RURAL BENEFICIARIES WITH CHRONIC CONDITIONS: ASSESSING THE RISK TO MEDICARE MANAGED CARE

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EXECUTIVE SUMMARY

Using 1992 and 1993 data from the Medicare Current Beneficiary Survey, we examine (1) whether specific chronic conditions are present in greater proportion among rural than urban beneficiaries; (2) whether the cost of treating beneficiaries with chronic conditions is higher in rural than in urban counties; and, (3) whether the cost of treating beneficiaries with chronic conditions, as a portion of projected Medicare payment rates for risk contracting plans, is greater in rural than in urban counties.

We found that rural and urban Medicare beneficiaries over 65 years of age reported similar rates of the four chronic conditions under investigation (diabetes; emphysema, asthma or COPD; arthritis; and rheumatoid arthritis). While the prevalence rates of these chronic conditions were similar across rural and urban counties, in two thirds of the expenditure comparisons Medicare reimbursements for services to rural beneficiaries were significantly less than reimbursements to urban beneficiaries. Therefore, we find that rural beneficiaries are neither sicker (in terms of their likelihood of having chronic conditions) nor more costly (for those with chronic conditions) than urban beneficiaries.

We also examined the magnitude of any difference between observed expenditures and Medicare payment rates (AAPCC payments) among rural versus urban beneficiaries with the same chronic condition. We found no significant rural and urban difference between expenditures and AAPCC payments for any of the four chronic conditions.

In summary, this comparison of Medicare beneficiaries with chronic conditions in rural versus urban counties leads us to conclude that neither prevalence rates, the cost to Medicare of caring for chronically ill beneficiaries, or the cost of caring for these chronically ill beneficiaries relative to AAPCC capitation rates appear to be barriers to the expansion of Medicare managed care in rural areas.

INTRODUCTION

In the interest of lowering Medicare expenditures, some of the recent reforms by Congress and the Clinton Administration have focused on both expanding beneficiary enrollment in TEFRA risk managed care plans and expanding the organizations qualified to serve as Medicare managed care plans. Throughout the duration of the Medicare managed care program, participation by enrollees and managed care organizations in rural areas has lagged behind participation in urban areas (PPRC, 1996; Moscovice, Casey and Krein, 1997). In addition to differences in the level and volatility of Adjusted Average Per Capita Cost (AAPCC) rates in rural areas (GAO, 1996; McBride, Penrod, and Mueller, 1997; PPRC, 1995, 1996), another barrier to the expansion of risk contracts in rural areas is the perception by some managed care organizations that rural Medicare beneficiaries are sicker and more costly to treat than their urban counterparts (Serrato and Brown, 1992).

Risk selection and risk adjustment are important policy issues for the Medicare program as Medicare managed care continues to grow. Medicare's current method of risk-adjusting capitation payments, which is based on age, sex, disability, institutional status, Medicaid status, and employment status starting in 1995, has been criticized as inadequate (PPRC, 1996). Models that add measures of health status, prior health care use, and specific disease conditions explain a greater proportion of the variation in Medicare costs than do the demographic factors used in calculating the AAPCC rate, but the amount of unexplained variation is still substantial (PPRC, 1996).

There is some evidence that the prevalence of many chronic conditions common in the Medicare population, including diabetes, heart disease, hypertension, and arthritis, is higher in rural than urban areas (U.S. Congress, Office of Technology Assessment, 1990). If chronic conditions are more prevalent in rural areas, and if present reimbursement methods do not adequately adjust for chronic

illness, this may create a deterrent to MCO expansion to rural markets. The purpose of this study is to address three related questions: First, are chronic conditions more prevalent among Medicare beneficiaries in rural settings? Second, what are the costs to Medicare of treating rural versus urban Medicare beneficiaries with chronic conditions? Third, is the "shortfall" (i.e., the difference between actual reimbursements and projected AAPCC payment rates) greater for rural residents than for urban residents with chronic conditions? The answers to these questions will shed light on whether issues relating to chronic illness among rural Medicare beneficiaries should discourage expansion of MCOs to rural areas.

