAC percentages for CAH facilities at 96 percent (276 of 288) and 97 percent (575 of 591), respectively. The West has the smallest percentage of rural PPS facilities providing PAC at 55 percent (62 of 112). The Midwest and South have the largest percentage of rural PPS facilities providing PAC at 71 percent (Midwest: 174 of 244, South: 360 of 510). Both the South and the Northeast have more rural PPS hospitals than CAHs, while the Midwest and the West have more CAHs than rural PPS hospitals.

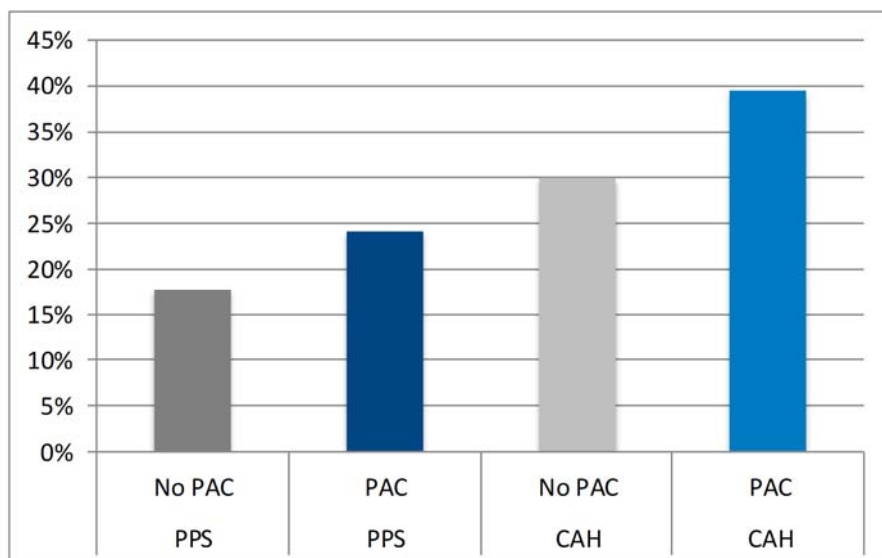
Figure 1: PAC Provision by Census Region (2015)



How Does Provision of PAC by Rural Hospitals Vary by Remoteness?

Across both CAH and PPS facilities, those that are more remote appear more likely to provide PAC. Figure 2 shows the percentage of facilities that have a Frontier and Remote Area (FAR) code by hospital type and PAC offering. FAR codes are a measure of how remote an area is, accounting for the time it takes to drive goods and services (e.g., facilities providing advanced medical procedures or regional airports).⁶ Of the rural PPS facilities not providing PAC in 2015, 18 percent of them (54 of 303) are assigned a FAR code (meaning that they are at least 60 minutes from an urban area of 50,000 or more); this is compared to 24 percent of those with a FAR code that do provide PAC (159 of 658). CAHs are more rural, and more likely to have a FAR code overall; however, they exhibit the same pattern as the PPS facilities. Thirty percent of the facilities that do not offer PAC have a FAR code (15 of 50), and 40 percent of those that do offer PAC have a FAR code (455 of 1,150).

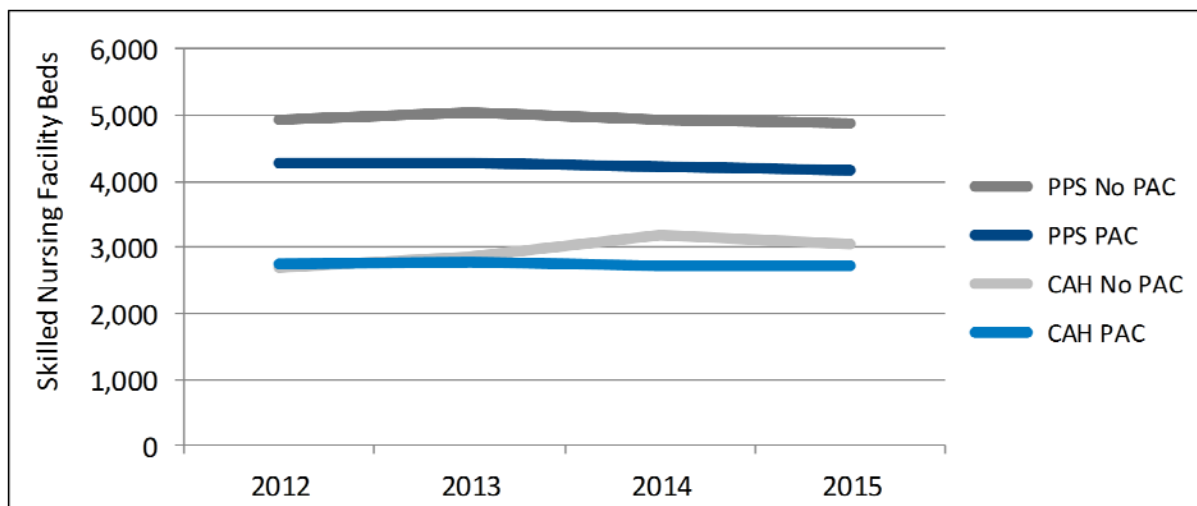
Figure 2: Percent of Hospitals that are Frontier and Remote, by Hospital Type and PAC Provision (2015)



How Does Provision of PAC by Rural Hospitals Vary by Other SNF Beds Nearby?

