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Effects of Caps on Cost Sharing for Skilled Nursing Facility Services in Medicare Advantage Plans

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Abstract

OBJECTIVES—To evaluate a federal regulation effective in 2011 that limited how much that Medicare Advantage (MA) plans could charge for the first 20 days of care in a skilled nursing facility (SNF).

DESIGN—Difference-in-differences retrospective analysis comparing SNF utilization trends from 2008–2012.

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SETTING—Select MA plans.

PARTICIPANTS—Members of 27 plans with mandatory cost sharing reductions (n=132,000) and members of 21 plans without such reductions (n=138,846).

MEASUREMENTS—Mean monthly number of SNF admissions and days per 1,000 members; annual proportion of MA enrollees exiting the plan.

RESULTS—In plans with mandated cost sharing reductions, cost sharing for the first 20 days of SNF care decreased from an average of \$2,039 in 2010 to \$992 in 2011. In adjusted analyses, plans with mandated cost-sharing reductions averaged 158.1 SNF days (95% confidence interval (CI)=153.2–163.1 days) per 1,000 members per month before the cost sharing cap. This measure increased by 14.3 days (95% CI=3.8–24.8 days, $p=0.009$) in the 2 years after cap implementation. However, increases in SNF utilization did not significantly differ between plans with and without mandated cost-sharing reductions (adjusted between-group difference: 7.1 days per 1,000 members, 95% CI=–6.5–20.8, $p=.30$). Disenrollment patterns did not change after the cap took effect.

CONCLUSIONS—When a federal regulation designed to protect MA members from high out-of-pocket costs for postacute care took effect, the use of SNF services did not change.

Keywords

Post-acute care; cost-sharing; Medicare; managed care

More than 17.6 million Medicare beneficiaries belong to Medicare Advantage (MA) managed care plans¹ that must provide benefits that are at least equivalent to traditional Medicare. MA plans can appeal to beneficiaries by offering low cost-sharing for common services or extra benefits like dental and vision coverage. Because MA plans have flexibility in their benefit design, historically MA plans have been able to impose greater copayments than traditional Medicare for expensive services, including postacute care. Traditional Medicare has no copayments for the first 20 days of skilled nursing facility (SNF) services, but in 2011, MA members faced cost sharing requirements for these services that averaged between \$467 and \$680.² Large out-of-pocket costs may be burdensome for MA enrollees. These out-of-pocket requirements may also contribute to high rates of disenrollment from MA plans to traditional Medicare among beneficiaries who use SNF services.³

To address concerns that high cost sharing discriminates against sicker MA enrollees, in 2011 the Centers for Medicare and Medicaid Services (CMS) began capping allowable cost sharing amounts in MA plans for specific services, including inpatient, home health, and SNF care. CMS also required plans to provide an out-of-pocket limit, or an annual maximum cap on total cost-sharing across all services.^{4,5} For plans with the highest out-of-pocket limits (\$6,700), cost-sharing for the first twenty days of SNF services could be no more than \$50 per day, or \$1,000 total.

This new policy provides the opportunity to examine whether cost sharing changes have influenced MA members' use of SNF services. In recent years, postacute care has attracted policymakers' attention because of high Medicare spending growth and substantial geographic variation, with some observers recommending increasing postacute cost sharing

to contain spending.^{6–9} Evidence of beneficiaries' response to SNF cost sharing is lacking. Economic theory suggests that a reduction in SNF cost sharing would increase use of postacute care. Alternatively, if out-of-pocket costs do not influence SNF use, other factors, such as provider recommendations and MA plan utilization management strategies, may have a greater effect on postacute care use.^{8,10} Capping cost sharing may provide important financial protection for beneficiaries, especially those who are frail. Furthermore, beneficiaries' price insensitivity would suggest that increasing cost sharing would be unlikely to substantially reduce Medicare spending for SNF services. As policymakers increase oversight of MA benefits and consider cost sharing changes, better evidence of the consequences of these strategies is urgently needed. Clinicians should be aware that these policy changes may affect whether postacute care places significant financial burdens on beneficiaries.

METHODS

Study Design

To evaluate the policy change, we analyzed monthly SNF use in plans with mandated cost sharing reductions over the 3 years before and 2 years after implementation of the 2011 SNF cost sharing cap (2008–2012). A difference-in-differences analysis was used to compare these plans' changes with concurrent trends in plans that the cap did not directly affect because they already required less than \$1,000 cost sharing for the first 20 days of SNF services in 2010.