DATA AND METHODS

Data from the 1992 and 1993 Medicare Current Beneficiary Survey (MCBS) were used to investigate these questions. The MCBS is a continuous panel survey of a nationally representative sample of the Medicare population, including both aged and disabled enrollees. In-person interviews are conducted three times each year and compiled annually. Respondents provide information on use of health services, medical expenditures, health insurance coverage, health status, and self-reported chronic conditions. Survey data then are linked to Medicare administrative and claims data for all respondents. Given the annual sample size, the survey has a sufficient number of cases to allow separate analysis of rural and urban respondents. For example, the 1992 MCBS release compiled data on 13,039 beneficiaries, of whom 3,495 (26.8 percent) reside in rural areas. The 1993 MCBS compiled data on 12,330 beneficiaries, of whom 3,221 (26.9 percent) are residents of rural counties. MCBS data were merged with a file from the U.S. Department of Agriculture's Economic Research Service containing Urban Influence codes; this file classifies all U.S. counties into rural, urban adjacent, and urban categories based on the size of the Metropolitan Statistical Area. Data on Medicare AAPCC

standardized per capita rates of payment for risk plan contractors and the demographic cost factors for 1992 and 1993 were downloaded from HCFA's web site and merged at the county level with the MCBS data. Using these data plus the demographic data in the MCBS surveys, we assigned each respondent to the appropriate AAPCC rate cell (based on age, sex, Medicaid and institutional status) and calculated annual capitated payments for all survey respondents.

Given the nature of the research questions concerning respondent's annual reimbursements and projected AAPCC payment rates, a number of exclusion criteria were applied to the initial MCBS sample. To begin with, given our interest in the Medicare aged population, we excluded from the study sample respondents with end stage renal disease (ESRD) or disabled under age 65 (see Table 1). The analyses also excluded respondents who a) spend some portion of the year in both community and institutional settings (making AAPCC cell assignment impossible), b) had been enrolled in a TEFRA risk plans during the year of interest (primarily residents of urban counties), or c) had not been eligible for both Part A and Part B of the Medicare program the full 12 months or until death in that year.[1] In addition, cases for whom we could not assign an urbanicity code were omitted (e.g., residents of Puerto Rico).

All analyses examine both two-way and three-way urbanicity comparisons. Two-way comparisons distinguish between rural and urban counties. Three-way comparisons further differentiate between rural counties that are adjacent to urban counties and those that are not.

The MCBS data are based on a stratified area probability, multi-stage sample design. All analyses were performed using SUDAAN (Survey Data Analysis for Multistage Sample Design)

[1] Mortality rates and days of survival among decedents in 1992 and 1993 were not significantly different for rural and urban beneficiaries.

Table 1

Construction of Analysis Sample

Exclusion Criteria	1992 MCBS	1993 MCBS
Initial sample	13,039	12,330
Deletions from sample:	-2,434	-2,150
• Young disabled (<65) and ESRD beneficiaries	-228	-255
• Combined community and institutional residence	-657	-756
• Managed care participation during year of interest	-1,165	-477
• Not Part A and B eligible the entire year	-105	-122
• Missing urbanicity data		
Analysis sample for this study	8,450	8,570

software, which computes population estimates and associated variance estimates for data like the MCBS that employ complex sampling designs. Weighted estimates with chi-square and mean comparison tests are reported.

RESULTS

Are chronic conditions present in a greater proportion of rural versus urban beneficiaries?

First, we examine whether four common chronic conditions of interest (i.e., diabetes; emphysema, asthma or COPD; arthritis; or rheumatoid arthritis) are more prevalent in rural settings. In general, in both 1992 and 1993, we found that the four conditions were equally common among rural and urban beneficiaries (see Tables 2a and 2b). Approximately 16 percent of rural and urban elderly beneficiaries reported having diabetes in 1992 and 1993. On average, almost 14 percent of beneficiaries reported one of the three pulmonary conditions. However, in 1993 the three-way urbanicity comparison indicates that pulmonary disease was more prevalent among rural beneficiaries than among beneficiaries in urban and urban adjacent counties (Table 2b). Arthritis was the most common condition, affecting over 50 percent of elderly beneficiaries both years. Approximately 13 percent of beneficiaries reported having rheumatoid arthritis in 1992 and 1993. Prevalence of arthritis and rheumatoid arthritis was similar in rural and urban counties in both 1992 and 1993.

Is the cost of treating beneficiaries with chronic conditions higher in rural versus urban areas?

