



Characteristics and Performance of ACOs and Accountable Physician Groups: What Does the Evidence Tell Us?

The Council of Accountable Physician Practices (CAPP) engaged the Institute for Accountable Care (IAC) to review recent literature to assess the current state of research on the characteristics and performance of accountable care organizations (ACOs) and accountable physician groups. CAPP has promoted five elements as essential to accountable care: coordinated care, outcomes-based payment, health information technology, physician leadership and quality improvement. This review focuses primarily on the first two elements.

Much of the recent literature on accountable care has focused on ACOs. This review defines accountable care more broadly than ACOs and considers the performance of organized physician groups, integrated health systems and Medicare Advantage programs. We focus on studies of programs that aim to improve outcomes for populations and with payment models tied to a global budget target. More focused initiatives such as episode-based payments, primary-care medical home (PCMH) and pay-for-performance programs are not reviewed here. We supplement some findings from the literature with our own observations based on publicly available data on Medicare accountable care programs. The review is organized into six sections:

- Multispecialty group characteristics and performance
- ACO organizational structure and characteristics
- Risk sharing and financial arrangements
- Care redesign and quality improvement
- Financial performance
- Medicare Advantage

We conclude each section by summarizing what we believe to be major gaps in the current research literature that could be considered for a future research agenda.

SECTION 1: MULTISPECIALTY GROUP CHARACTERISTICS AND PERFORMANCE

We begin this review with a brief overview of the characteristics of physicians and physician groups, which are the foundation of accountable care programs. Over the past two decades, health care markets have experienced a wave of mergers, both horizontal and vertical. Over time, the

number of physicians reporting that they are employees rather than practice owners has grown steadily. In 2018 the American Medical Association (AMA) reported that more physicians reported being employees than practice owners. Hospital employment of physicians has grown rapidly, with estimates typically ranging from 35% to 45% (Rama 2019, PAI-Avalere, 2021).

Multispecialty group practices are important participants in accountable care programs. According to the AMA about 25% of U.S. physicians worked in multispecialty groups, up from 22% in 2012 (Kane 2019). Thirty-seven percent of multispecialty group physicians are in groups of 50 or more physicians, versus 7.5% of physicians in single-specialty practices. More than half of physicians in multispecialty groups reported participating in a Medicare ACO and half reported being in a commercial ACO, compared with about one-third of physicians in single-specialty groups (Rama 2019).

Well-organized physician groups offer benefits for patients, physicians and payers. Advanced multispecialty and primary care practices often perform better in the management of chronic diseases, leading to fewer emergency department visits and unplanned hospitalizations by their patients. One study examined 53,000 practices and conducted site visits with 12 high-value practices — defined as those in the lowest quartile for cost and the highest quarter for quality — as well as four average-value practices (Simon et al. 2017). The researchers identified 13 attributes of the high-value practices and found statistically significant differences relative to the average-value practices in five areas: decision support for evidence-based medicine, risk-stratified care management, careful selection of specialists, coordination of care, and standing orders and protocols for staff to address uncomplicated acute illness without direct clinician intervention. Relative to average practices, the high-value practices had lower risk-adjusted spending in three areas: inpatient surgical care, hospital outpatient care and prescription medications.

Published evidence that independent multispecialty groups care for patients at lower cost than other types of practices is limited. One study found that hospital-based medical groups had an average Medicare spending per beneficiary that was 7.5% higher than small, independent groups with 10 or fewer physicians, and spending for large, independent medical groups was 1% lower than for small groups. In counties with high penetration of health maintenance organizations (HMOs), spending for large, independent groups was 4% less than small groups, while spending for hospital-based groups was about 9% higher (McWilliams et al. 2013). A more recent study of commercially insured preferred provider organization (PPO) patients found that spending was 6% higher for patients treated by doctors in hospital-owned practices than for those treated by physician-owned practices (Ho et al. 2020).

A recent study by Baker and colleagues (2019), which examined patients enrolled in traditional Medicare who switched from a primary care-only group to a multispecialty group due to a geographic move, found a reduction of \$1,600 in total per-beneficiary Medicare spending per year among patients who switched. A 2010 study, which compared Medicare patients receiving care from large, multispecialty, CAPP-affiliated practices with patients receiving care from other physicians in the same market, found that patients in CAPP-affiliated practices had slightly lower costs (3.6%) and higher quality care (Weeks et al. 2010).

Summary

- Medical practice is evolving from smaller, independent practices to larger, employed practices with substantial growth in the hospital employment of physicians.

