RUPRI Center for Rural Health Policy Analysis
Rural Policy Brief

Brief No. 2016-3 **JULY 2016** http://www.public-health.uiowa.edu/rupri/

Rural Medicare Advantage Market Dynamics and Quality: Historical Context and Current Implications

Leah Kemper, MPH; Abigail R. Barker, PhD; Lyndsey Wilbers, BA; Timothy D. McBride, PhD; and Keith Mueller, PhD

Purpose

In this policy brief, we assess variation in Medicare's star quality ratings of Medicare Advantage (MA) plans that are available to rural beneficiaries. Evidence from the recent Centers for Medicare & Medicaid Services (CMS) quality demonstration suggests that market dynamics, i.e., firms entering and exiting the MA marketplace, play a role in quality improvement. Therefore, we also discuss how market dynamics may impact the smaller and less wealthy populations that are characteristic of rural places.

Key Data Findings

- Highly rated MA plans serving rural Medicare beneficiaries are more likely to be health maintenance organizations (HMOs) and local preferred provider organizations (PPOs), as opposed to regional PPOs. HMOs and local PPOs may be better able to improve their quality scores strategically in response to the bonus payment incentive due to existing internal monitoring mechanisms.
- On average, the rural enrollment rate is lower in plans with higher quality scores (59 percent) than the corresponding urban rate (71 percent). This differential is likely due, in part, to lack of availability of highly rated plans in rural areas: 17.8 percent of rural counties lacked access to a plan with four or more (out of five) stars, while just 3.7 percent of urban counties lacked such access.
- MA plans with high quality scores have been operating longer, on average, and have a lower percentage of rural counties within their contract service areas than plans with lower quality scores.

Introduction

MA and other prepaid plan enrollment grew to over 17.6 million in March 2016 (31.5 percent of all Medicare beneficiaries), including 2.2 million rural enrollees (21.8 percent of rural Medicare beneficiaries). Provisions in the Patient Protection and Affordable Care Act of 2010 as well as a CMS demonstration project have called attention to the issue of MA contract quality by developing explicit tools with which to measure it and payment methodology with which to reward it.[iii] Annual quality data are now available for 2011-2016, and they can be matched with plan/county enrollment data, county-level benchmark data, and county Urban Influence Codes to describe how MA plan quality is changing in rural and urban places. Additional data on firm experience in the MA market, historical data on MA penetration rates and HMO penetration rates by county, as well as types and characteristics of plans offered (e.g., HMOs, PPOs) helps explain rural/urban quality variation. Market dynamics, meaning the entry and exit of participating firms at the county level over time, may also account for quality variation, although effects may be uneven in rural and urban areas.

Historical Factors

Previous work on MA quality by the RUPRI Center has shown that, despite rural beneficiaries enrolling in plans with lower quality scores overall (Figure 1), MA plans in certain rural regions of the United States are rated at four or five out of five stars.[iii] We identified characteristics that high-quality plans share, or conversely, characteristics that might differentiate them from lower-quality plans in other rural areas.

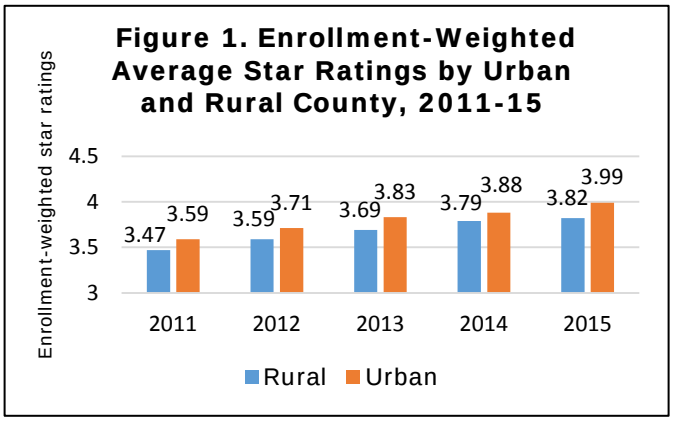
RHRC Rural Health Research & Policy Centers
Funded by the Federal Office of Rural Health Policy
www.ruralhealthresearch.org

This study was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under Grant # U1C RH20419. The information, conclusions and opinions expressed in this policy brief, are those of the authors and no endorsement by FORHP, HRSA, HHS, or the University of Iowa is intended or should be inferred.