Medicare categorizes expenditures according to the type of service provided. Part A expenditures cover inpatient services (i.e., hospitals, skilled nursing facilities, and hospice), and Part B costs include outpatient and physician/supplier services, as well as durable medical

Table 2A

Prevalence of Chronic Conditions Among Rural and Urban Medicare Beneficiaries in 1992 (Sample n in Parentheses)

	Total	Rural	Urban	Rural	Urban Adjacent	Urban
Diabetes	15.7%	15.7%	15.7%	16.5%	15.3%	15.7%
(weighted n=4,279,358)	(1,319)	(390)	(929)	(137)	(253)	(292)
Emphysema, asthma, COPD	13.6%	14.2%	13.4%	16.1%	13.3%	13.4%
(weighted n=3,700,698)	(1,132)	(341)	(791)	(130)	(211)	(791)
Arthritis	52.9%	53.3%	52.8%	55.3%	52.4%	52.8%
(weighted n=14,379,567)	(4,548	(1,331)	(3,217)	(453)	(878)	(3,217)
Rheumatoid arthritis	12.9%	13.1%	12.8%	14.7%	12.3%	12.8%
(weighted n=3,497,242)	(1,114)	(328)	(786)	(122)	(206)	(786)

Note: Two-way and three-way comparisons indicate no significant rural/urban differences.

Table 2B

Prevalence of Chronic Conditions Among Rural and Urban Medicare Beneficiaries in 1993 (Sample n in Parentheses)

	Total	Rural	Urban	Rural	Urban Adjacent	Urban
Diabetes	16.5%	16.0%	16.7%	15.5%	16.3%	16.7%
(weighted n=4,486,951)	(1,406)	(411)	(995)	(139)	(272)	(995)
Emphysema, asthma, COPD	13.8%	14.1%	13.7%	17.1%	12.7%	13.7%
(weighted n=3,759,144)	(1,193)	(358)	(835)	(149)	(209)	(835)
Arthritis	56.1%	56.7%	55.8%	59.2%	55.4%	55.8%
(weighted n=15,189,872)	(4,900)	(1,445)	(3,455)	(508)	(937)	(3,455)
Rheumatoid arthritis	14.1%	14.0%	14.1%	16.4%	12.7%	14.1%
(weighted n=3,862,065)	(1,251)	(369)	(882)	(147)	(222)	(882)

Note: Two-way comparisons indicate no significant rural/urban differences. Three-way comparisons indicate greater prevalence of pulmonary disease in rural counties as compared to urban adjacent and urban areas ($p<.05$).

equipment and home health agency expenses. All results are presented separately for Part A and Part B expenditures.

As shown in Tables 3 and 4, average annual Part A and Part B expenditures were generally lower among rural than urban residents reporting chronic conditions. In most cases, reimbursements for rural residents were significantly lower (21 of the 32, or 66 percent, of the reimbursement comparisons). For example, in the two-way comparison presented in the first row of Table 3, average 1992 Medicare inpatient (Part A) reimbursements were $1,459 less for rural diabetics than for urban diabetics. The three-way comparison shown in the last four columns of Table 3 again indicates that inpatient reimbursements for diabetics were significantly lower (by approximately $1,600) in rural counties. However, Medicare inpatient expenditures among diabetics living in rural counties adjacent to an urban county fall somewhere in between and are not significantly different than spending among rural non-urban adjacent and urban diabetics. The two-way comparison of Part B services indicates annual reimbursements that are approximately $700 less for rural residents in 1992. Furthermore, the three-way comparison shows that diabetics living in rural and urban adjacent counties were less costly on average than urban diabetics. By contrast, 1993 Part A and B expenditures for diabetic beneficiaries did not differ significantly among rural and urban counties.

For the most part, rural residents with emphysema, asthma or COPD had significantly lower Part A expenditures than urban residents with these conditions in both 1992 and 1993 (the exception is the two-way comparison in 1992). However, there were no significant differences in Medicare Part B spending by urbanicity among beneficiaries with pulmonary disease.

