



# ASPE

## ISSUE BRIEF

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### RURAL HOSPITAL PARTICIPATION AND PERFORMANCE IN VALUE-BASED PURCHASING AND OTHER DELIVERY SYSTEM REFORM INITIATIVES

Karen E. Joynt, Nguyen Nguyen, Lok Wong Samson, and John E. Snyder, (ASPE)  
With Amanda Lechner and Omotomike Ogunwumiju (Mathematica Policy Research)<sup>a</sup>

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*There are distinct challenges and opportunities for delivery system reform initiatives in rural hospitals. This report examines what is currently known about rural health and health care, in particular the hospital sector; examines the participation and performance of rural hospitals in delivery system reform efforts; and provides a discussion of potential enabling factors for and barriers to rural hospitals' successful participation and performance in delivery system reform.*

#### 1. Introduction

The Department of Health and Human Services (HHS) has developed a number of initiatives in recent years intended to transform the U.S. health care system into one that delivers better, more affordable care and that makes people healthier (CMS 2015a). Many of these initiatives are supported by policies in the Affordable Care Act (ACA) and, going forward, the Medicare Access and CHIP Reauthorization Act (MACRA). Central among these initiatives have been three value-based payment programs aimed at delivery system reform in the hospital setting: the Hospital Readmissions Reduction Program (HRRP), Hospital Value-Based Purchasing Program (HVBP), and Hospital-Acquired Conditions Reduction Program (HACRP) (CMS 2014a, CMS 2014b, CMS 2015b).

This report examines what is currently known about rural health and health care, in particular the hospital sector; examines the participation and performance of rural hospitals in delivery system reform efforts; and provides a discussion of potential enabling factors for and barriers to rural hospitals' successful participation and performance in delivery system reform.

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## 2. Rural Health and Health Care

Over 59 million people – roughly 19 percent of the United States population – live in rural areas (Census 2010).<sup>b</sup> However, rural America faces a number of health-related challenges, some of which are linked to rurality itself and some of which are also related to regional differences in health and health care in this country (CEA 2010, MedPAC 2012).

Adults living in non-metropolitan areas report poorer health status, higher rates of current tobacco use and major chronic conditions, poorer indicators of oral and mental health, and a lesser likelihood of having health insurance coverage compared to those living in metropolitan areas; these differences are particularly notable in certain parts of the country, such as the east south central states (AL, KY, MS, and TN) (MedPAC 2012, NHIS 2016). In addition, there has recently been an increase in morbidity and mortality due to opioid abuse and alcohol abuse that has disproportionately impacted Americans in rural areas (Case and Deaton 2015). Perhaps in part due to these phenomena, recent improvements in mortality rates and life expectancy have lagged behind in rural areas (Singh 2014).

Further, the aging of the rural population is important to consider. On average, the rural population is older than the urban population (18.2 percent of rural individuals are 65 or over, compared to 13.7 percent in the U.S. population overall), which may have implications for rural health care capacity in the coming years (RHI Hub 2016).

Compounding these issues, incomes are lower and poverty rates are higher in many rural areas (Farrigan 2014). On average, a higher proportion of residents are disabled and unable to work, and there is a lower average level of educational attainment in rural areas (Meit 2014) along with lower levels of health literacy (Ford 2016), though again regional differences factor heavily.

At the same time, access to care is a challenge in many rural areas. Individuals living in rural areas have to travel long distances to access health care (Chan 2006), and public transportation is often less available to facilitate such travel (Ford 2016). Only 9 percent of U.S. physicians practice in rural areas, and the majority of designated Health Professional Shortage Areas are rural, indicating that the supply of physicians, nurses, behavioral health specialists, public health specialists, and other providers is likely inadequate for the current needs of the population (Gamm 2008, RHI Hub 2016). That said, thanks in part to the ACA, the rate of uninsured people in rural areas has fallen by almost 40 percent – reducing financial barriers to access to care (Avery 2016).

One critical component of health care is hospital care. Though an increasing amount of basic care is moving from hospitals to the ambulatory setting, hospitals remain one of the only places (beyond, perhaps, free-standing urgent care centers or emergency departments for less severe conditions) where people can obtain care for acute, life-threatening injury and illness. This brief will focus on inpatient hospital care, though research on other care settings is also essential and will be pursued in future work.

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<sup>b</sup> The Census Bureau identifies two types of urban areas: Urbanized Areas (UAs) of 50,000 or more people; Urban Clusters (UCs) of at least 2,500 and less than 50,000 people. "Rural" encompasses all population, housing, and territory not included within an urban area. The specific criteria used to define urban areas for the 2010 Census were published in the [Federal Register](#) of August 24, 2011.