RUPRI RURAL POLICY RESEARCH INSTITUTE

RUPRI Center for Rural Health Policy Analysis,
University of Iowa College of Public Health,
Department of Health Management and Policy,
145 Riverside Dr., Iowa City, IA 52242-2007,
(319) 384-3830
http://www.public-health.uiowa.edu/rupri
E-mail: cph-rupri-inquiries@uiowa.edu

In particular, we examined the individual component scores that are aggregated to obtain the summary score, in order to test the hypothesis that highly rated plans in rural areas might excel in particular dimensions. No consistent patterns were found to distinguish the plans with higher quality ratings in rural areas; they had better scores across the majority of the 36 measures used in the composite rating.[4]



Highly rated plans available in rural areas were much more likely to be HMOs or local PPOs, than regional PPOs.[4] An analysis of component scores (not published) also showed that these plan types posted the greatest score gains in the measures weighted more heavily by the CMS scoring model. This finding suggests that structural characteristics of these types of managed care organizations allowed them to readily measure and monitor themselves internally in order to produce targeted score improvements. The finding may also suggest that such plans were simply better at internal care coordination, as suggested above.

A related hypothesis, examined in our current work, is that HMO and local PPO plan types have existed for a longer period than regional PPOs, which could be associated with the plan's quality rating (for instance, higher-rated plans are more likely to survive in the market). Using contract-level data from CMS, we found some relationship between quality rating and contract age (Table 1). Plan-level analysis showed that these results were mostly driven by HMO data.

Table 1. MA Contracts by 2016 Star Rating, Rural Characteristics, and Experience

Stars	Number of Contracts	Average Rural Enrollment Number (%)	Average Number (%) of Rural Counties in Contract	Average Start Date of Contract
2.5	12	2,183 (19%)	201 (57%)	2008
3	65	3,531 (20%)	130 (37%)	2007
3.5	112	3,063 (13%)	148 (34%)	2004
4	102	4,477 (11%)	172 (32%)	2001
4.5	65	3,957 (11%)	93 (28%)	2001
5	12	2,640 (3%)	196 (27%)	1994

Note: Of the 643 contracts in the file, 370 have star data ranging from 2.5 to 5 stars. Of these 368 have uncensored enrollment. The remaining contracts have unavailable star data (84), not enough data to generate a star rating (70) or are too new to have a star rating (119). The data shown represent 85.2% of total enrollment.

Note that as quality scores increase the experience of the issuer increases, as measured by contract start date. At the same time, the percentage of rural counties in contracts decreases as quality ratings improve. The trend is not evident in the raw rural enrollment averages with the exception of the low average rural enrollment in five-star plans, but the trend in the rural enrollment percentages is clear. The 12 five-star contracts average 2,640 rural enrollees each, representing 3 percent of their enrollees. However, their service areas average 196 rural counties each, approximately 27 percent of the total counties in their service areas (Table 1).

The relationship between quality and experience was also seen in the overall history of HMOs in an area and in the historical presence of MA plans in particular. We compared rural counties that currently have contracts with four or more stars to rural counties with no contracts at or above four stars by calculating average county-level HMO penetration rates in 1998 and MA county-level penetration rates for 1998. These measures serve as a rough indicator of local providers' experience operating in a managed care

Table 2. Historic Penetration Rates in Rural Counties by Plan Quality

	Average MA Penetration Rate, 1998	Average HMO Penetration Rate, 1998
Rural counties with 4+ star contracts	10.5%	4.5%
Rural counties with no 4+ star contracts	5.9%	2.3%

Notes: Each plan in the above categories was matched with the relevant penetration rates for the counties in its service area, and average penetration rates were computed across plans in each category. Rates are statistically significantly different, $p < 0.05$.

setting. Table 2 shows that rural counties with existing contracts at or above four stars have an average 1998 MA penetration rate of 10.5 percent, compared to 5.9 percent for counties with no current contracts at or above four stars. Market-wide HMO penetration rates are also statistically significantly different, although the magnitude of the relationship is smaller.