Examining reimbursements among beneficiaries with the most common condition, arthritis, reveals the most consistent pattern. In 1992 and 1993 the two-way and three-way

Table 3

Average Annual Medicare Part A and Part B Reimbursements per Chronic Condition Among Rural and Urban Medicare Beneficiaries in 1992 (Standard Errors in Parentheses)

Part A Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	2412.68 (417.26)	3861.56 (337.76)	2.70**	2228.72 (464.68)	2506.39 (653.66)	3861.56 (337.76)	(1,3) 2.81**
Emphysema Asthema COPD	2944.08 (466.78)	3602.86 (307.76)	NS	2320.02 (502.65)	3302.02 (658.93)	3602.86 (306.76)	(1,3) 2.25*
Arthritis	1705.76 (117.31)	2475.83 (137.96)	4.22***	1843.69 (196.32)	1636.83 (172.03)	2475.83 (137.96)	(1,3) 2.66** (2,3) 3.69***
Rheumatoid Arthritis	1791.82 (276.16)	2976.09 (292.05)	2.97**	2297.46 (621.13)	1505.83 (270.42)	2976.09 (292.05)	(2,3) 3.88***

Part B Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	1236.81 (125.24)	1928.77 (102.96)	4.38***	1036.10 (122.04)	1339.05 (157.07)	1928.77 (102.96)	(1,3) 5.73*** (2,3) 3.21**
Emphysema Asthema COPD	1611.47 (146.87)	1770.04 (101.24)	NS	1462.55 (129.43)	1696.89 (205.16)	1770.04 (101.24)	NS
Arthritis	1076.70 (63.35)	1466.97 (48.13)	4.86***	1027.13 (65.52)	1101.47 (90.90)	1466.97 (48.13)	(1,3) 5.27*** (2,3) 3.55***
Rheumatoid Arthritis	923.25 (61.98)	1481.94 (81.59)	5.52***	893.09 (98.14)	940.31 (81.63)	1481.94 (81.59)	(1,3) 4.55*** (2,3) 4.82***

*p<.05, **p<.01, ***p<.001, NS = not significant

Table 4

Average Annual Medicare Part A and B Reimbursements per Chronic Condition Among Rural and Urban Medicare Beneficiaries in 1993 (Standard Errors in Parentheses)

Part A Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	3739.93 (323.87)	3855.20 (376.61)	NS	4106.62 (837.23)	3568.51 (429.86)	3855.20 (376.61)	NS
Emphysema Asthema COPD	2538.21 (378.23)	3795.97 (456.11)	2.15*	2126.08 (463.93)	2812.52 (494.26)	3795.97 (456.11)	(1,3) 2.56**
Arthritis	1947.54 (169.23)	2614.18 (165.58)	2.91**	1922.53 (203.44)	1960.67 (217.38)	2614.18 (165.58)	(1,3) 2.62** (2,3) 2.49*
Rheumatoid Arthritis	2380.13 (458.80)	3207.84 (274.40)	NS	2343.06 (519.06)	2403.64 (564.13)	3207.84 (274.40)	NS

Part B Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	1645.32 (138.71)	1881.60 (87.31)	NS	1530.22 (224.60)	1699.12 (177.04)	1881.60 (87.31)	NS
Emphysema Asthema COPD	1593.19 (165.62)	1769.54 (88.01)	NS	1601.93 (136.48)	1587.37 (264.30)	1769.54 (88.01)	NS
Arthritis	1098.46 (52.88)	1496.70 (45.59)	5.94***	1087.22 (63.76)	1104.36 (77.56)	1496.70 (45.59)	(1,3) 5.23*** (2,3) 4.53***
Rheumatoid Arthritis	1129.01 (107.97)	1620.52 (78.39)	3.69***	1087.19 (178.17)	1155.55 (138.08)	1620.52 (78.39)	(1,3) 2.67** (2,3) 3.02**

*p<.05, **p<.01, ***p<.001, NS = not significant

comparisons show that rural beneficiaries (both non-adjacent and urban-adjacent) with arthritis had lower Medicare expenditures than urban beneficiaries with arthritis. Specifically, rural beneficiaries' reimbursements were approximately $700 lower for Part A services and approximately $400 lower for Part B services than their urban counterparts. Similarly, 1992 and 1993 Medicare Part B expenditures were significantly lower among rural beneficiaries with rheumatoid arthritis, however, rural and urban differences in Part A reimbursements were statistically significant only in 1992.

Is the cost of treating beneficiaries with chronic conditions, as a portion of projected AAPCC payment, greater in rural versus urban areas?