Rural hospitals make up roughly 40 percent of acute-care hospitals and just under 20 percent of acute-care hospital beds across the country (AHA 2016, Ricketts 2000). Rural hospitals are often paid differently than their urban counterparts. While most U.S. acute-care hospitals are paid under the Medicare Inpatient Prospective Payment System (IPPS) that was established in 1983, many rural hospitals are paid under alternate payment programs (Altman 2012). Some of these special rural payment programs are based on Medicare IPPS, including those for hospitals designated as Medicare Dependent Hospitals, Sole Community Hospitals or Rural Referral Centers; just under one-third of rural hospitals fall into one of these IPPS-based special payment arrangements (AHA 2011). Another 60 percent of all rural hospitals are designated as Critical Access Hospitals (CAHs), which are not paid under IPPS and are generally reimbursed at 101 percent of reasonable costs.<sup>c</sup> To be eligible for CAH status, a hospital must have 25 or fewer inpatient beds and must be located in a rural area or have been certified by the State as a necessary provider of health care services,<sup>d</sup> as well as meet other specific requirements. Currently, only about 10 percent of rural hospitals do not fall into any special payment group and therefore receive standard IPPS reimbursement (AHA 2011).

Relative to urban facilities, rural hospitals tend to be smaller and have lower operating margins due to a number of factors (Table 1). First, rural hospitals, particularly CAHs, have low volumes and low occupancy rates – in 2014, the average occupancy rate for CAHs was only 34 percent, compared with 46 percent in other rural hospitals and 65 percent in urban ones. Second, rural hospitals have a predominantly public payer mix and higher levels of uninsured patients and uncompensated care costs, exacerbated by the fact that many predominantly rural states have not yet expanded Medicaid (NHIS 2016). Consequently, margins are lower in rural than urban hospitals; in 2014, IPPS operating margins were 0.3 percent for rural non-CAH hospitals versus 1.6 percent for urban hospitals, for example, and total margins were 2-3 percent lower for rural than urban facilities.

There is concern that the combination of low occupancy rates and lower margins may accelerate hospital closures. Recent reports suggest that over 60 rural hospitals have closed since 2010, representing about half of hospital closures during this time period, and by some estimates another 600-700 rural hospitals were at risk of closing in 2016 (NCRHRP 2016; iVantage Health Analytics 2015, iVantage Health Analytics 2016, Thomas 2015, Depew 2016, MedPAC 2016).

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<sup>c</sup> Since “Sequestration” (the Budget Control Act of 2011) went into effect, reimbursement was decreased to 99 percent of reasonable costs. Although this change was originally intended to expire in 2021, it was extended until 2025 by section 101 of the Bipartisan Budget Act of 2015 (P.L. 114-74, Nov. 2, 2015).

<sup>d</sup> Under section 1820(c)(2)(B) of the Social Security Act, CAHs must either be located in a rural area or have been certified prior to January 1, 2006, by the State as being a necessary provider of health care services to residents in the area.

**Table 1: Hospital Financial Performance and Metrics, 2014**

	Critical Access Hospitals	Rural Non-Critical Access Hospitals	Urban Hospitals
<b>N of Hospitals</b>	1,320	990	3,614
<b>Population density in surrounding area (average persons / square mile)</b>	69	142	2,815
<b>Average total annual discharges</b>	492	3,005	8,010
<b>Occupancy rate*</b>	34%	46%	65%
<b>Medicare as a share of Total Days</b>	57%	44%	33%
<b>Medicaid as a share of Total days</b>	9%	12%	12%
<b>Total Expenses Per Case†</b>	\$48,345	\$25,530	\$26,180
<b>Uncompensated care cost per case</b>	\$2,170	\$1,188	\$896
<b>Uncompensated care cost, share of expenses</b>	4.5%	4.7%	3.4%
<b>Inpatient Medicare operating margin</b>	n/a‡	0.3%	1.6%
<b>Total Facility Margin</b>	4.1%	4.9%	7.1%
<p>*Occupancy rate is the ratio of total inpatient days to total bed days, where bed days are defined as days in which beds are available for occupancy for inpatient care.</p> <p>†Expenses are reported by hospitals and are not adjusted for case mix.</p> <p>‡Medicare operating margin cannot be calculated from the cost reports in the same way for CAHs. However, this is implicitly set at -1 percent by the reimbursement rate of 99 percent of reasonable costs.</p> <p>IPPS=inpatient prospective payment system. Source: ASPE's analysis of the Hospital Cost Reports 2014 (October 2016) and the FY 2016 IPPS Impact File. Hospitals were considered rural if they were non-metropolitan, i.e., in micropolitan or non-core-based statistical area (CBSA) counties. Critical Access Hospitals (CAH) status us based on either (1) responses to being a CAH in the Cost Report, or (2) the 3<sup>rd</sup> and 4<sup>th</sup> position of the provider number being '13'. Averages are case weighted.</p>			

### 3. Current Hospital Delivery System Reform Efforts and Rural Hospitals

There are three main delivery system reform programs that apply solely to hospitals: the HRRP, which is focused on readmissions; HVBP, which evaluates hospitals on processes, outcomes, patient safety, patient experience, and efficiency; and HACRP, which is focused on patient safety and infection rates.