- Evidence showing that independent multispecialty groups have achieved lower spending among Medicare populations than hospital-employed or independent, single-specialty groups is limited.

Research gaps

- Comprehensive data on the characteristics of physician organizations is limited, including structure and capability of practices, relative quality and efficiency, payer mix and participation in alternative payment models.
- Empirical evidence identifying the attributes of high-value medical practices is limited.

SECTION 2: ACO ORGANIZATIONAL STRUCTURE AND CHARACTERISTICS

Accountable care programs have three main elements: groups of medical providers that make up the contracting organizations; a beneficiary population defined by their relationship with the ACO's physicians; and a budget target that reflects either historical spending for the ACO's attributed beneficiaries, average spending in the ACO's geographic market, or some blending of both elements. Beneficiaries are linked to ACOs either through enrollment, for example when a health plan patient selects a primary care provider who is part of a contracted ACO, or a data-driven assignment formula. Medicare ACOs are defined as groups of physician organizations (based on tax identification numbers) or groups of physicians (based on national provider identification numbers). Beneficiaries are assigned to ACOs if the preponderance of evaluation and management services they received in the prior year was delivered by an ACO provider.

ACOs are often characterized as physician-led, health system-led or hybrid organizations. However, within these categories the structure and organization of ACOs is diverse. In 2019 slightly more than half of Medicare Shared Savings Program (MSSP) ACOs reported having at least one hospital. Twenty-nine percent of 2021 MSSP ACOs have fewer than 10 medical groups and 6% have a single group. In contrast, 20% of 2021 MSSP ACOs have more than 50 medical groups. The proportion of primary care versus specialist physicians in the ACOs also varies significantly. In 2019 the median ACO had 43% of physicians practicing primary care. The top quartile of ACOs had an average of 79% of physicians in primary care and the bottom quartile had 28% in primary care. ACOs in the top quartile were smaller and more likely to be independent of a hospital (author analysis of 2019 MSSP public use file).

Hospitals and physician practices joining ACOs tend to be larger and have more prior experience with alternative payment models (APMs) than those that do not (Shortell et al. 2018). Physician practices that operate within larger health systems were more likely to participate in APMs when the health systems had higher levels of functional and clinical integration (Ouayogodé et al. 2020). Hospitals initially participating in the MSSP were more likely to have advanced health-information technology and experience with prior care management programs in the Centers for Medicare & Medicaid Services (CMS) (Chukmaitov et al. 2018). Organizations participating in the Pioneer ACO program, a more advanced model that preceded the Next Generation ACO (CMS newsroom, 2016) model, tended to be affiliated with centralized health systems and had more physicians in tightly integrated organizational arrangements.

Medicare ACOs with higher proportions of primary care physicians have higher proportions of their outpatient Medicare revenue coming from ACO-attributed beneficiaries (Barnett and McWilliams 2018). The 20% of MSSP ACOs with the highest proportion of physicians that are primary care physicians received about 85% of their Medicare revenue from serving ACO beneficiaries. In contrast, the 20% of ACOs with the highest proportion of specialists received less than 45% of their Medicare revenue through the ACO (author analysis of 2019 MSSP public use file).

In contrast, the proportion of ambulatory services that beneficiaries receive outside of the ACO, known as the leakage rate, is much higher for primary-care-oriented ACOs and lower for specialist-oriented ACOs. Across all ACOs, specialty leakage was 61% to 72% on average, depending on the ACO's start year. This probably overestimates the leakage rate, because some of the outside utilization is actually provided by specialists within the same health system who do not participate in the ACO.

Another key organizational issue for Medicare ACOs is the relatively high rates of turnover in attributed beneficiaries from one year to the next. ACOs that entered the program between 2013 and 2015 lost between 17% and 21% of their originally attributed beneficiaries between the first and second program years (MedPAC 2019). The Medicare Payment Advisory Commission (MedPAC) also demonstrated that continually attributed ACO beneficiaries had much slower rates of spending growth, while newly attributed beneficiaries or those that were not attributed in a subsequent year had much higher spending rates. This attribution “churn” is caused by changing patterns of utilization by patients within their local markets and the changing composition of physician groups within ACOs (Hsu et al. 2017). Attribution churn makes it more difficult for ACOs to develop ongoing relationships with beneficiaries and to manage their care effectively. Weak affiliation ties between an ACO and its providers may reduce the effectiveness of care improvement strategies by contributing to high rates of churn.

