Overview of Research on ACO Performance

Introduction

2012 was the first performance period for ACOs in the Medicare Shared Savings Program (MSSP), which is now in its sixth year of operation. The MSSP has grown and evolved considerably since its inception, and many policymakers and health industry leaders view the ACO model as a promising solution for the significant challenges facing Medicare as tens of millions more beneficiaries enter the program in the next fifteen years. As the MSSP continues to grow, it is important to reflect on the effect of ACOs on Medicare, including the impact on beneficiary care, health outcomes, quality, utilization, cost and overall savings/losses to the program. While few dispute the need to evaluate the MSSP, there are differing opinions and approaches on how to best analyze the program.

Because 2012 was a partial performance year, the Centers for Medicare & Medicaid Services (CMS) considers 2012 and 2013 together as the first performance year for the program. CMS initially released data on the MSSP in late 2014, and typically releases performance data for the program about nine months after the close of the performance year. Delays in publicly available data from CMS made it difficult to draw early conclusions about the program, but new research is being released as evaluators and academics analyze new data and draw conclusions based on the first few years of the program. Further, evaluating the "success" of the ACO program depends on how success is defined. It's important to not just look at ACO performance relative to CMS-manufactured benchmarks. Skilled evaluators need to look beyond those benchmarks by comparing ACOs to providers not in ACOs, comparing ACO spending over time, and considering other effects of the program (e.g., spillover effects on other programs within Medicare such as Medicare Advantage or effects beyond Medicare).

The transition to value-based payment is expected to take years, and it's critical that there be careful evaluations, such as those below, on the true effects of ACOs and other value-based payment programs. However, there are challenges associated with evaluating ACOs, such as how to appropriately account for the significant investments ACOs make up front and understanding the tension between short-term spending (to invest in things like quality and care coordination) and long-term savings. Further research is expected moving forward, which will help shed light on the true effects of ACOs on Medicare, beneficiaries, and the healthcare industry.

This resource summarizes some of the key quantitative studies that contribute to our understanding about the positive effect of ACOs. Please email us at advocacy@naacos.com to suggest additional research that should be added to this document.

Summary of Key ACO Studies

Title: *Association Between Medicare Accountable Care Organization Implementation and Spending Among Clinically Vulnerable Beneficiaries.*
Author(s): Carrie H. Colla, PhD; Valerie A. Lewis, PhD; Lee-Sien Kao, BA; A. James O'Malley, PhD; Chiang-Hua Chang, PhD, MS; Elliot S. Fisher, MD, MPH
Publication Source / Date: Journal of the American Medical Association / June 20, 2016
Link: http://archinte.jamanetwork.com/

Data Source Used for Evaluation: Medicare claims, 2009 –2013

Overview:
The study looks at the effect of Medicare ACOs on spending and high-cost institutional use for all Medicare beneficiaries and for clinically vulnerable beneficiaries. The study found that spending in both groups was reduced when beneficiaries were treated by ACO providers compared to non ACO providers.

Summary of Methodology and Key Findings:
The researchers used five years (2009–2013) of all Part A and Part B Medicare Fee for Service (FFS) claims data to compare spending and usage of beneficiaries cared for by ACO physicians to those cared for by non-ACO physicians. There were two study populations, one representing overall Medicare beneficiaries and the second representing clinically vulnerable beneficiaries. Clinically vulnerable was defined as age 66 or older with at least three Hierarchical Condition Categories (HCCS).

Total spending decreased by $34 per beneficiary-quarter after ACO implementation in the overall Medicare population and by $114 per beneficiary-quarter in clinically vulnerable patients. The authors also observed a 1.3 percent reduction in hospital spending and a 5 percent reduction in skilled nursing spending, as well as significant reductions in emergency department use and hospitalizations. Start time did not affect these reductions but the authors noticed a slight increase in spending with longer ACO participation. The authors also observed an anticipatory effect of participating in an ACO, which could lower benchmark spending and make it more difficult to achieve savings according to CMS calculations.