Study Data

To identify each MA plan's annual cost sharing requirements, we analyzed benefit descriptions that MA plans provided for the Medicare Plan Finder website for 2008 to 2012. The Master Beneficiary Summary File and Health-care Effectiveness Data and Information Set provided person-level data on plan enrollment, demographic characteristics, participation in financial assistance programs (Medicaid, Part D Low Income Subsidy), date of death, and annual number of inpatient stays and days.

We measured beneficiaries' SNF use by linking service use dates from Minimum Data Set (MDS) records. Medicare- and Medicaid-certified nursing homes complete MDS assessments for all beneficiaries, including MA members.¹¹ Because MDS records do not specify payer source, we assumed based on Medicare coverage guidelines that the MA plans' SNF benefit covered the first 100 days of any nursing home stay and excluded subsequent days from our analysis.

Plan Selection

MA plans faced several new cost sharing restrictions in 2011, so we selected plans that allowed the analysis to focus on SNF cost sharing reductions. Supplementary Figure S1 details the selection criterion. In 2011, CMS required almost all MA plans to offer an annual out-of-pocket limit of at most \$6,700. Plans that offered more generous out-of-pocket limits (maximum \$3,400) could require higher cost sharing for SNF services,⁵ so we excluded these plans. We also excluded plans that changed their premiums, introduced new out-of-

pocket limits in 2011, or had fewer than 100 continuously enrolled members. CMS also capped SNF cost sharing for days 21 and beyond to be the same as traditional Medicare cost sharing (\$141.50 per day in 2011), a requirement that all study plans met for days 21 to 30 before 2011. Our final cohort included 27 plans with mandated cost sharing reductions and 21 plans without mandated reductions.

Study Population

Our cohort included beneficiaries continuously enrolled in the same MA plan from January 2008 through December 2013, including those who had died and had been continuously enrolled until death. We focused on this population to observe the same beneficiaries before and after the policy change. Although we analyzed SNF use for 2008 to 2012, our criteria for continuous enrollment extended to 2013 so that we consistently measured SNF use of beneficiaries who remained in their plan the following year.

We excluded beneficiaries with Medicaid coverage of cost sharing and censored beneficiaries' study participation if they gained such coverage during the study period.

Measures

The two main outcome measures were mean monthly number of SNF admissions and days per 1,000 MA enrollees for SNF stays initiated between January 1, 2008, and December 31, 2012. When analyzing monthly SNF days, we excluded January through March 2008 because we did not observe days from SNF stays that started in late 2007 and extended to these months. As secondary outcomes, we examined changes in the annual number of inpatient admissions and days per 1,000 MA enrollees. We also analyzed differences in the annual rates of plan disenrollment or gaining Medicaid coverage of all beneficiaries enrolled in study plans in 2008.

Analyses

Using a generalized linear model with a normal distribution, we compared SNF usage changes between the pre-cap (2008–10) and post-cap (2011–12) periods. The unit of analysis was the plan-month, weighted by the monthly number of plan members. Our model included 2 binary variables; the first identified plans with mandatory cost sharing reductions, and the second identified post-cap months. The interaction of these 2 variables indicated whether changes in the level of SNF use after the cap differed for plans with and without mandated cost sharing reductions. Our model also included a monthly linear trend variable, which we interacted with both indicator variables to determine whether trends over time in SNF use (the slope) changed differently in these 2 sets of plans. The model included plan fixed effects to control for time-invariant plan characteristics. Standard errors were clustered at the plan level.

To account for a transition period when MDS assessments changed in October 2010, our model included an indicator variable for September to November 2010. We assumed that this transition would have similar effects on study measures regardless of whether plans were required to reduce cost sharing levels.

To assess whether changes in inpatient use, plan dis-enrollment, and Medicaid entry differed between plans with and without mandated cost sharing changes, we estimated a difference-in-differences model in which the unit of analysis was a plan-year, weighted by the annual number of plan members. In addition to plan fixed effects, the model included indicator variables for plans with mandated cost sharing reductions, the post-cap period, and the interaction of those 2 terms. Standard errors were clustered at the plan level.