Although research shows that physician-led ACOs have performed much better in the MSSP ACO model than hospital-led ACOs (McWilliams et al. 2018), the factors driving ACO performance are not well-documented. One mixed-methods analysis of 16 MSSP ACOs that were organized around large physician groups found the following factors distinguishing between high- and low-performing ACOs: effective collaboration with hospitals; the presence of a large, well-organized physician group with a history of cost-effective care prior to ACO engagement; trusted, long-standing physician leaders focused on improving performance; sophisticated use of information systems; effective feedback to physicians; and practice-embedded care coordinators (D'Aunno 2018).

Medicare ACOs often rely on partnerships with other providers to manage care across larger geographies and across the care continuum. Four out of five ACOs surveyed by the Dartmouth Institute established partnerships specifically for the purpose of entering an ACO program. Organizations that entered ACO programs with preexisting partnerships tended to have higher quality scores than those in partnerships formed specifically for an ACO program (Lewis et al. 2017). For example, about 25% of ACOs reported a formal contractual arrangement with skilled nursing facilities (Kennedy et al. 2018). More than one-third of ACOs have engaged with management partners that provide back-office administrative support, data analytics and actuarial support, and that may share financial risks and rewards under the contracts (Lewis et al. 2018). These management partnerships tend to be more common with smaller physician ACOs, and they typically exclude hospitals. This suggests that the emergence of specialized management, data and

technology partners offers an alternative for physician groups that prefer to operate independent of hospital systems.

Summary

- ACOs are extremely diverse with respect to size, alliance with a hospital or health system, number of distinct provider groups, proportion of physicians in primary care, level of integration across providers and programmatic capabilities.
- Organizational factors associated with ACO performance (based on a small number of mixed-methods studies) include physician orientation, engagement of organized physician groups with a history of cost-effective performance, prior history of collaboration with partner hospitals, long-serving and trusted physician leaders, sophisticated use of health information technology, strong physician feedback and embedded care coordinators.

Research gaps

- Much of the published research is based on data from 2015 or earlier, so it would be valuable to update national research on existing physician group structures and participation in value-based contracts.
- Within complex systems, it can be challenging to identify which structural and operational features drive success. As a result, further research is needed on the effectiveness of specific care-redesign strategies used by ACOs and accountable physician practices and the characteristics of successful programs.

SECTION 3: RISK SHARING AND FINANCIAL ARRANGEMENTS

Over the past decade, health care organizations have increasingly entered contracts with downside financial risk that would require repayment of funds, or financial losses, if their spending exceeds a set per-member, per-month payment or a predetermined budget target. Medicare maintains the most complete, publicly available data on risk-based contracting, with more than 550 organizations covering 12 million attributed beneficiaries participating in the MSSP or Next Generation ACO program in 2020. Since 2012 CMS has offered ACO models with no downside risk for losses, and risk models where participants share in both savings and losses. Until recently, only about 15% of Medicare ACOs elected to participate in shared-risk models. In 2019 CMS implemented new MSSP policies in the Pathways to Success rule, which reduced the time organizations are allowed to participate without downside risk from 6 years to 2 years. By 2020 about 40% of Medicare ACOs were in shared-risk arrangements, although the level of downside risk is generally modest until ACOs reach their fifth program year.

In contrast, little information is available about risk contracting in commercial and Medicare Advantage contracts. One study estimated that 33% of ACOs had at least one contract with downside risk in 2018 and that 20% to 25% had a commercial contract with downside risk (Peck et al. 2019). Those reporting downside risk contracts were likely to be part of an integrated health system, had an average of 1,200 participating physicians and had prior experience with other payment reforms such as bundled payment or commercial capitation. While respondents

to this survey-based study reported the presence or absence of risk contracts, they did not provide information about the size of the contracts or the amount of revenue at risk relative to an organization's total payment revenue.

Another study measured the share of revenue from seven different payment model arrangements reported by a convenience sample of 33 CAPP-affiliated organizations in 2013. Respondents reported that two-thirds of their patient revenue came from fee-for-service on average, while 16% came from global capitation and 7% were payments from the organization's own health plan (Mechanic and Zinner 2016). One-third of respondents reported that 97% of revenue was fee-for-service, while another one-third reported only 25% fee-for-service and 45% was global capitation. Survey respondents were not nationally representative but do provide a profile of the state of payment reform across a sample of high-performing, organized medical groups.