Conclusions:
The results provide more evidence that the ACO model has early modest reductions in spending and high-cost institutional use for patients with multiple clinical conditions. More longer term research is need to more fully understand the more structural changes that will take more time to demonstrate savings and improved health care outcomes.

Title: *Little Evidence Exists To Support The Expectation That Providers Would Consolidate To Enter New Payment Models.*
Author(s): Hanna T. Neprash; J. Michael McWilliams, MD, PhD
Publication Source / Date: Health Affairs / February 2017
Link: http://content.healthaffairs.org/content/36/2/346.abstract

Data Source Used for Evaluation: Medicare claims, 2008 – 2013

Overview:
Stakeholders and policymakers are concerned that payment reform, such as the ACO model, could accelerate provider consolidation by incentivizing physician groups to merge with hospitals in order to bear financial risk for the total continuum of care of beneficiaries. During the years studied there was an increase

in consolidation, but there is little evidence to suggest that this was due to adoption of ACOs and consolidation was well underway prior to authorization of the Medicare ACO programs.

Summary of Methodology and Key Findings:
The authors looked at the relationship between Medicare ACO participation and multiple measures of horizontal and vertical consolidation from before (2008 – 2010) and after (2011 – 2013) the Medicare ACO program was permanently authorized. The researchers did this by first identifying beneficiaries that were cared for by ACOs and those that were not. Next, they measured physician-hospital integration by examining place-of-service codes to determine where treatment was occurring. For each year in the study, each physician's share of claims in a hospital-owned practice compared to an office setting was determined.

Between 2008 – 2013 for the average Metropolitan Statistical Aarea, physician hospital integration increased by 6.3 percentage points (from 16.8 percent of physicians in a hospital-owned practice to 23.1 percent). Physician concentration, physician group size, hospital concentration, and inpatient and outpatient price indices all also experienced a statistically significant increase. The changes however were minimal between the pre-Affordable Care Act period, 2008 – 2010, and the post period, 2011 – 2013. Also, markets with greater ACO participation in 2014 did not experience differential changes in physician-hospital integration, physician group size, or commercial prices.

Conclusions:
The weak relationship between ACO penetration and consolidation should temper concerns that alternative payment models will encourage consolidation. However, these findings should not diminish the trend to greater concentration and less competitive provider markets, simply that ACOs are likely not the cause.

Title: *Early Performance of Accountable Care Organizations in Medicare*
Author(s): J. Michael McWilliams, MD, PhD, Laura A. Hatfield, PhD, Michael E. Chernew, PhD, Bruce E. Landon, MD, MBA, and Aaron L. Schwartz, PhD
Publication Source / Date: New England Journal of Medicine / June 16, 2016
Link: http://www.nejm.org/doi/full/10.1056/NEJMsa1600142#t=article

Data Source Used for Evaluation: Medicare Claims, 2009 – 2013

Overview:
The MSSP shares savings with Medicare if spending is below a financial benchmark. CMS sets the financial benchmark based on the average level of Medicare spending for ACO patients served during a baseline period and is updated prior to each contract. However, savings calculated based on actuarial calculations may not reflect reductions in actual spending. The amount of spending that has been lowered in the MSSP is unclear.

Summary of Methodology and Key Findings:
Medicare claims from 2008 through 2013 were analyzed for a 20 percent sample of fee-for-service beneficiaries. For each study year, beneficiaries were included in the study if they were continuously enrolled in both the current and previous year. The control group included beneficiaries attributed to non-ACO providers.

MSSP participants were associated with early savings among ACOs that entered in 2012 compared to 2013. The 2012 MSSP participants also saved about the same as the savings estimated for Pioneer ACOs. Savings

were also found to be greater for independent primary care practices than those in hospital-integrated groups. Compared to ACOs integrated with hospitals, Independent physician groups have stronger incentives to lower inpatient and outpatient spending

Conclusions:
The findings found early Medicare spending reductions for ACOs that started in 2012 compared to those ACOs that started in 2013. However, results suggest that gains achieved early for MSSP participants may not generalize to later cohorts.

