Medicare Shared Savings Program Second-Year Results: Predictors of Success

Susan E. Sutherland, PhD; Brent M. Egan, MD; Douglas O. Fleming, MPH; George A. Helmrich, MD; Robert A. Davis, MS; Valinda Rutledge, MSN, MBA; and Angelo Sinopoli, MD

From the Care Coordination Institute, Greenville Health System, Greenville, SC (S.E.S., B.M.E., D.O.F., R.A.D., V.R., A.S.); University of South Carolina School of Medicine Greenville, Greenville, SC (S.E.S., B.M.E., D.O.F., G.A.H., R.A.D., A.S.); Department of OB/GYN, Greenville Health System, Greenville, SC (G.A.H.); and Department of Medicine, Greenville Health System, Greenville, SC (A.S.)

Abstract

Background: The Affordable Care Act (ACA) established the Medicare Shared Savings Program (MSSP) to improve quality of care and reduce unnecessary costs. Accountable Care Organizations (ACOs) participating in MSSP are rewarded for meeting healthcare performance measures while controlling costs for their assigned Medicare beneficiaries.

Methods: We examined the characteristics and quality metrics that predicted generated savings. The Centers for Medicare & Medicaid Services recently released the second year of quality metrics for 333 ACOs in the MSSP. Univariate and multivariate methods were used to compare ACOs that generated savings with those that did not. Stepwise linear regression models were used to estimate the variance in savings explained by ACO characteristics and quality measures.

Results: Of 333 ACOs in MSSP, 92 (28%) generated savings. ACOs that generated savings had more years of experience in MSSP and had higher overall quality scores. ACOs that saved money had $915 higher baseline costs per beneficiary. Among ACOs that reduced cost, 8 variables accounted for 59% of variance in savings. Four were positively associated with savings: baseline costs (31.5% of variance), hypertension control in diabetes (7.5%), LDL-cholesterol control in diabetes (1.6%), and mammography screening (1.4%); 4 were negatively associated: patients’ rating of doctor (8.6%), number of beneficiaries (4.2%), health/functional status (2.3%), and coronary artery disease composite score (1.8%). ACOs that reduced costs had higher baseline expenditures, which accounted for 31.5% of savings generated.

Conclusions: While quality is critical for ACOs to receive a portion of savings, the relationship of healthcare quality to savings is variable.
of the assigned beneficiaries, other factors determined by the Secretary, and growth in national per capita expenditures during this performance year. Recent changes by the Centers for Medicare & Medicaid Services (CMS) will change the weight assigned by year. Minimum Savings Rates (MSR) and Minimum Loss Rates (MLR) are assigned by the CMS based on the number of beneficiaries to determine if an ACO is qualified to receive savings or share in losses.

Participating organizations are judged on metrics designed to capture their quality of care. Thirty-three quality measures are reported annually. These quality measures are organized into 4 domains: 1) patient or caregiver experience, 2) care coordination and patient safety, 3) preventive health, and 4) at-risk populations. The measures are reported through various Web interfaces for reporting quality measures and patient surveys, claims and administrative data, and the Medicare Electronic Health Record (EHR) Incentive program.5

During the first year of participation, ACOs are required to demonstrate reporting capability on 22 quality measures.4 In the second and subsequent years of participation, quality measures are compared to benchmarks as part of the criteria for determining shared savings. Pay for performance criteria are applicable to 25 measures in year 2 and 32 measures in year 3.

CMS recently released results for the second performance year.6,7,8 In a recent blog, we compared the quality measures and characteristics of ACOs that generated savings.9 This paper expands upon those findings and discusses the challenges and opportunities for participants regarding quality measurements and healthcare costs.

**Methods**

Establishment of benchmarks and scoring methodology has been previously described by CMS.3,10 In August 2015, CMS released the second year of quality metrics for 333 MSSP ACOs.6 The results were downloaded from the applicable website and imported into SAS® Enterprise Guide 7.1 for analysis.11 Scores of zero on individual quality metrics were considered as missing and not included in analysis. Comparisons between ACOs with generated savings and without generated savings were made using Chi-square statistics for categorical responses and Fisher’s exact tests where the sample size was less than 5. Comparisons of continuous type data were made using pooled t-tests with Satterthwaite’s adjustment in cases of unequal variance. Statistical significance was defined a priori by a type I error rate of 0.05. No adjustments were made for multiple comparisons. Stepwise linear regression models were used to estimate the variance in savings amounts explained by specific