All three programs are mandatory for hospitals reimbursed through the IPPS. Only those with inadequate volumes are excluded from the value-based payment programs. As a result, HRRP, HACRP, and HVBP apply to 89-100 percent of urban IPPS hospitals and 84-100 percent of rural IPPS hospitals (Table 2, middle panel). In contrast, IPPS is not the means of payment used for CAHs, nor for many specialty hospitals, such as rehabilitation, cancer, and psychiatric hospitals. In FY 2015, 60 percent of rural hospitals (and 35 percent of urban hospitals) were paid through mechanisms other than the IPPS, and thus ineligible to participate in these programs (Table 2, lower panel).<sup>e</sup>

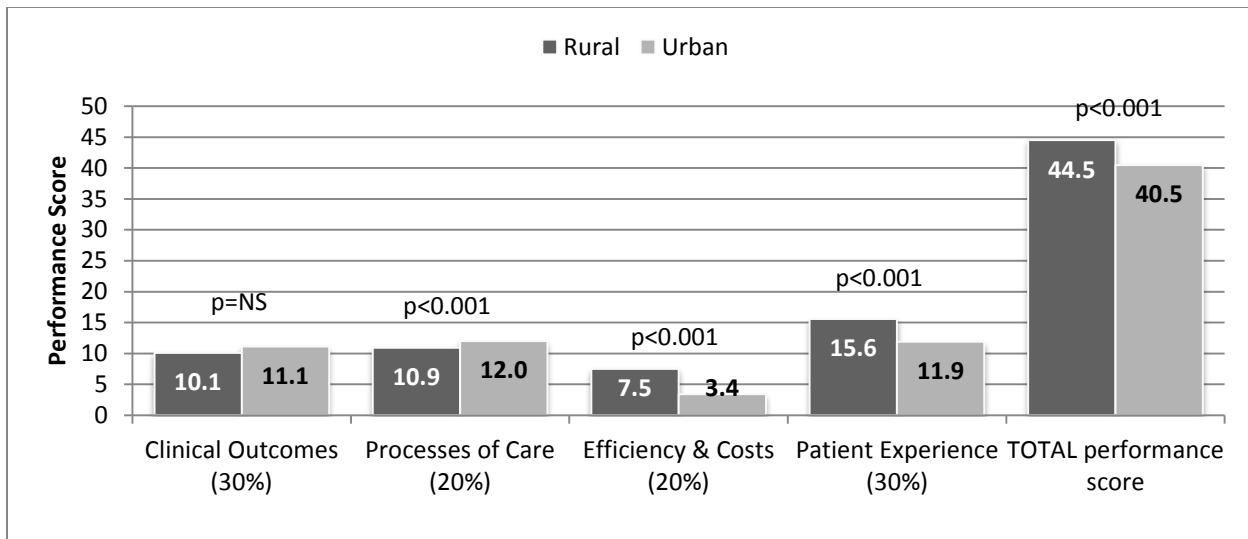
<sup>e</sup> Section 3001(b) of the ACA includes provisions for the establishment of a value-based purchasing demonstration specifically for CAHs and hospitals with an insufficient number of cases for the current HVBP program measures, but this initiative has not been implemented due to a lack of funding.