On average, rural hospitals that provide PAC are located in areas that have fewer SNF beds, as demonstrated in Figure 3. For 2012 through 2015, the average number of SNF beds in a 50-mile radius for PPS facilities providing PAC was lower than in areas where PPSs did not provide PAC. In 2015, PPS facilities that did not provide PAC were located in areas with about 4,887 SNF beds on average, compared to an average of about 4,158 SNF beds for those that did provide PAC. For CAHs, the average number of SNF beds in the area for those that did and those that did not provide PAC was similar for 2012 and 2013. However, for 2014 and 2015, the mean number of SNF beds in the area for those that provided PAC was lower than in those that did not. In 2015, CAHs that did not provide PAC were located in areas with about 3,061 SNF beds on average, and those that did provide PAC were in areas that had about 2,723 beds on average.

Figure 3: Local Average Number of Skilled Nursing Facility Beds by Post-Acute Care Provision



CONCLUSIONS

Between 2012 and 2015, most rural hospitals provided PAC, and CAHs were more likely than PPS facilities to offer the service. PAC provision varies regionally, with the highest proportion of rural facilities offering PAC in the Northeast and the lowest proportion offering PAC in the West. Facilities that offer PAC are more often located in remote areas (those with a FAR code) and in areas with fewer SNF beds. Facilities that do not offer PAC are less often located in remote areas and are located in areas that have more SNF beds.

The finding that remote hospitals with fewer SNF competitors are more likely to offer PAC has implications for the importance of these inpatient facilities as a source of PAC access. A 2012 qualitative study found that CAH leaders continued offering SNF care, even when it was not necessarily profitable, to maintain access to care in the community.⁷ Indeed, if the facilities that currently offer PAC in remote communities were to stop, many rural beneficiaries could potentially lose access to care. Further analysis is needed to determine which communities would be most affected by potential changes to payment policies as some may be much more dependent on their local hospital-provided PAC than others. Policy makers should evaluate the number of rural inpatient facilities that provide needed access to PAC, and have PAC as a revenue source, as they consider changes to Medicare payment policy that could alter the incentives for inpatient facilities to offer the service.

METHODS

Data were obtained from Medicare cost reports for years 2012-2015, the Provider of Services File (POS), and the United States Department of Agriculture (USDA). The POS provided data on the number of free standing SNF beds within a 50-mile radius, and the USDA provided FAR codes. Hospitals were identified as rural using the definition from the Federal Office of Rural Health Policy.⁸ Rural hospitals were defined as hospitals located outside Metropolitan Core Based Statistical Areas (CBSAs) or within Metropolitan areas but also classified with Rural-Urban Commuting Area (RUCA) codes of 4 or greater. Hospitals with more than \$10,000 of SNF, IRF, home health, and hospice revenue combined were considered to offer post-acute care. Three hundred and forty-four available Medicare Cost Reports had fewer than 360 days in period; these were dropped, as the observations were considered unreliable. One observation of negative net patient revenue was assumed to be a data entry error, so the absolute value was used. Twenty-four values were unavailable for FAR codes; those observations were dropped for Figure 2. Sixteen values were missing for the number of SNF beds within a 50-mile radius, and those were dropped for Figure 3.

REFERENCES AND NOTES

1. In this brief, “post-acute care” refers to the broad type of service (e.g., skilled nursing services), not specific services covered for a beneficiary by Medicare as a result of a qualifying acute hospital stay.
2. Beeuwkes-Buntin M, Garten A, Paddock S, Saliba D, Totten M, Escarce J. How much is post-acute care use affected by its availability? *Health Services Research* 2005;40(2):413-434. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1361149/>.
3. Schulte A, Kirk D, Randolph R, Pink GH. The financial importance of Medicare post-acute and hospice care to rural hospitals (July 2017). NC Rural Health Research Program. University of North Carolina at Chapel Hill. Available at: <https://www.ruralhealthresearch.org/publications/1123>.
4. Stensland J, Moscovice I. Rural hospitals’ ability to finance inpatient, skilled nursing, and home health care. 2001 Working Paper. Center for Health Affairs: Project Hope and Rural Health Research Center, University of Minnesota. Available at: http://rhrc.umn.edu/wp-content/files_mf/workingpaper037.pdf.
5. The Centers for Medicare & Medicaid Services pays hospitals on either a cost-based model (CAHs) or prospective payment system (PPS). These two different methods are applied to different types of hospitals with different incentives; thus, throughout the report, we present these results separately.
6. United States Department of Agriculture. Frontier and Remote Area Codes. 2016. Available at: <https://www.ers.usda.gov/data-products/frontier-and-remote-area-codes/>.
7. Gale JA, Croll ZT, Coburn AF, Gregg WR. Why do some critical access hospitals close their skilled nursing facility services while others retain them? (December 2012). Flex Monitoring Team Briefing Paper No. 32. Available at: <http://www.flexmonitoring.org/wp-content/uploads/2014/02/bp32.pdf>.
8. Defining the rural population. Federal Office of Health Policy. Health Resources and Services Administration, US DHHS. Available at: <https://www.hrsa.gov/rural-health/about-us/definition/index.html>.

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