Sensitivity Analyses

Some populations may be more price sensitive to cost sharing changes, so we performed separate analyses for several subgroups defined according to age, sex, race, and receipt of financial assistance for Part D or Medicare premiums. Because most members in plans with no mandatory cost sharing reductions lived in southern states, one sensitivity analysis included only beneficiaries in this region. We also tested whether results changed after including all beneficiaries enrolled in a study plan at baseline, including those who disenrolled in later years.

Supplementary Appendix S1 details several analyses that explored whether results changed when measuring only the first 40 days of SNF use or when considering changes in other plan benefits. Information on the characteristics of SNF users over time is also available in Supplementary Appendix S1.

The institutional review boards of Vanderbilt University and Brown University approved this study.

RESULTS

Plans with mandated cost sharing reductions had a larger share of members who were younger, female, white, or received financial assistance for Medicare or Part D premiums than plans that already met the SNF cost sharing caps (Table 1). From 2010 to 2011, plans with mandated cost sharing reductions decreased total cost sharing for the first 20 days of SNF services by an average of \$1,047 (Table 1, Supplementary Figure S2). These plans' mean 2011 total cost sharing (\$992) was close to the maximum allowed amount. Plans with mandated SNF cost sharing reductions also changed other benefits between 2010 and 2011 (Supplementary Table S1); total cost sharing for days 21 to 30 of a SNF stay increased by an average of \$454, total cost sharing for a 6-day inpatient stay declined by an average of \$92, and annual out-of-pocket limits on overall spending increased by an average of \$469.

Before the cost sharing cap, plans with mandated cost sharing reductions averaged 5.0 SNF admissions and 158.1 SNF days per month per 1,000 members (Figure 1, Supplementary Figure S3) in adjusted analyses. During the same period, plans without mandated cost sharing reductions averaged 5.0 SNF admissions and 107.8 SNF days per month per 1,000 members. Trends for these measures did not differ during the pre-cap period between these sets of plans (Table 2, Supplementary Table S2).

Plans with mandated cost sharing reductions did not have larger changes in SNF use after the cap implementation than plans without mandated cost sharing reductions (Table 2). The

monthly number of SNF days per 1,000 members increased by 14.3 days (95% CI=3.8–24.8, $p=0.009$) after the cap implementation in plans with mandated cost sharing reductions, although this increase was not significantly larger than concurrent changes in plans without mandatory cost sharing reductions (adjusted between-group difference=7.1 days per 1,000 members, 95% CI=–6.5–20.8 days per 1,000 members, $p=.30$). The monthly number of SNF admissions did not change after mandatory cost sharing reductions (Supplementary Table S2). The slope of usage trends did not change after cap implementation for any measure of SNF use.

In stratified analyses for population subgroups and beneficiaries without continuous enrollment, there were no significant differential changes in SNF use after the cap (Table 2). In plans with mandated cost sharing reductions, the monthly number of SNF days per 1,000 members aged 80 and older in the pre-cap period increased by 32.5 days (95% CI=10.5–54.5 days, $p=0.005$) when the cap began (Supplementary Figure S4). Although the difference-in-differences point estimate suggested that this increase may have been larger than the concurrent change in plans without mandated reductions, the result was not statistically significant (adjusted between-group difference=23.9 days, 95% CI=–4.5–52.4 days, $p=.10$). This result may be biased toward the null because SNF use declined at a faster rate for plans with mandated cost sharing reductions before implementation of the cap.

Sensitivity analysis findings are detailed in Supplementary Appendix S1. Most notably, findings did not vary between plans regardless of whether they had larger SNF cost sharing reductions, mandatory inpatient cost sharing reductions, or no changes to inpatient cost sharing requirements or out-of-pocket limit amounts (Supplementary Table S3).

When comparing plans with and without mandated cost sharing reductions, we did not observe any differential changes in the annual number of inpatient discharges or days or in the annual rate of disenrollment (Supplementary Tables S4 and S5). This finding remained consistent even when we examined beneficiaries with SNF use in the previous year.

DISCUSSION

In 2011, CMS prohibited MA plans from charging more than \$1,000 in cost sharing for the first 20 days of SNF services. We identified 27 MA plans that reduced cost sharing for this service by \$1,047 on average to comply with new regulations. These plans experienced an increase of 14.3 days, or approximately 9% in relative terms, in the monthly number of SNF days per 1,000 members, but this increase was not significantly greater than concurrent changes observed in plans that already met cap requirements and were not required to reduce cost sharing. Neither SNF admission nor plan disenrollment rates changed in plans with mandated cost sharing reductions after implementation of the cap.