Title: *Changes in Medicare Shared Savings Program Savings from 2013 to 2014.*
Author(s): J. Michael McWilliams, MD, PhD
Publication Source / Date: Journal of the American Medical Association / September 9, 2016
Link: http://archinte.jamanetwork.com/

Data Source Used for Evaluation: Medicare claims, 2013 to 2014

Overview:
In the first full year (2013) of MSSP moderate savings were entirely offset by bonus payments but savings quickly followed.

Summary of Methodology and Key Findings:
A sample of FFS beneficiaries Part A and B spending was compared to that of ACO beneficiaries between 2013–2014. Spending reductions improved significantly between 2013, -$146 per beneficiary, and 2014, -$264/beneficiary. In 2013, bonus payments offset spending reductions, but in 2014 savings exceeded bonus payments saving Medicare $287 million, which is roughly $67 per ACO beneficiary.

Conclusions:
By 2014, spending reductions in MSSP had exceeded bonus payments and since 95 percent of ACOs participating in MSSP at that time were participating without downside risk, it would suggest that this may be a fiscally viable alternative payment model. Additionally, findings from subgroup analysis suggest that physician-hospital integration may not be required for ACOs to be successful.

Title: *Savings From ACOs – Building on Early Success*
Author(s): J. Michael McWilliams, M.D., Ph.D.
Publication Source / Date: Annals of Internal Medicine / October 11, 2016
Link: http://annals.org/aim/article/2566329/savings-from-acos-building-early-success

Data source used for evaluation: Ideas and Opinions Article
Note: References various sources, including *Early Performance of ACOs in Medicare* and *Changes in Medicare Shared Savings Program Savings,* which are summarized above.

Overview:
The opinion piece uses data from several studies and makes the argument that CMS fails to capture all of the positive impacts that ACOs have on total Medicare costs.

Summary of Methodology and Key Findings:
Methodology: The author takes data from several studies to make the case for ACOs.

ACOs nearly doubled their spending reductions from 0.8 percent in 2013 to 1.5 percent in 2014 and exceeded bonus payments in that year delivering a net savings of $287 million.

CMS fails to measure spillover savings from Medicare beneficiaries not counted in an ACO. The author assumes that $1.00 reduction among attributed patients leads to a $0.20 reduction among non-attributed patients and that at least half of ACOs Medicare revenue is devoted to non-attributed patients adding upward of $126 million in savings to Medicare.

Spending reductions by ACOs also lower Medicare Advantage spending because payments to Medicare Advantage plans are linked directly to local FFS spending. The 0.7 percent net spending reduction that occurred in 2014 would be expected to reduce Medicare Advantage spending by about $272 million.

Medicare's expanded net savings from the MSSP is closer to $685 million or 1.6 percent of spending for ACO patients.

Conclusions:
The author concludes that CMS is failing to measure all of the positive outcomes ACOs have on the Medicare program, including spillover savings from unassigned Medicare beneficiaries and lower Medicare Advantage spending, which is linked to FFS spending.

Title: A Multilevel Analysis of Patient Engagement and Patient-Reported Outcomes in Primary Care Practices of Accountable Care Organizations
Author(s): Stephen Shortell, Bing Ying Poon, Patricia Ramsay, Hector Rodriguez, Susan Ivey, Thomas Huber, Jeremy Rich
Publication Source / Date: Journal of General Internal Medicine / February 3, 2017
Link: https://link.springer.com/article/10.1007/s11606-016-3980-z

Data source used for evaluation: Observational study

Overview:
The need for primary care practices that engage patients is increasing with the greater number of chronic illnesses and the movement towards more accountable care delivery.

Summary of Methodology and Key Findings:
The study looked at two ACOs using a cross-sectional, multilevel observational study of 16 randomly selected practices. Patients with diabetes and/or cardiovascular disease and who met study eligibility criteria were randomly selected to take a patient activation survey.

Conclusions:
The study found that diabetes and cardiovascular disease patients from ACO-affiliated practices had lower depression scores and better physical functioning. Patients who were more activated in participating in their care also reported lower depression scores and improved social and physical outcomes.