**Table 2: Participation in Medicare’s Hospital Value-Based Payment Programs**

Hospital Type	All Hospitals		Hospital Readmissions Reduction Program		Hospital Acquired Conditions Reduction Program		Hospital Value-Based Purchasing Program	
	N	N	%	N	%	N	%	
<b>Total Urban</b>	3,849	2,506	65%	2,385	62%	2,266	59%	
<b>Total Rural</b>	2,223	894	40%	869	39%	795	36%	
<b>Inpatient Prospective Payment System (IPPS) Hospitals</b>								
<b>Total</b>	3,477	3,477	100%	3,302	95%	3,090	89%	
• <b>Urban</b>	2506	2,506	100%	2,385	95%	2,266	90%	
• <b>Rural</b>	894	894	100%	869	97%	795	89%	
– <b>IPPS payment (no special designation)</b>	216	216	100%	207	96%	181	84%	
– <b>Medicare Dependent Hospitals</b>	198	195	99%	189	96%	170	86%	
– <b>Sole Community Hospitals</b>	383	379	99%	376	98%	343	90%	
– <b>Rural Referral Centers</b>	221	221	100%	221	100%	217	98%	
• <b>Missing urban/rural information</b>	77	77	100%	48	62%	29	38%	
<b>Non-IPPS Hospitals</b>								
<b>Total</b>	2,672	0	0%	0	0%	0	0%	
• <b>Urban</b>	1,343	0	0%	0	0%	0	0%	
– <b>Urban CAH†</b>	132	0	0%	0	0%	0	0%	
– <b>Other Urban (psychiatric, cancer, rehabilitation, children's hospitals)</b>	1,211	0	0%	0	0%	0	0%	
• <b>Rural</b>	1,329	0	0%	0	0%	0	0%	
– <b>Rural CAH</b>	1,191	0	0%	0	0%	0	0%	
– <b>Other Rural (psychiatric, cancer, rehabilitation, children's hospitals)</b>	138	0	0%	0	0%	0	0%	
CAH=Critical Access Hospital; IPPS=Inpatient Prospective Payment System. †=CAHs must either be located in rural areas or have been certified by the State as a necessary provider of health care services, which “reclassifies” them as rural for payment purposes despite their physical location. Hospitals were considered rural if they were non-metropolitan, i.e. in micropolitan or non-core-based statistical area (CBSA) counties.								

However, for rural IPPS hospitals that are subject to payment modification under value-based payment programs, results have generally been good. For example, rural hospitals subject to the HVBP in FY 2015 had a higher mean total performance score relative to urban hospitals, reflecting better performance in the efficiency and patient experience domains (Figure 1). The higher performance score for rural hospitals translated to a higher average payment: rural hospitals had an average payment adjustment factor of +0.22 percent of base Diagnosis-Related Group (DRG) payments, compared with +0.07 percent for urban hospitals.<sup>f</sup>

**Figure 1: FY 2015 HVBP Performance by Domain for Rural versus Urban Hospitals<sup>g</sup>**



Similarly, for the HACRP in FY 2015, rural hospitals scored better than urban hospitals. Rural hospitals outperformed urban hospitals on the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicator PSI-90 composite measure, which includes factors such as postoperative wound infection rates, as well as on measures of health-care associated infections from the Centers for Disease Control and Prevention (CDC) – such as central line-associated blood stream infection, catheter-associated urinary tract infection, and surgical site infection. Only 14 percent of rural hospitals faced penalties under this program in 2015, compared to 26 percent of urban hospitals (odds ratio: 0.46, p<0.001).

In contrast, in FY 2015, participating rural hospitals were slightly more likely to face penalties in the HRRP program (79 percent) than their urban counterparts (76 percent), and penalties were somewhat larger at rural (0.55 percent) than urban hospitals (0.46 percent, p<0.001, Table 3).

Findings are summarized across programs in Table 3 below.

<sup>f</sup> These are unweighted averages; as HVBP is a budget-neutral program, the overall weighted average of value-based payment adjustments is 0 percent overall.

<sup>g</sup> Hospitals were considered rural if they were non-metropolitan, i.e., in micropolitan or non-core-based statistical area (CBSA) counties.

**Table 3: FY 2015 Penalties in Medicare’s Value-Based Payment Programs**

Medicare value-based payment program	Rural, N (%) of participants penalized	Urban, N (%) of participants penalized	Difference (Rural – Urban)
<b>Hospital Value-Based Purchasing Program</b>	288 (34%)*	1,040 (49%)	-15%
<b>Hospital-Acquired Conditions Reduction Program</b>	129 (14%)*	568 (26%)	-12%
<b>Hospital Readmissions Reduction Program</b>	709 (79%)**	1,902 (76%)	+3%

Source: ASPE’s analysis of FY 2015 Medicare program data. \* Difference from urban hospitals is significant at the 0.001 level.  
\*\* Difference from urban hospitals is significant at the 0.05 level. Hospitals were considered rural if they were non-metropolitan, i.e., in micropolitan or non-core-based statistical area (CBSA) counties.

#### 4. Enabling Factors for Rural Hospitals in Delivery System Reform

The encouraging findings from the analyses above point out that, while rural hospitals face unique barriers, they have a number of strengths that might enable successful participation in and good performance under delivery reform efforts.

First, in some rural communities, hospitals, outpatient facilities, and nursing home facilities are located at the same physical site and share the same owner (AHA 2011; Coburn 2014). A CAH may be the only care provider in a broad geographic area, and may therefore provide care across the service spectrum – from primary and preventive care to post-acute and nursing home care (Town 2011). While in urban areas this type of consolidation may be seen as a threat to market sufficiency, in rural areas in many cases it may be the practical reality. In payment models that reward such coordination and place increasing focus on efficiency and collaborative care, rural hospitals may be poised to perform particularly well.