The study estimates are less conclusive about the effect of cost sharing reductions on SNF use for older beneficiaries. Although the point estimate of the difference-in-differences analysis suggested that members aged 80 and over in plans with mandated cost sharing reductions had larger increases in SNF use after the cap than their counterparts in plans without cost sharing reductions, these findings achieved only 10% statistical significance.

This estimate may be biased towards the null because during the pre-cap period SNF usage trends declined at a faster rate in plans with mandated cost sharing reductions than in comparison plans.

It has been suggested that greater postacute care cost sharing could curb unnecessary use,^{8,9} even though there is little evidence for this theory. The RAND Health Insurance Experiment demonstrated that cost sharing lowers health service use in younger populations, but these findings might not generalize to older adults or postacute care.^{12–14} We identified only 2 previous studies on SNF cost sharing. Traditional Medicare beneficiaries were more likely to leave SNFs on days when cost-sharing requirements increased.¹⁵ MA plans that added first-dollar cost sharing for SNF services had slight reductions in SNF use relative to plans without initial SNF copayments.¹⁶ Our study improves upon this study by examining an exogenous reason for cost sharing changes, rather than voluntary cost sharing changes that plans that want to influence SNF use may choose. Our null result parallels recent findings suggesting that home health cost sharing did not affect service use of MA members.¹⁷

Several factors may have mitigated the effect of mandatory SNF cost sharing reductions. MA plans raised out-of-pocket limits and increased cost sharing for later SNF days, which minimized how much overall out-of-pocket costs changed. MA plans can actively manage postacute service use,⁸ which may contribute to why MA members have shorter stays on average than traditional Medicare beneficiaries.¹⁸ When cost sharing caps began, MA plans may have implemented alternative strategies to limit SNF use, such as more restrictive prior authorization. Finally, providers' decisions and treatment norms may influence SNF use more heavily than beneficiaries' demand for care.

One significant study limitation is that CMS imposed cost sharing caps for multiple sectors in 2011. Our results were consistently null across different subsets of plans that did and did not have experience cost sharing changes for other services. Another limitation is that MDS assessments changed shortly before cap implementation. Although this raises concerns that changes in SNF use may reflect measurement changes, comparisons of plans should still be valid because this would affect all plans. Finally, our study population represents only a subset of the MA population. For example, the study plans without mandatory cost sharing reductions were concentrated in the South and had lower baseline levels of SNF use, which may reflect local standards of care. These results may not generalize to regions with different postacute care usage patterns.

When CMS implemented a \$1,000 cap on cost sharing requirements for the first 20 days of a SNF stay, trends in SNF use over time did not differ between plans with and without mandated cost sharing reductions. CMS has introduced more restrictive cost sharing caps in recent years; since 2015, MA plans cannot charge any cost sharing for the first 20 days of a SNF stay unless the plan offers low out-of-pocket limits.¹⁹ Our results suggest that these measures may protect MA members admitted to SNFs from high out-of-pocket costs without significantly increasing overall SNF use.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1.

Monthly mean number of skilled nursing facility (SNF) days per 1,000 Medicare Advantage members according to plan's requirement to reduce skilled nursing facility cost sharing in 2011. Authors' analysis of Minimum Data Set (MDS) assessments and Medicare enrollment records. Points represent unadjusted mean rate weighted by number of plan members during the month. Using regression models, expected trends in monthly number of skilled nursing facility days per 1,000 members after 2011 (the dashed lines) were predicted for plans with and without mandated cost sharing reductions based on their usage trends from the first 3 years of the study period. The gray-shaded areas represent 95% confidence intervals based on this model's predicted values according to pre-cap trends for each set of plans. The red- and blue-shaded intervals represent 95% confidence intervals for plans with and without mandated cost sharing changes, respectively, based on this model's predicted values according to post-cap trends. MDS transition refers to implementation of the new MDS Resident Assessment Instrument between September 2010 and November 2010. [Color figure can be viewed at wileyonlinelibrary.com]

Table 1

Characteristics of Study Cohort According to Plan's Requirement to Reduce Skilled Nursing Facility (SNF) Cost Sharing in 2011

