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Implications for ACOs of Variations in Spending Growth

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The Medicare Pioneer and Shared Savings Accountable Care Organization (ACO) programs have offered health care provider organizations the opportunity to enter into contracts with Medicare under which they assume financial risk and are rewarded for providing high-quality care at lower cost. In both programs, spending targets for ACOs will be determined on the basis of baseline Medicare spending for assigned populations of beneficiaries, projected forward by average increases in national Medicare spending. According to the rules for the Medicare Shared Savings Program,[1] the rationale for using national spending growth factors is to exert greater downward pressure on organizations in regions with high spending and rapid spending growth, while permitting greater savings in regions of low spending and slow growth to support organizational investments in infrastructure.

Because Medicare spending levels are not geographically correlated with growth rates, however, national spending growth exceeds local growth in many high-spending areas and is lower than local growth in many low-spending areas.[2] For example, according to Dartmouth Atlas estimates of per-beneficiary Medicare spending in 2008 and growth rates from 2007 to 2008, each of the following four categories described at least 15% of the 306 U.S. hospital-referral regions (HRRs): low-spending, low-growth; low-spending, high-growth; high-spending, low-growth; and high-spending, high-growth (see table). Forty-three percent of HRRs were in the middle two categories with discordant spending levels and growth rates.

Because of geographic variation in spending growth, Medicare's use of national growth factors to set spending targets could cause ACOs in any HRR to gain or lose financially without altering their delivery of care. Because local spending levels and growth rates are not correlated with one another, the payment methods may widen differences in Medicare spending between HRRs with low spending and high growth (where spending targets will tend to reduce spending) and those with high spending and low growth (where the targets will tend to increase spending). Using national growth rates to set spending targets for ACOs could also discourage participation by organizations in high-spending regions that have traditionally had high spending growth —arguably the most important targets for payment reforms. If local growth rates are not stable over time, uncertainty about the future relationship between local and national spending growth may discourage participation by organizations in any area.

We explored these potential problems using Dartmouth Atlas estimates of age-, sex-, and race-adjusted fee-for-service Medicare spending per beneficiary in different HRRs. For each HRR and each service area of the 32 organizations participating in the Pioneer ACO program,[3] we determined the extent to which differences between local and national Medicare spending growth would financially favor or disadvantage ACOs under the Pioneer

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payment arrangement in a hypothetical performance year. Under the core Pioneer ACO payment contract, baseline spending levels for ACOs are determined by averaging fee-for-service Medicare spending for assigned beneficiaries over the 3 years preceding the contract's performance years, during which ACOs are held accountable for spending and quality. The ACO's spending target is then calculated by trending this baseline forward by a 50/50 blend of contemporaneous absolute (dollar) and relative (percentage) increases in national Medicare spending. For example, if baseline Medicare spending for an ACO's assigned population averages $10,000 per beneficiary, and if national Medicare spending grows by 5% from $8,000 per beneficiary in the baseline period to $8,400 in the performance year, the ACO's spending target for that performance year would be $10,450 ($10,000 + ½($400) + ½(0.05×$10,000)). If actual spending for assigned beneficiaries differs from the spending target by at least 1%, a Pioneer ACO shares 60 to 70% of the resulting savings or losses.[4,5]

Treating 2008 as the hypothetical ACO performance year, we compared actual local spending in 2008 with local spending targets calculated according to the Pioneer methods, using 2005 through 2007 as the baseline period. Thus, for a given area, the difference between the 2008 spending target and actual 2008 spending indicates the additional savings (if positive) or losses (if negative) an organization with spending equal to the local average would have had as a Pioneer ACO in 2008. We also expressed this difference as a share of local spending in 2008, conveying favorability in terms of the percentage deviation of spending targets from actual spending.

As expected, differences between local and national spending growth would have favored Pioneer participation the most in low-spending, low-growth areas and put ACOs in high-spending, high-growth areas at a disadvantage. Moreover, the range of favorability indicated that ACOs in many HRRs could have gained or lost substantially, as much as 14% in either direction (see table). The range was narrower for Pioneer ACO service areas, typically collections of HRRs with more beneficiaries than the average HRR, but favorability still ranged from −4.6% to 3.5%. In only 8 of these 32 service areas would local spending growth have favored Pioneer participation in 2008. Pioneer ACOs will probably face greater variability in favorability than suggested by our results because they will be subject to greater random changes in their populations' health care needs. Specifically, our calculations relied on Dartmouth estimates determined from 20% samples of Medicare beneficiaries, but Pioneer ACOs typically care for fewer than 20% of beneficiaries in their service areas.

From Medicare's perspective, absent changes in care delivery, Pioneer spending targets would have reduced Medicare reimbursements to ACOs in high-spending HRRs by 0.96% (the average favorability for high-spending HRRs of −1.6% × 60% of shared losses) but would also have reduced reimbursements in low-spending HRRs by 0.12% (average favorability of −0.2% × 60%), which suggests that there would have been a very modest net reduction of geographic variation in spending.