Because beneficiaries with chronic conditions are expected to use more medical care on average than other beneficiaries with similar demographic characteristics, the difference between observed expenditures and projected AAPCC payments (the "difference score") should be positive on average in each condition category. A positive difference score indicates that the AAPCC payment does not cover the MCOs' costs of caring for beneficiaries with chronic conditions. A negative difference score indicates that the AAPCC payment to a managed care plan would exceed the actual cost of caring for the chronically ill beneficiary.

As indicated in Tables 5 and 6, 1992 and 1993 Part A difference scores among beneficiaries with diabetes and pulmonary disease were in the expected direction and are the largest (among the chronic conditions) in magnitude. For the total sample (i.e., rural and urban beneficiaries combined) the AAPCC payment for diabetics, on average, fell $1,187 short of actual annual Part A reimbursements in 1992, and approximately $1,216 short in 1993 (results for total sample are not shown in tabular form). Part B AAPCC payment rates for diabetics were approximately $223 and $143 short of observed reimbursements in 1992 and 1993, respectively.

Table 5

Average Annual Difference Between Medicare Part A and Part B Reimbursements and AAPCC Payment Rates per Chronic Condition Among Rural and Urban Medicare Beneficiaries in 1992 (Standard Errors in Parentheses)

Part A Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	477.84	1567.48	NS	274.00	581.07	1567.48	NS
	(409.90)	(345.33)		(462.75)	(645.92)	(345.33)	
Emphysema Asthema COPD	1050.60	1250.40	NS	402.91	1422.10	1250.40	NS
	(467.90)	(306.24)		(485.59)	(666.68)	(306.24)	
Arthritis	-112.67	142.05	NS	26.29	-182.11	142.05	NS
	(120.51)	(131.54)		(175.83)	(168.38)	(131.54)	
Rheumatoid Arthritis	-16.04	589.41	NS	440.04	-274.00	589.41	NS
	(280.83)	(290.30)		(605.09)	(277.62)	(290.30)	

Part B Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	35.59	296.71	NS	-208.39	159.88	296.71	(1,2) 2.41*
	(118.55)	(102.77)		(84.28)	(150.26)	(102.77)	(1,3) 3.87***
Emphysema Asthema COPD	415.90	162.09	NS	262.60	503.83	162.09	NS
	(132.49)	(101.46)		(120.84)	(186.02)	(101.46)	
Arthritis	-69.02	-119.65	NS	-146.79	-30.15	-119.65	NS
	(37.11)	(48.51)		(50.48)	(61.81)	(48.51)	
Rheumatoid Arthritis	-211.81	-137.14	NS	-294-43	-165.08	-137.14	NS
	(68.13)	(78.77)		(110.46)	(85.27)	(78.77)	

*p<.05, **p<.01, ***p<.001, NS = not significant

Table 6

Average Annual Difference Between Medicare Part A and Part B Reimbursements and AAPCC Payment Rates per Chronic Condition Among Rural and Urban Medicare Beneficiaries in 1993 (Standard Errors in Parentheses)

Part A Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	1529.43	1097.82	NS	1888.31	1361.67	1097.82	NS
	(334.30)	(262.35)		(836.14)	(437.30)	(262.35)	
Emphysema Asthema COPD	408.93	1091.46	NS	-24.53	697.43	1091.46	NS
	(362.83)	(452.89)		(445.65)	(486.43)	(452.89)	
Arthritis	-131.63	-24.24	NS	-167.35	-112.86	-24.24	NS
	(152.57)	(156.38)		(187.20)	(201.10)	(156.38)	
Rheumatoid Arthritis	341.09	506.47	NS	145.50	301.74	506.47	NS
	(460.76)	(259.57)		(512.03)	(555.97)	(259.57)	

Part B Costs	Rural	Urban	t-test	Rural (1)	Urban Adjacent (2)	Urban (3)	Pairwise Comparison
Diabetes	294.78	85.74	NS	147.06	363.83	85.74	NS
	(128.16)	(80.49)		(231.17)	(147.00)	(80.49)	
Emphysema Asthema COPD	258.32	1.77	NS	271.17	249.77	1.77	NS
	(140.40)	(85.69)		(140.57)	(226.60)	(85.69)	
Arthritis	-188.92	-232.47	NS	-218.49	173.39	-232.47	NS
	(36.75)	(43.47)		(65.53)	(42.00)	(43.47)	
Rheumatoid Arthritis	-163.19	-136.15	NS	-243.53	-112.22	-136.15	NS
	(115.99)	(70.66)		(194.26)	(131.73)	(70.66)	

*p<.05, **p<.01, ***p<.001, NS = not significant

The results for all beneficiaries with pulmonary conditions were similar to those for diabetics, although slightly smaller in magnitude.