Although general information about provider financial arrangements outside of Medicare is lacking, Massachusetts requires all payers and major provider groups to submit data annually on contracted payment rates and contracting arrangements to the state's Health Policy Commission and Office of the Attorney General. These data are published annually and provide detail about contracts for each major payer and provider. Statistics from Massachusetts are not representative of other areas because of the state's strong commitment to move its health care system toward global payment. In 2018, 56% of commercial provider payments from the three largest regional health plans (approximately 80% market share) were made through risk contracts tied to global budgets. The majority of these payments were made through the HMO products while the PPO products remained primarily fee-for-service (Massachusetts Health Policy Commission 2019). National health plans covering Massachusetts enrollees reported much more limited use of risk-sharing contracts.

Another area with little published research is how organizations in ACO-type contracts pay their physicians and whether groups that take financial risk at the organization level pass some of the risk on to physicians. One study based on a nationally representative physician survey found that approximately 10% of compensation for primary care providers was tied to quality for ACO-participating physicians, compared with 1% to 2% for physicians not participating in ACOs (Ryan et al. 2015). Non-ACO physicians that had financial risk for primary care costs reported a higher proportion of compensation in salary (65%) than other physicians (45%). The study of 33 CAPP-affiliated medical groups found that primary care physicians in groups whose contracts were primarily fee-for-service had compensation primarily based on productivity, while those in groups with substantial risk contracts received a majority of their compensation based on salary, panel size and performance metrics, and only one-third of their compensation was tied to productivity (Mechanic and Zinner 2016a).

Summary

- Medicare ACOs have had contractual options both with and without downside risk; historically most ACOs have selected options without downside risk. Under new rules implemented in 2019, Medicare ACOs are required to participate in downside risk arrangements that begin phasing in after 2 years. In 2020, 38% of Medicare ACOs were in contracts with sufficient downside risk to qualify as an advanced APM under the 2015 Medicare Access and CHIP Reauthorization Act (MACRA).

- Massachusetts requires health plans, health systems and large medical groups to report comprehensive information about their contracted rates and the number of beneficiaries covered by risk contracts. No other states have done so and several are reportedly planning for enhanced transparency in cost and APM contracting.

Research gaps

- Little research is available about the prevalence and nature of risk contracts in Medicare Advantage and commercial health plans.
- Little research is available on what proportion of risk undertaken by ACOs or medical groups is passed on to practicing clinicians.
- Research is needed to define and document the contractual and organizational “tipping point” after which organizations fully commit to value-based payment models and make significant changes in care delivery.

SECTION 4: CARE REDESIGN AND QUALITY IMPROVEMENT

The theory of accountable care is that medical groups and health systems will organize and deliver more reliable, efficient, evidence-based care when participating in payment models with financial risk for total spending and high-quality outcomes. Numerous studies have documented various aspects of care redesign efforts undertaken by ACOs. A qualitative study based on interviews with 30 ACOs found that during their first year in the MSSP, organizations focused on four areas: transforming primary care, reducing avoidable emergency department use, solidifying and expanding care management and introducing new “boundary spanner” roles to work across multiple aspects of a patient’s care rather than focusing on direct care delivery in one setting (Lewis et al. 2019). The study found that most ACOs in their early stages are not working aggressively to transform specialty care or coordinate between acute and post-acute care.

Another study of medical groups during the first 2 years of participation in a large, commercial, global budget contract found that participating organizations initially focused on building infrastructure to help primary care physicians earn quality bonuses and on establishing referral management processes to care for a higher proportion of patients within their own provider network or to direct patients to low-cost settings outside their network (Mechanic et al. 2011). Participants in this program reduced spending by 2% in the first year, largely by shifting some outpatient care from higher cost facilities to lower cost facilities and by reducing expenditures for procedures, imaging and testing (Song et al. 2011).

As Medicare ACOs gain experience, many have focused on managing post-acute care. One study found that through June 2015 less than half of ACOs had any formal relationship with skilled nursing facilities but that in a subset of high-performing ACOs most had established networks of preferred skilled nursing facilities to help manage spending and the quality of post-acute care (Kennedy 2018). Medicare ACOs have had success in reducing spending for post-acute care; those that joined in 2012 achieved statistically significant savings of \$116 per beneficiary for post-acute-care facilities that year (McWilliams et al. 2017). The bulk of savings came from skilled nursing facilities through both reductions in the average number of referrals following discharge from the hospital and reductions in length of stay.