Market Dynamics and Quality

Quality ratings among MA contracts and plans of all types have improved over time.[5] This trend may be due to multiple factors. First, plans may be directly improving their quality, as measured by the component scores mentioned above. Second, lower-scoring plans may be exiting the market and being replaced by higher-scoring plans. Third, consumers may be switching to plans with higher quality ratings, which would shift the enrollment-weighted averages upward. To separate these effects, we sorted the plans that were present in the MA market at some point during 2010-2016 into three categories, by rural and urban service areas: (1) plans that exited by 2016, (2) plans that stayed through 2016, and (3) plans that were not present in 2010 but had entered the market by 2016. Next, we computed enrollment-weighted quality scores at the beginning and end of the time frame. These analyses are reported in the unshaded columns of Table 3.

Table 3. Changes in Enrollment-weighted Quality by Entry/Exit Status of Plan

	Rural			Urban		
2010-2016	2010 quality scores, 2010 enrollment weights	2016 quality scores, 2010 enrollment weights	2016 quality scores, 2016 enrollment weights	2010 quality scores, 2010 enrollment weights	2016 quality scores, 2010 enrollment weights	2016 quality scores, 2016 enrollment weights
Exiting Plans	3.33	--	--	3.28	--	--
Staying Plans	3.51	3.94	3.85	3.59	4.09	4.05
Entering Plans	--	--	3.79	**--**	--	3.89

Note: The shaded middle columns represent a hypothetical intermediate point at which no one in a plan that stays through the course of the four year period switches plans. However, people's actual enrollment choices reflect the fact that new plans are also available and that quality and premiums represent a tradeoff.

Plans with lower quality ratings exited over this timeframe, affecting both urban and rural counties, while plans with higher quality ratings entered. Enrollment-weighted quality ratings of the staying plans were similar to those of the entering plans. Next, we computed a hypothetical third quality average, reported in the shaded columns. This analysis showed what the average quality rating would have been between 2010 and 2016 for staying plans had some enrollees not switched to other plans (or left the MA market altogether). Note that for both rural and urban plans, this value is actually higher than the true enrollment-weighted average, indicating that some enrollees switched from plans with higher quality ratings to plans with lower quality ratings between 2010 and 2016. Although such a shift may seem counterintuitive, note that plans with higher quality ratings may also be more expensive. In addition, we do not know the extent to which rural MA beneficiaries used the quality ratings when making their enrollment decisions. It is also possible that in a few cases, a high quality plan might reduce its service area while still staying in the MA market, and its withdrawal from certain counties could force consumers into lower quality plans.

Availability, Enrollment, and Quality

The factors discussed above are associated with an *average* differential in rural/urban plan quality, but it is also important to consider the rural/urban differential in access to and enrollment in high-scoring plans. Access to plans with four or five stars does indeed vary between rural and urban areas (Table 4). High-quality plans are available in 82.2 percent of rural counties, compared to 96.3 percent of urban counties. The issue of availability also translates into an enrollment differential, because in 350 rural counties no four- or five-star plans are offered, a market characteristic true in only 43 urban counties. However, plan availability alone does not explain enrollment differentials, because even among counties that do have access to high-quality plans, 71.1 percent of urban beneficiaries on average are enrolled in a plan with four or five stars, versus only 59.3 percent of rural beneficiaries.

Table 4. Availability and Percent Enrollment in 4+ Star Plans, Rural vs. Urban, 2015

Characteristics		RURAL	URBAN
		1970 counties	1167 counties
4+ star plan(s) available	average enrollment in 4+ star plans, relative to total MA enrollment in these counties	**59.3%**	**71.1%**
	number of counties with 4+ star plans	1620 counties	1124 counties
	(%)	(82.2% of rural counties)	(96.3% of urban counties)
no 4+ star plan(s) available *	average enrollment in 4+ star plans, relative to total MA enrollment in these counties	**0%**	**0%**
	number of counties with no 4+ star plans *	350 counties	43 counties
	(%)	(17.8% of rural counties)	(3.7% of urban counties)
*Including plans without reported star ratings; see note in Table 1.			