Different scores among beneficiaries reporting rheumatoid arthritis were the next largest in magnitude, and were positive for Part A services (indicating a shortfall for MCOs of approximately $415 in 1992 and $432 in 1993), but were negative for Part B services. Of course, a MCO's decision to move into a market would be influenced by the direction and magnitude of the results for both types of services combined. In this case, the combined cost of caring for beneficiaries with rheumatoid arthritis exceeds the AAPCC payment. Difference scores were smallest in magnitude for beneficiaries with arthritis (a $70 Part A difference in 1992 and a $55 difference in 1993).

To summarize, with regard to the total care (Part A and B services combined) of beneficiaries with chronic conditions, the AAPCC rate, as expected, is less than Medicare fee-for-service reimbursements for caring for beneficiaries with diabetes, pulmonary disease, or rheumatoid arthritis.

This raises the question of whether difference scores vary significantly between rural and urban beneficiaries with chronic conditions. As presented in Tables 5 and 6, the difference between actual Medicare reimbursements and projected capitated payments to MCOs was similar in magnitude for rural and urban beneficiaries for the conditions of interest. The only exception (representing only three percent of the total comparisons made) is in the three-way comparison of Part B spending for diabetics in 1992. The data show that the difference score for rural beneficiaries with diabetes was significantly lower than the difference score for diabetics living in urban adjacent and urban counties; moreover, in rural counties, the capitated payment to MCOs would exceed the actual costs for Part B services. In contrast, in urban adjacent and urban counties, the AAPCC payment would not cover the cost for Part B services to beneficiaries with diabetes. Again, taking the total cost of caring for diabetics into account

(both Part A and B expenditures), observed expenditures exceeded capitated payments among diabetics in rural, urban adjacent and urban counties.

CONCLUSIONS

This paper examines issues related to the potential financial impact of enrolling rural Medicare beneficiaries with selected chronic conditions in Medicare risk plans. We examined the prevalence of Medicare beneficiaries with chronic conditions in rural areas, the cost to Medicare of caring for rural beneficiaries with chronic conditions, and reimbursements for chronically ill beneficiaries relative to projected AAPCC payment rates. In summary, we found that rural and urban Medicare beneficiaries over 65 years of age reported similar rates of the four chronic conditions under investigation (diabetes; emphysema, asthma or COPD; arthritis; and rheumatoid arthritis) during 1992 and 1993. The only exception was that rural beneficiaries reported higher rates of pulmonary disease in 1993 than beneficiaries living in urban counties or rural counties adjacent to urban counties.

While the prevalence rates of these chronic conditions were similar across rural and urban counties, in general Medicare expenditures for beneficiaries with these conditions were significantly lower in rural counties. In two thirds of the expenditure comparisons, reimbursements were significantly less for rural than for urban beneficiaries. Therefore, not only are rural beneficiaries no more likely to have chronic conditions than urban beneficiaries, on average they cost less to treat.

As expected, we found that the AAPCC rate is lower than the cost of caring for Medicare beneficiaries with diabetes, pulmonary disease, and rheumatoid arthritis, irrespective of whether they resided in rural or urban areas. This is not surprising as the AAPCC rate is based on average expenditures of beneficiaries adjusting for demographic characteristics, not for health status or presence of disease.

If the difference between actual expenditures and the AAPCC payment rate was greater in rural than in urban counties, MCOs might be discouraged from entering rural markets. Instead, we found this "difference score" was not significantly higher or lower in rural as compared to urban counties. These results indicate that, even under the current Medicare reimbursement methodology for risk-based plans, chronic conditions among Medicare beneficiaries should not discourage MCOs from entering rural areas. In fact, changes in AAPCC reimbursement policy contained within the Balanced Budget Act of 1997 (which, among other things, establishes a minimum payment rate raising the capitation rate for approximately 44 percent of rural non-adjacent counties in 1998) may create greater incentives to MCOs interested in entering rural markets (RUPRI, 1997).

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