Some ACOs are striving to find savings in specialty care services. This may include efforts to better coordinate and integrate care between their own primary care providers and specialists. Some also attempt to direct referrals to more efficient specialists or reduce unnecessary specialist referrals. Medicare ACOs with a high proportion of primary care physicians (fewer than 13% of ACO physicians were specialists) generated statistically significant reductions in the average number of specialist visits per beneficiary in the 2012 and 2014 MSSP entry cohorts (Barnett and McWilliams 2018). This did not occur for ACOs with higher proportions of specialist physicians. As mentioned earlier, many ACOs have initiatives to try to make referrals within their own provider networks. An inability to maintain primary care services within an ACO's own provider network is associated with higher spending (Lin et al. 2020).

ACOs are investing in other methods to improve care and patient outcomes: 80% of ACOs surveyed reported using at least some home visits with nursing or social work staff to provide transitional care services when patients are transferred from health care facilities to home (Fraze et al. 2019a). Many ACOs express interest in better addressing their patients' social determinants of health. Survey data from 2017 and 2018 measured ACO screening programs across five areas: food insecurity, housing instability, utility needs, transportation needs and interpersonal violence. They found that 24% of ACOs screened patients for all five measures (Fraze et al. 2019b). Recent qualitative research found that ACOs have faced difficulties with integrating social services and medical care. Challenges include lack of data on patient social needs and poor understanding of the capabilities of social service agencies in the local community (Murray et al. 2020). Improving end-of-life care is a seemingly natural target for ACOs looking to reduce avoidable spending while meeting patient care goals. Analysis of Medicare claims data from 2009 through 2015 found results suggestive of less aggressive care but the effects were small and inconsistent, indicating that ACOs have not yet substantially altered end-of-life care patterns (Gilstrap et al. 2018).

One of the most common ACO strategies is to identify and manage high-risk beneficiaries likely to incur high levels of spending. ACOs often utilize care plans that include information about patient history, current medical needs and future goals to manage care for complex patients (Fraze et al. 2021). In the first 3 years of the MSSP, however, high-risk patients were not responsible for the bulk of savings. In the 2012 entry cohort, savings rates were similar for high- and low-risk beneficiaries, while in the 2013 cohort savings were predominantly from low-risk beneficiaries (McWilliams et al. 2017). Across the three entry cohorts, only the 2012 cohort generated savings from reducing hospitalizations. Information about the impact of specific strategies on the likelihood of ACO savings is still limited. Reinforcing that uncertainty, a study linking survey data to Medicare claims data found that Medicare ACOs that self-reported more well-developed care management practices did not outperform other ACOs on either quality or spending outcomes for high-need, high-cost patients (Ouayogode et al. 2019).

Summary

- Provider organizations have invested resources into care redesign and care management initiatives, yet no research quantifies the scale of investments and there is little evidence on their efficacy.
- Many ACOs have developed initiatives to manage spending on post-acute care and have been successful doing so through a combination of lowering admissions to skilled nursing facilities and reducing lengths of stay.

- In one large, commercial ACO program, participants reduced spending through referral management, primarily by shifting referrals from high-cost providers and settings to lower cost providers and settings.

Research gaps

Research is needed to:

- Quantify the impact of specific care management models on ACO spending and the characteristics of care management models associated with reduced health spending.
- Document the startup and operating costs of ACO provider-based care redesign activities, including care management programs.
- Demonstrate the impact of different types of investments to address the social determinants of health on quality of care, quality of life and total spending.

SECTION 5: FINANCIAL PERFORMANCE

Numerous studies have measured the financial performance of Medicare ACOs. The current consensus of researchers is that ACOs have reduced Medicare spending by 1% to 2% annually but that some portion of those savings to the Medicare program are offset by shared savings bonuses earned by ACOs. McWilliams et al. (2018) found that ACO participation in the MSSP in 2012 was associated with statistically significant differential spending of -4.9% by 2015. The 2015 results were -3.5% for 2013 program entrants and -1.6% for 2014 entrants. Relative reductions grew with length of participation in the program and were significantly greater in physician ACOs than in hospital-integrated ACOs. The mean reduction in spending for physician ACOs entering in 2012 was \$474 per beneficiary versus \$169 per beneficiary for hospital ACOs. Physician ACOs entering in 2013 and 2014 also reduced spending by \$342 and \$156 respectively, while hospital ACOs entering in those years did not achieve statistically significant reductions. Spending reductions in physician-group ACOs constituted a net savings to Medicare of \$256.4 million in 2015, whereas spending reductions in hospital-integrated ACOs were offset by bonus payments. This study is based on an “intent to treat” design, and the results are therefore not influenced by changes in the composition of ACO physicians after the initial year of entry.