Rural health care market characteristics might also be particularly beneficial in helping to foster care coordination and cooperation among entities, which is central to successful implementation of many delivery system reform initiatives, particularly those in which both hospitals and other providers are jointly involved. In rural communities, primary care providers operating in Rural Health Clinics (RHCs) and Federally Qualified Health Centers (FQHCs) generally refer to a small network of referral hospitals and post-acute care providers because there are fewer of these providers available, which can encourage collaboration across care types and settings. This may put rural hospitals at an advantage in the types of comprehensive partnerships encouraged under delivery system reform.

Rural settings have also been leaders in pioneering telehealth and other emerging technologies, and use of telemedicine has been growing for rural beneficiaries in Medicare as well as the private sector (Mehrotra 2016). Such infrastructure may be a benefit to rural providers under delivery system reform, because it would increase service capacity and access to care.



Finally, rural hospitals often perform particularly well on patient experience metrics (Figure 1 above, also MedPAC 2012; Jha 2008), in many cases outperforming urban hospitals, and such metrics are increasingly important in performance assessment and payment under new payment and delivery system models across care settings. High levels of trust in providers may facilitate better patient experiences or outcomes both in the inpatient and outpatient setting.

Rural hospitals thus have characteristics that may suggest significant potential to succeed in delivery system reform, when participation is feasible.

## 5. Challenges in Delivery System Reform Faced by Rural Hospitals

On the other hand, there are significant challenges in both qualifying for and succeeding in delivery system reform for rural hospitals. These include:

- Separate payment structure;
- Limited financial resources, which may limit rural hospitals' ability to bear risk;
- Low patient volumes, which can make judging performance problematic;
- Lack of electronic infrastructure, which can make implementation of new programs and reporting requirements challenging; and
- Limited staff, which can make implementation of changes in administrative and care delivery processes difficult.

Overcoming these challenges will be critical to designing programs that can give rural hospitals access to delivery system reform while not putting them at undue financial risk or imposing excessive administrative burdens. Each challenge is discussed in turn below:

### *Separate Payment Structure*

The single largest reason that most rural hospitals are ineligible for the three current mandatory hospital-based delivery system reform programs is payment structure. Sixty percent of all rural hospitals are designated as CAHs, which are not paid under IPSS and thus are not subject to the IPSS-based value-based purchasing programs. This factor alone excludes 60 percent of rural hospitals and 35 percent of urban hospitals from HVBP, HACRP, and HRRP. While some CAHs do voluntarily collect and report quality data through the Inpatient Quality Reporting System that is similar to data used for HVBP, their separate payment mechanism precludes the application of the program to their payments. However, other programs that are not run via the IPSS payment system, such as the Medicare Shared Savings Program, do not have the same eligibility requirements; these are discussed in more detail below.

### *Limited Financial Resources*

Rural hospitals have significantly lower occupancy and a more challenging payer mix, provide more uncompensated care, and have lower margins than urban hospitals. Given that many hospital costs are "fixed costs," occupancy is particularly important to ensure adequate financial stability. Additionally, due to their lower operating revenues and lesser liquidity and access to capital, they may have less ability to "smooth" their revenue over time from reserves or other more stable revenue streams. As a result, rural hospitals may have more difficulty than larger or



more well-resourced systems in taking on the financial risk involved in some alternative payment models (AHA 2011; Alfero 2014). Examples of CMS efforts to provide support in this area, particularly for the Medicare Shared Savings Program, are discussed in more detail below.

### *Low Patient Volumes*

Even rural IPPS hospitals face several additional challenges around the applicability of delivery system reform initiatives, related to volume. First, many rural IPPS hospitals do not meet the required minimum number of beneficiaries or cases for inclusion in some delivery system reform initiatives. For example, HVBP requires a minimum of 25 cases for each clinical outcome measure, to ensure the program does not inadvertently penalize or reward providers based on random variation rather than true quality signal. However, this may be an unrealistic threshold for rural hospitals (Moscovice 2000; Barr 2013; Baloh 2015). The coexistence of different payment programs in a low population density area could exacerbate these volume issues; for example, significant new uptake of Medicare Advantage (MA) in a rural community could segment an already small population, making it difficult to achieve the necessary volume thresholds in fee-for-service hospital care (Baloh 2015).