We also assessed the stability of spending growth in HRRs over time to characterize the ability of candidate ACOs to predict the favorability of the Pioneer payment model on the basis of local baseline trends in spending. For example, only 44% of HRRs had either high or low average annual growth rates in both the period from 2003 to 2006 and the period from 2006 to 2008. The correlation between the average growth rates in these two periods was −0.18, a figure similar to correlations among earlier periods.[2] Thus, when deciding whether to participate in the program, potential Pioneer ACOs probably could not predict whether local spending growth for inaugural performance years 2012 through 2014 would be favorable under the Pioneer payment model on the basis of past spending growth.

These findings have important implications for Medicare ACO programs. Under payment arrangements using national growth factors to set spending targets, variation in local spending growth could result in many ACOs' achieving substantial savings or experiencing substantial losses that are unrelated to their efforts to improve efficiency in response to ACO contracts. Such savings for ACOs will be losses for Medicare and such losses for ACOs will be savings for Medicare. When combined across all ACOs, these savings and losses for Medicare may have largely offsetting budgetary effects but may not reduce geographic variation in spending as much as the ACO program rules intended.

For approximately half of participating ACOs, these savings and losses will tend to offset each other over 3-year performance periods, as local growth rates fluctuate about the national mean; the other half of ACOs may have persistent savings or losses over 3-year periods. We infer this from the fact that annual growth rates were consistently high or low from 2005 to 2008 in 55% of HRRs. Thus, using national growth factors to set spending targets presents prospective ACOs with a sizable gamble that may discourage participation and limit expansion of ACO programs.

As ACO programs begin, using local growth factors to set spending targets may better align shared savings for ACOs with savings for Medicare and reduce the financial uncertainty involved in participation. Our findings also suggest that initial evaluations of Medicare ACO programs should compare ACOs' performance not only against programmatic targets but also with the performance of local control groups, by using quasi-experimental designs. As ACO programs expand, however, it will become difficult in markets dominated by ACOs to estimate reliably the local spending growth for Medicare beneficiaries who have not been assigned to an ACO. Setting spending targets in such areas on the basis of local growth rates — which would then be entirely determined by the average spending performance of local ACOs — might foster healthy competition, as ACOs strive to do better than average. On the other hand, it might also diminish the incentives provided by the opportunity to share in savings, since competing ACOs would be rewarded only if they outperformed their competitors in slowing spending growth. It might therefore be reasonable to consider using some blend of local and national growth rates as ACO programs expand.

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Financial Favorability of Pioneer ACO Spending Targets in 2008, by Geographic Area.*

Areas	Absolute Favorability ($ per beneficiary)			Relative Favorability (% deviation from actual spending)		
	Mean	Range	Interquartile Range	Mean	Range	Interquartile Range
HRRs						
All (n=306)	−74	−1426 to 972	−203 to 80	−0.7	−14.6 to 14.1	−2.5 to 1.0
Low-spending, low-growth (n=115)	95	−270 to 972	−30 to 186	1.3	−3.2 to 14.1	−0.4 to 2.6
Low-spending, high-growth (n = 85)	−185	−846 to 205	−308 to −46	−2.3	−9.8 to 2.4	−4.0 to −0.6
High-spending, low-growth (n=46)	6	−581 to 514	−97 to 148	0.1	−4.7 to 5.0	−1.1 to 1.4
High-spending, high-growth (n=60)	−302	−1426 to 82	−431 to −123	−3.0	−14.6 to 1.0	−3.9 to −1.2
Pioneer ACO Service Areas (n=32)	−67	−493 to 285	−116 to 11	−0.6	−4.6 to 3.5	−1.3 to 0.1

*Hospital-referral regions (HRRs) were classified by local Medicare spending levels in 2008 and spending growth from 2007 to 2008, relative to national mean spending in 2008 and mean spending growth from 2007 to 2008. For each area, spending targets for 2008 were calculated according to the Pioneer ACO methods and compared with actual local spending in 2008. Using 2008 as an example performance year and 2005 through 2007 as the baseline period, we calculated baseline spending levels for each area by averaging per-beneficiary spending estimates over the 3 baseline years, with baseline spending in years 1 and 2 inflated to year 3 by state-specific growth rates, per the Pioneer methods. To obtain spending targets, we added to the local baseline 50% of the national increase from 2007 to 2008 in average per-beneficiary Medicare spending plus 50% of the product of the local benchmark spending level and the relative growth rate of average national per-beneficiary Medicare spending. We subtracted actual local spending in 2008 from this target to express favorability in absolute terms (dollars per beneficiary) and divided this difference by actual local spending in 2008 to express favorability in relative terms (percentage deviation from 2008 spending). Positive values indicate targets were above actual spending (favorable), and negative values indicate targets were below actual spending (unfavorable). For Pioneer ACO service areas spanning multiple HRRs, we averaged favorability across HRRs weighted by the number of Medicare beneficiaries they contained.