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison of ACOs with and without savings.</td>
</tr>
<tr>
<td>Generated Savings (N = 92)</td>
</tr>
<tr>
<td>Beneficiaries assigned, no.</td>
</tr>
<tr>
<td>Benchmark/Member</td>
</tr>
<tr>
<td>Savings (higher cost)</td>
</tr>
<tr>
<td>Participation year, no. (%)</td>
</tr>
<tr>
<td>Year 1</td>
</tr>
<tr>
<td>Year 2</td>
</tr>
<tr>
<td>Year 3</td>
</tr>
<tr>
<td>Track, no. (%)</td>
</tr>
<tr>
<td>One-sided model</td>
</tr>
<tr>
<td>Two-sided model</td>
</tr>
<tr>
<td>Beneficiaries, no. (%)</td>
</tr>
<tr>
<td>&lt;5,000</td>
</tr>
<tr>
<td>5001–10 000</td>
</tr>
<tr>
<td>10 001–20 000</td>
</tr>
<tr>
<td>20 001–30 000</td>
</tr>
<tr>
<td>30 001–40 000</td>
</tr>
<tr>
<td>&gt;40 000</td>
</tr>
<tr>
<td>Quality score, no. (%)</td>
</tr>
<tr>
<td>P4R</td>
</tr>
<tr>
<td>&lt;75%</td>
</tr>
<tr>
<td>75–79%</td>
</tr>
<tr>
<td>80–84%</td>
</tr>
<tr>
<td>85–89%</td>
</tr>
<tr>
<td>90–94%</td>
</tr>
<tr>
<td>&gt;95%</td>
</tr>
</tbody>
</table>

Means and standard error of the mean are shown for continuous measures; number and percentage are shown for categorical data. P4R = pay for reporting in participation year 1.
Results

A total of 333 ACOs participated in the 2014 MSSP, and 92 (28%) generated savings. Table 1 (previous page) shows characteristics of ACOs by the presence or absence of generated savings. Among 92 ACOs generating savings, 6 did not earn savings due to failing to successfully report quality measures despite meeting financial goals.

While there were no differences in the average number of beneficiaries assigned to ACOs generating savings and those that did not, there was a difference in the per member benchmark. On average, those who received savings had a benchmark of $915 more per member. ACOs with savings had an average $732 per member savings versus an average excess cost of $165 per member for ACOs not generating savings. Almost all ACOs chose the one-sided model. Three-quarters of ACOs with savings were second- and third-years participants. Differences were noted in the total quality scores between the 2 groups of ACOs, with 24% of ACOs receiving savings having a total score of 90% or greater versus 16% of ACOs not reducing costs.

Table 2 illustrates differences in quality measures between ACOs with savings and those failing to generate savings. At least 1 measure in each of the 4 quality domains emerged as a significant differentiator. Under the patient and care giver experience domain, ACOs that generated savings had an average lower score (inverse relationship) on health/functional status ($P = .023$) and a trend towards higher scores on health promotion and education ($P = .060$). However, the scores on health/functional status did not contribute to the overall quality score as it was a pay-for-reporting requirement only.

Two measures in the care coordination/patient safety domain emerged as statistically different between the 2 groups of ACOs, both with an inverse relationship. Admissions for the Ambulatory Care Sensitive (ACS) condition of chronic obstructive pulmonary disease (COPD) or asthma in older adults was lower in those ACOs that did not generate savings ($P = .046$). The percentage of primary care physicians (PCPs) who qualified for the EHR incentive payment was higher in those who did not generate savings ($P = .032$).
Among the preventive health measures, ACOs with savings had significantly higher scores for adult weight screening and follow-up \((P = .003)\) and marginally higher scores for depression screening \((P = .052)\). There was also a trend toward higher scores for tobacco use assessment and cessation intervention in ACOs with savings \((P = .058)\).

All the measures for at-risk populations were higher for ACOs with generated savings. These included greater LDL-cholesterol control among patients with diabetes \((P = .04)\), blood pressure control among patients with hypertension \((P = .09)\), complete lipid profiles and LDL control among those with ischemic vascular disease (IVD) \((P = .02)\), aspirin or antithrombotic medications for patients with IVD \((P = .108)\), drug therapy for lowering LDL-cholesterol among patients with coronary artery disease (CAD) \((P = .003)\), angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy for patients with CAD and diabetes and/or left ventricular systolic dysfunction (LVSD) \((P = .047)\), and CAD composite score \((P = .002)\). The measures for CAD, however, were designated as pay-for-reporting in participation year 2.

To further understand the relationship between ACO characteristics, quality measures, and savings for the 92 ACOs generating savings, we undertook a multi-variable approach using stepwise linear regression. Variables in the model included all individual and composite measures, number of assigned beneficiaries, years of experience, and the per member benchmark. Table 3 shows the results of the final model. The first variable selected was the per member benchmark, accounting for 31% of the variance in the amount of savings generated. The remaining variables chosen were as follows: the patient’s rating of the doctor (inverse relationship), blood pressure control in diabetes, the total number of assigned beneficiaries (inverse relationship), health status/functional status (inverse relationship), LDL-cholesterol control with diabetes, CAD composite score (inverse relationship), and mammography screening. Together, these 8 factors accounted for almost 60% of the variance in savings per member. Years of experience was not a significant predictor of amount of savings in the multivariable setting.

We also explored the relationship between amount of savings and the various factors in a subset of the ACOs with greater than 5000 beneficiaries and who also successfully reported quality measures in performance years 2 and 3. The results were similar.