Low rural hospital patient volumes can also affect the reliability of outcomes measurement, even when minimum volumes are met (AHA 2011; Baloh 2015; Hester 2010; NACRHHS 2012). In the absence of appropriate statistical techniques to deal with this issue, having low patient volumes increases the potential “effect size” of any individual bad outcome; one additional death in a sample of 25 patients could change a hospital’s measured mortality rate significantly, whereas at a larger hospital, any single event is likely to have less of an impact on overall performance rates. Similar issues may arise for resource use measures. Current programs such as the HRRP use Bayesian hierarchical estimation techniques to overcome this issue in low-volume hospitals, though this approach also has limitations.

### *Lack of Infrastructure*

Rural hospitals additionally tend to lag behind urban hospitals in terms of health IT adoption and other infrastructure development, in part because they lack the capital resources to make these investments. Such tools are increasingly important for success under delivery system reform, since IT infrastructure may help facilitate care coordination and performance monitoring (AHA 2011; Baloh 2015; Hester 2010; NRHRC 2014). Although not a problem unique to rural hospitals, facilities may also use different and incompatible electronic health record (EHR) systems, and rural hospitals may be less financially able to adopt a new EHR system to facilitate partnerships and care coordination with other facilities. Rural hospitals also tend to have limited experience adopting electronic care coordination programs and implementing analytics to track performance metrics (Alfero 2014).

### *Limited Staff*

Rural areas face significant limitations in the primary and specialty care physician workforce. For example, in the most urban areas, there are roughly 28 general internal medicine physicians per 10,000 Medicare beneficiaries; this declines to 3.85 per 10,000 in the most rural areas, though family medicine physicians are more evenly distributed (22.0 per 10,000 versus 14.3 per

10,000) (Schmitz 2012). Family physicians may provide urgent and emergent care services in rural areas, functioning with a wider scope of practice given the lack of available specialty care in many remote rural areas (Klink 2014). Specialists are in particularly short supply in rural areas. For example, geriatricians, who may be in increasing demand given the aging of the U.S. population, number 1.5 per 10,000 in the most urban areas and 0.8 per 10,000 in the most rural (Peterson 2011). Additionally, rural areas have shortages in other provider types such as dentists, physician assistants, and nurse practitioners (Schmitz 2012).

One area of increasing need is behavioral health, which is increasingly important under delivery system reform efforts that promote cooperation and care coordination to meet patients' needs in a holistic manner. Rural areas have significant shortages of behavioral health practitioners such as mental health counselors, substance use counselors, and psychiatrists (RHI Hub 2016, SAMHSA 2016). HRSA has qualified approximately 4,000 mental health HPSAs, based on a psychiatrist to population ratio less than 1:30,000, of which the majority are non-metropolitan (HRSA 2016).

There may also be inadequate administrative staff capacity in rural hospitals to take on the organizational and management changes required for implementing reforms (AHA 2011; NACRHHS 2012). Staff may need to "wear multiple hats" as a way to address these issues.

## **6. Current CMS, CMMI, and HRSA Initiatives to Support Rural Delivery System Reform**

CMS and its Innovation Center, CMMI, have implemented a wide range of alternative payment models with potential applicability to the rural setting, some of which utilize the strategies outlined above. Initiatives that have significant participation by rural hospitals include the Medicare Shared Savings Program, the Health Care Innovation (HCIA) Awards, and the State Innovation Models Initiative (SIM). Also, though the details are beyond the scope of this brief, innovations relevant to rural health are taking place in the private sector as well.

*Medicare Shared Savings Program.* ACOs are groups of providers that accept responsibility for the cost and quality of care for a specified group of patients, and though not limited to the hospital setting, are a centerpiece of current delivery system reform efforts that has the potential to involve many rural hospitals and providers. Over 430 ACOs are participating in the Medicare Shared Savings Program (CMS 2015c); overall, as of 2014, 20 percent of U.S. hospitals were part of an ACO. Though hospitals in rural areas were initially less likely to participate than their urban counterparts (Colla 2016), this trend may be changing: CMS reports that over 50 new ACOs with significant rural presence joined the Shared Savings Program in 2016, and more than half of new ACOs included rural providers.

Through CMMI, CMS created two supplemental ACO models for organizations in rural and underserved areas that wish to participate in the Medicare Shared Savings Program but may face limited access to capital: the Advance Payment ACO Model and the ACO Investment Model (AIM).

The Advance Payment ACO Model was intended for rural and physician-based organizations that needed start-up resources in order to participate in a Medicare Shared Savings Program ACO. The model provided advance payments for start-up investments which were then repaid

through earned shared savings (CMS 2013). Similarly, the AIM is now targeting providers in rural areas and other locations with limited Shared Savings Program ACO adoption. This model provides “pre-paid shared savings” in the form of an upfront fixed payment and a series of ongoing per member per month payments, which are repaid through earned shared savings (CMS 2015d). In early 2016, it was announced that 45 ACOs will be supported by the AIM (CMS 2016). Of the 45 AIM participants, most (35 ACOs) have at least 65 percent of their delivery sites located in rural areas, and over half have 85 percent or more of their delivery sites located in rural areas. Around 60 percent of these ACOs (27 of 45) include a CAH or an IPPS hospital with fewer than 100 beds.