Discussion

A number of factors affect MA plan quality ratings and the availability of highly rated plans in rural and urban areas. HMOs have an advantage because of their longer history in the MA program and their ability to target their care coordination efforts to improve specific MA quality indicators. The data indicate that HMOs with more experience have higher quality ratings, as do plans in counties with higher historic MA and HMO penetration rates. This finding could be explained by strong provider relationships and familiarity with the MA program, which allows insurers to develop quality improvement initiatives and leverage care coordination. Although local PPOs have not been offered for as long as HMOs, they are similar to HMOs in structure and likely benefit from the same strategic advantages. Regional PPOs, however, are the newest addition to the MA program and receive the lowest quality scores of all plan types. Regional PPOs are more widely available in some rural areas than HMOs and local PPOs, leaving some rural beneficiaries with fewer highly rated MA plan options than urban beneficiaries.

Our analysis indicates that the limited high-quality MA options in rural areas are also impacting enrollment. Fewer rural beneficiaries than urban beneficiaries are enrolled in plans with high quality ratings. Although the presence of MA plans continues to grow in rural areas, enrollment-weighted rural quality scores continue to lag behind those in urban areas for the historical reasons mentioned above and, possibly, due to a greater rural preference for less expensive plans. Policy makers may need to adjust MA plan payment and quality rating measures to encourage MA plans operating in rural areas to achieve similar quality ratings to those in urban areas or to encourage high-quality MA plans to expand their service areas in rural markets, as some quality measures are more cost-effective to implement at volume. Payment methodology, despite ACA reform, retains several elements that contribute to geographic disparity.[6] Rural Medicare beneficiaries would likely benefit from having a similar menu of MA plan choices as those available to urban beneficiaries.

Notes

[i] For a detailed analysis of the impact of quality-based bonus payments on rural populations during and after the CMS Demonstration project, see: Kemper, L, A Barker, T McBride, K Mueller. *"Rural Medicare Advantage Plan Payment in 2015."* RUPRI Center for Rural Health Policy Analysis, 2015-12. Available at http://cph.uiowa.edu/rupri/publications/policybriefs/2015/MA%20payment%20brief%202015.pdf

[ii] Quality scores are based on performance measures that are derived from administrative data as well as information collected in three surveys: the Healthcare Effectiveness Data and Information Set (HEDIS), the Consumer Assessment of Healthcare Providers and Systems for MA plans (CAHPS-MA), and the Health Outcomes Survey (HOS). See: *Medicare Payment Advisory Commission*, *Report to the Congress*: *Medicare Payment Policy*. March 2013, retrieved at http://www.medpac.gov/documents/Mar13_EntireReport.pdf. We use scores for all non-sanctioned plans.

[iii] See previous work on this topic(the nationwide map in particular): Kemper, L, A Barker, T McBride, K Mueller. *"2012 Rural Medicare Advantage Quality Ratings and Bonus Payments."* RUPRI Center for Rural Health Policy Analysis, 2014-1. Available at http://cph.uiowa.edu/rupri/publications/policybriefs/2014/Rural%20Medicare%20Advantage%20Quality%20Ratings.pdf

[4] Component measures of the MA plan quality rating can be adjusted, removed and added each year; however the composite quality rating scale has remained the same five star rating system across the years of analysis.

[5] The Henry J. Kaiser Family Foundation, *Medicare Advantage 2016 Data Spotlight: Overview of Plan Changes.* December 5, 2015. Accessed at http://kff.org/report-section/medicare-advantage-2016-data-spotlight-overview-of-plan-changes-quality-ratings/

[6] We discuss these issues in detail and offer specific policy recommendations in our article, "Medicare Advantage under the ACA: Achieving Payment Equity and Incentivizing Quality across Geographic Areas," forthcoming.