### Discussion

Despite the large number of logical contributors to financial success of the ACO, there are few drivers that separate the successful and unsuccessful. The results of the 2014 MSSP second year evaluation show the ability to generate savings is largely influenced by the per-member benchmark, even more than experience.\(^9,12\) More specifically, the ACOs with generated savings had baseline benchmark costs per patient that were on average $915 higher than ACOs that did not generate savings. Logically, it appears the greater room for lowering cost may yield the greatest savings. ACOs with savings lowered their cost by $732 while ACOs without savings increased cost by $165, resulting in a net cost difference of only $18 per beneficiary.

The patient experience domains appear to have little influence on the ability to create savings. In fact, a negative association is seen between the patients’ perceptions of their physician. The dichotomy between patient satisfaction and quality of care has been demonstrated previously.\(^13-15\) The number of beneficiaries assigned to the ACO was not significantly different between those with and without generated savings; however, it was negatively associated with the amount of savings, contributing 4% of the variance in the amount. Perhaps this points to the complex nature of coordinating care in networks.\(^16\)

The number of beneficiaries assigned to the ACO was not significantly different between those with and without generated savings; it was negatively associated with the amount of savings, contributing 4% of the variance in the amount. Perhaps this points to the complex nature of coordinating care in networks.\(^16\)

Results of quality measures were mixed. CMS reported improvement on 27 of the 33 quality measures among ACOs reporting in both 2013 and 2014.\(^17,18\) A previous report on performance in the first year of MSSP showed almost no cor-
Abbreviations and Acronyms

ACO = Accountable Care Organization; MSSP = Medicare Shared Savings Program; ACA = Affordable Care Act; CMS = Centers for Medicare & Medicaid Services; MSR = Minimum Savings Rates; MLR = Minimum Loss Rates; EHR = electronic health record; ACS = ambulatory care sensitive; PCP = primary care physicians; IVD = ischemic vascular disease; CAD = coronary artery disease; ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; LVSD = left ventricular systolic dysfunction; APM = Alternative Payment Models; MACRA = Medicare Access & CHIP Authorization; MIPS = Merit-Based Incentive Payment System

Correspondence

Address to:
Susan E. Sutherland, PhD
Care Coordination Institute
Greenville, SC 29601
(ssutherland@ncihealth.org)

Relation between overall quality scores and expenditures resulting in savings, although ACOs were only required to successfully report scores during that year. Similary, we found higher quality scores did not consistently correspond to greater financial success in the second year of MSSP when scores were used to determine eligibility for savings. Several measures were more favorable for ACOs that did not generate savings, including health status/function status, admissions for COPD or asthma, and the percent of PCPs who qualified for the EHR incentive. However, measures for the at-risk populations were consistently higher for ACOs generating savings (Table 2). Cardiometabolic disease and cancer are chronic diseases that account for a disproportionate share of Medicare expenses. In this regard, ACOs that generated savings had higher quality scores on several measures that could impact costs for these common and costly chronic conditions, including 1) adult weight screening and follow-up, 2) tobacco use assessment and intervention, 3) LDL-cholesterol control in patients with diabetes and/or with ischemic vascular disease, 4) drug-therapy for LDL-cholesterol, and 5) renin-angiotensin system blockers in patients with diabetes and/or CAD. It will be interesting to see if these trends persist in subsequent years as more ACOs join the MSSP and gain experience in managing care of their beneficiaries.

Shared Savings Program (SSP) adjustments are required to accurately weigh the quality of care ACOs are providing into the shared savings equation. CMS published an update to the SSP final rule in June of 2015. The update incorporated changes that seek to alleviate issues highlighted in this and other papers. Of note, CMS created a third track for SSP program and refined the methodology for resetting benchmarks. Both program changes are designed to create a stronger and more accurate assessment of MSSP ACOs.

CMS, through the Medicare Access & CHIP Authorization Act of 2015 (MACRA), seeks to create additional programs and refinements through the Merit-Based Incentive Payment System (MIPS) and Alternative Payment Models (APMs). MACRA was signed into law on April 16, 2015. While details have yet to be announced, MIPS and APMs will become effective in 2019 and will drastically change how Medicare-enrolled physicians and other providers are compensated by Medicare. It is important for physician and healthcare system leaders to understand the proposed changes as they navigate a changing health environment to improve patients’ access to, experience with, and engagement to achieve better outcomes while constraining growth in cost.

Conclusion

Success in generating savings and the amount of savings are largely due to the baseline per-member benchmark. The influence of quality metrics was mixed with higher scores not necessarily predictive of success in generating savings. The journey toward creating a successful ACO is complex. While keys to success in meeting the 33 quality metrics have been published, they do not appear to be the same drivers of financial success. ACOs with cost savings had higher quality scores on several variables linked to cardiometabolic disease and cancer, which are major drivers of Medicare costs.

References

8. Medicare ACOs provide improved care while slowing...


11. SAS/STAT software, Version 9.4 of SAS Enterprise Guide 7.1. Copyright© 2014 SAS Institute Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute, Cary, NC.