*Health Care Innovation Awards.* The HCIA model from CMMI, while not specifically tailored to rural hospitals, has significant rural participation. This initiative provides awards to organizations that are implementing new ideas for improving care delivery and reducing costs for Medicare, Medicaid, and Children’s Health Insurance Program (CHIP) enrollees (CMS 2015e). For Round 1 of HCIA in 2012, the CMS Innovation Center provided grants to 107 awardees, and in 2015 for Round 2, to an additional 39 awardees. Of the 146 total interventions, 28 percent include rural outreach initiatives. At least 21 funded interventions (14 percent) are based in rural settings, and at least 20 additional interventions (14 percent) span both rural and urban settings. Examples of rural hospital grantees included the University of Iowa, which worked in partnership with 10 CAHs to improve care coordination and communication with providers in rural Iowa counties; and Mineral Regional Health Center in Montana, which developed a high performance provider network and worked to standardize operations and efficiencies across the state’s hospitals, including CAHs; additionally, the Wyoming Institute of Population Health, a Division of the Memorial Hospital of Laramie County, created medical neighborhoods in communities across Wyoming, transforming care coordination, clinical decision making, and care delivery, for complex patients in the rural environment.

*State Innovation Models Initiative.* The CMMI SIM initiative provides financial and technical support to states to develop and test state-led, multi-payer health care payment and service delivery models that will improve health system performance, increase quality of care, and decrease costs for Medicare, Medicaid, and CHIP beneficiaries. Almost \$300 million was awarded to 25 states in Round 1, and over \$600 million was provided to 32 awardees (28 states, three territories, and the District of Columbia) in Round 2 (CMS 2015f). At least 15 of the 20 “Model Testing States” (those states supported to implement their State Health Care Innovation Plans) are pursuing initiatives that involve rural providers. Of particular note is the development of value-based payment methodologies in Medicaid for Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs) in Washington State, with flexible payment incentives and care delivery models for CAHs. Washington is also working to develop an ACO with its rural hospitals.

*Other CMS and HRSA Initiatives.* Several other federal programs and projects – administered by the Health Resources and Services Administration (HRSA) and CMS – are designed specifically for rural providers, but are not technically value-based payment or alternative payment models. One example is the Frontier Community Health Integration Project (CMS 2015i),<sup>h</sup> a three year-

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<sup>h</sup> Authority under Section 123 of the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) as amended by section 3126 of the ACA.

long demonstration that aims to provide enhanced payments to develop and test new models of integrated, coordinated care in rural areas. The initiative seeks to promote efficiency in care delivery by integrating acute care, extended care, and other healthcare services in a budget neutral manner. It also has the goal of improving access for Medicare and Medicaid beneficiaries to certain services which are often not financially viable to provide in sparsely populated areas, given low patient volumes. This demonstration is being conducted by 10 CAHs located in Montana, Nevada, and North Dakota.

Another initiative, HRSA's Medicare Rural Hospital Flexibility Program, provides grant funding to 45 states with CAHs to support activities such as the Medicare Beneficiary Quality Improvement Program. This initiative is intended to encourage voluntary reporting on rural-relevant national measures and engagement in quality improvement activities to ensure patients in rural communities have access to high quality care. Currently 96 percent of all CAHs are included in this program, and over the past five years increased quality reporting rates and improved outcomes have been observed among participants.

## **7. Additional Strategies Suggested by External Experts to Support Delivery System Reform in Rural Settings**

Note that the list and explanations below of these approaches do not imply endorsement by the federal government or any agencies. The purpose of this section is rather to provide a summary of the variety of potential solutions that have been proposed by external experts in the field. This information was compiled via a literature review conducted by Mathematica Policy Research in conjunction with ASPE.<sup>1</sup>

A great deal of progress has been made, largely via ACO-oriented programs, in inclusion of rural hospitals in delivery system reform efforts. However, given the potential benefits of value-based purchasing models and delivery system reform for improving care for patients, it is important to find ways for rural hospitals to participate in these efforts broadly.

Fortunately, there are a number of promising additional strategies for tailoring delivery system reforms to accommodate the goals and needs of rural hospitals. These approaches fall into three main categories: measure design, program design, and support services.