Characteristic	Plans with Mandated Cost Sharing Reductions, n = 27	Plans That Already Met Cost Sharing Caps, n = 21
Beneficiaries, n	132,000	138,846
Beneficiary characteristics at baseline (2008)		
Age, mean $\pm$ standard deviation	73.2 $\pm$ 9.4	74.2 $\pm$ 9.1
Age, %		
<65	10.3	8.3
65–79	65.2	63.8
80	24.5	27.9
Female, %	55.9	54.7
Race, %		
White	82.8	78.9
Black	12.3	11.4
Other	4.9	9.7
Received financial assistance for Medicare or Part D premiums, %	11.5	8.0
Region, %		
Northeast	11.1	1.8
Midwest	40.8	1.0
South	39.7	97.1
West	8.3	0.2
Plan cost-sharing requirements, \$, mean		
SNF cost sharing		
Days 1–20		
Total, 2011	991.8	644.0
Change, 2010 to 2011	–1,047.2	–30.0
Days 21–30		
Total, 2011	976.3	618.8
Change, 2010 to 2011	453.5	–117.0
Inpatient cost-sharing, days 1–6		
Total, 2011	1,501.4	480.3
Change, 2010 to 2011	–91.6	–120.3
Annual out-of-pocket limit		
Total, 2011	4,376.0	5,304.5
Change, 2010 to 2011	468.8	–166.8

Authors' analysis of Master Beneficiary Summary File and the Healthcare Effectiveness Data and Information Set. Plans with mandated cost sharing reductions had total cost sharing for the first 20 days of a SNF stay in 2010 that exceeded \$1,000 or was above the new cost sharing cap that the Centers for Medicare and Medicaid Services introduced in 2011. Mean estimates for cost sharing totals and changes are weighted by the number of members enrolled in the plan as of January 2011.

Table 2

Changes in Adjusted Monthly Number of Skilled Nursing Facility (SNF) Days per 1,000 Members After Implementation of SNF Cost Sharing Caps for Plans with and without Mandatory Cost Sharing Reductions

Characteristic	Before Cap (2008–2010)		After Cap (2011–2013)		
	Slope	Difference from Plans without Mandatory Reductions	Change in Level Relative to Pre-Cap Period	Difference from Plans without Mandatory Reductions	Change in Slope Relative to Pre-Cap Period
All plans, main cohort	–0.1 (–0.7–0.5)	–0.2 (–0.9–0.4)	14.3 (3.8–24.8) ²	7.1 (–6.5–20.8)	0.3 (–0.3–1.0)
Selected beneficiaries					
Female	0.1 (–0.5–0.7)	0.1 (–0.7–0.8)	14.2 (0.0–28.4)	7.7 (–11.9–27.3)	0.1 (–0.9–1.0)
Age					
<65	0.5 (–0.2–1.1)	0.2 (–0.7–1.2)	10.1 (–9.1–29.3)	13.1 (–9.9–36.1)	–0.9 (–2.1–0.3)
65–79	0.1 (–0.4–0.7)	0.0 (–0.6–0.7)	3.0 (–4.5–10.4)	–1.7 (–12.0–8.6)	–0.2 (–1.0–0.7)
80	–2.9 (–4.6 to –1.2) ²	–1.9 (–3.7 to –0.1) ¹	32.5 (10.5–54.5) ²	23.9 (–4.5–52.4)	2.4 (–0.3–5.2)
Black	–1.2 (–2.4–0.1)	–0.9 (–2.4–0.6)	–8.3 (–27.0–10.3)	–21.9 (–46.5–2.8)	2.6 (–0.2–5.4)
Had financial subsidies	–1.2 (–2.7–0.4)	–0.8 (–2.6–1.0)	11.1 (–24.8–47.1)	–8.9 (–53.9–36.1)	2.2 (0.4–4.1) ¹
Resided in South	–0.3 (–1.2–0.5)	–0.6 (–1.5–0.3)	6.9 (–8.9–22.6)	1.4 (–16.5–19.4)	0.3 (–0.2–0.8)
Enrolled at baseline	0.8 (0.1–1.5) ¹	0.0 (–0.7–0.8)	8.4 (–2.2–19.0)	3.0 (–11.7–17.7)	0.4 (–0.5–1.2)
					0.7 (–0.3–1.7)

Authors' analysis of Minimum Data Set (MDS) assessments, Master Beneficiary Summary File, and Healthcare Effectiveness Data and Information Set. Regression models included plan fixed effects and an indicator to account for a transition to a new MDS resident assessment instrument between September 2010 and November 2010. Standard errors were clustered at the plan level.

p<¹.05, ².01.