### **A. Measure Design**

One potential strategy to support rural delivery system reform may be to develop measures that are specific to the rural setting (Casey 2012, Mueller 2015); these could potentially be used in multiple programs where applicable. For example, a recent project led by the Rural Health Committee at the National Quality Forum (NQF) recommended funding the development of rural-relevant quality measures that address low case volumes and account for rural factors in risk adjustment (NQF 2015). Other particularly rural-relevant quality measures may be those that address appropriate triage and transfer, or access to services either on site or via telemedicine. Others have recommended limiting quality measures to those for services that tend

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to be provided in low-volume rural hospitals, such as for treatment of heart failure and pneumonia, rather than surgical quality measures or measures focused on high-acuity conditions such as acute myocardial infarction and stroke.

Some experts have suggested developing and incorporating rural-specific financial efficiency measures along with clinical quality measures to incentivize hospitals to provide cost-effective care (MacKinney 2012; NACRHHS 2011).

## **B. Program Design**

Another potential strategy may be to design delivery system reform programs that are rural-specific. For example, a bundled payment program for CAHs might be built to function within their cost-based reimbursement structures (Town 2011), or a value-based purchasing program might impose penalties or bonuses via a cost-based multiplier rather than through the DRG system, as currently done for IPPS hospitals. In a cost-based reimbursement setting, programs that incent efficiency – ideally with the intent of achieving cost savings or cost neutrality with quality improvement – may be particularly important.

The NQF has also recommended considering incentive-only payment programs or other financial arrangements so that rural hospitals, often operating on narrower financial margins than their urban counterparts, are not exposed to too-large penalties (NQF 2015). Other program-design suggestions include grouping hospitals with their peers (i.e., those with similar average daily census) when comparing performance, to account for difficult-to-measure factors that may meaningfully differ between groups (MacKinney 2012; NACRHHS 2011).

There also may be opportunities to study entirely new ways of engaging rural hospitals in delivery system reform. For example, under Maryland’s All-Payer Model, a new global budget payment program allowed participating hospitals to more equitably distribute costs such as uncompensated care, and payments to hospitals were adjusted for quality and value without regard to volume and utilization. This program was piloted in the rural setting before expanding statewide (Patel 2015).

Another potential programmatic strategy for addressing issues of low volumes in quality measurement is to include multiple payers, such as Medicare, Medicaid and commercial health plans (Hester 2010). Rural providers could potentially partner with urban providers to create urban-rural care networks, which takes place in some current ACOs, particularly via specialist referral patterns, though rural providers may have concerns about maintaining adequate independence in these arrangements.

In addition, or alternatively, rural providers could participate in groups, for example in a network of rural sites across a wider geographic area than might typically be represented in a more urban setting (Baloh 2015). Participation has grown in this manner among rural ACOs, such as those operated by the [Chautauqua County Health Network](#) in New York, the [Illinois Critical Access Hospital Network](#) (ICAHN), the [Pioneer Health Alliance](#) in Mississippi, and the [Western Healthcare Alliance](#) in Colorado.

### **C. Technical Assistance**

Finally, enhanced technical assistance could be achieved via targeted support for rural hospitals from Medicare's Quality Improvement Organizations (QIO) or other existing groups; support for implementation of electronic health records, investment in necessary IT infrastructure, and assistance with recruitment and retention of personnel may also be necessary. There are a number of examples in which such technical assistance is already available. For example, HRSA administers a number of programs aimed at providing support for workforce development in rural communities (HHS 2016). The Office of the National Coordinator supports Health IT Regional Extension Centers, aimed at assisting health care providers in becoming meaningful users of health IT (ONC 2016). The National Rural Health Resource Center provides toolkits for health IT and performance improvement (NRHRC 2016).

In addition, integrating support into specific CMS and CMMI programs and models can help rural hospitals develop the organizational capacity and infrastructure to undertake more comprehensive delivery system reform that may cross settings and provider types (MacKinney 2012; NACRHHS 2011; NQF 2015). Extensive efforts have been made in this area already, as described above, and as additional rural organizations join such efforts, even more can be learned from their experiences.

### **8. Conclusions**

Rural hospitals provide care and other services for the 59 million Americans living in rural areas, but statutory differences in payment structures and low patient volumes mean that most rural hospitals are not subject to payment incentives resulting from current mandatory hospital-based delivery system reform programs. However, rural hospitals and communities are increasingly represented in other initiatives, such as the Medicare Shared Savings Program, and have many strengths that lend themselves particularly well to the type of coordination and cooperation that delivery system reform hopes to promote. Finding ways to meet the needs of rural hospitals, as well as other providers, across delivery system reform initiatives will continue to be important to successfully implementing delivery system reform in rural settings, and ultimately to improving health and health care in the rural areas where so many Americans live.



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