Other studies suggest Medicare ACO program savings of similar magnitude. An analysis of Medicare’s Pioneer ACO program found differential spending of -3.8% in 2012 and -1.2% in 2013 (Nyweide et al. 2015). An analysis of MSSP ACOs by MedPAC (2019) reported savings of 1% to 2% in 2016. A consultant report released in 2019 estimated that the MSSP program saved \$3.5 billion from 2013 to 2017 and generated net savings of \$755 million after accounting for shared savings payments to ACOs (Dobson|Davanzo 2019). A government-sponsored evaluation of the first two years of the Medicare Next Generation ACO program found gross savings of \$123 million but a total increase in net program spending after accounting for shared savings payments (Lowell et al. 2020).

One study of the MSSP concluded that savings through 2014 were primarily due to nonrandom exit of higher cost physicians (Markovitz et al. 2019), but that result is inconsistent with the findings and study design of McWilliams et al. (2019). A more recent analysis found no evidence that changes in

ACO patient populations explain savings estimates from previous evaluations through 2015, and no evidence that ACOs systematically manipulated provider composition or billing to earn bonuses (McWilliams et al. 2020).

A 2019 systematic review of research on the impact of ACOs on utilization, care and outcomes found that the most common impacts of ACO implementation on outcomes were reduced inpatient use, reduced emergency department visits and improved measures of preventive care and chronic disease management (Kaufman et al. 2019). The study included 29 quantitative peer-reviewed studies. Seventeen focused on Medicare programs, nine on commercial programs, one on Medicaid and two on multiple payers. Of the nine commercial ACO studies, seven examined the Blue Cross alternative quality contract (AQC) in Massachusetts. The other two commercial studies were small and ranked of relatively low quality by the authors. This underscores the paucity of information about commercial ACO programs.

The Blue Cross AQC is the most comprehensively studied commercial ACO contract, and its impact has been evaluated over an 8-year period. During the 8-year post-intervention period from 2009 to 2016, the relative savings on medical claims was 11.7% for organizations that entered the AQC in 2009 (Song et al. 2019). These savings were driven in the early years by lower prices (due to shifts in site of service) and in the later years by lower utilization of services, including the use of laboratory testing, certain imaging tests and emergency department visits. Most quality measures of processes and outcomes improved more in the AQC cohorts than they did in New England and the nation, in unadjusted analyses. Savings were generally larger among subpopulations that were enrolled longer. Enrollees of organizations that entered the AQC in 2010, 2011 and 2012 had medical claims savings of 11.9%, 6.9% and 2.3%, respectively, by 2016. In the later years of the initial AQC cohorts and across the years of the later-entry cohorts, the savings on claims exceeded incentive payments, which included quality bonuses and providers' share of the savings below spending targets.

Summary

- Medicare ACOs have generated statistically significant Medicare savings of 1% to 2% annually. Medicare ACO programs have generated net savings to Medicare after accounting for shared savings payments to ACOs.
- A 2019 systematic review of research on the impact of ACOs on utilization and spending found that the most common impacts of ACO implementation were reduced inpatient use, reduced emergency department visits and improved measures of preventive care and chronic disease management.
- There are very few peer-reviewed studies of commercial ACO performance. The principal program cited in the literature, the Massachusetts AQC, found 2016 savings of nearly 12% for organizations that entered the program in 2009 or 2010.

Research gaps

- Despite a growing consensus about the average effect of Medicare's ACO models, much less is known about factors driving variations in performance, including delivery system and market factors associated with success.

- Research shows that performance improves as organizations gain experience in value-based payment models over time. More research documenting the organizational learning curve and time-to-savings would benefit both existing participants and new entrants.

SECTION 6: MEDICARE ADVANTAGE

Medicare Advantage, also known as Medicare Part C, is a voluntary program for beneficiaries that contracts with private insurers to provide Medicare Part A (facility), Medicare Part B (professional services) and Medicare Part D (prescription drug) benefits, for a capitated monthly premium that varies by patient risk factors and geography. More cost-efficient Medicare Advantage plans are permitted to offer beneficiaries additional benefits such as vision and dental coverage. Plans that score higher on a composite set of quality star measures qualify for bonus payments. In 2021 an all-time high of 42% of Medicare beneficiaries were enrolled in Medicare Advantage plans, according to CMS. Medicare Advantage plans, in turn, contract with providers to deliver services for enrolled members. Unlike ACOs, Medicare Advantage plans can establish provider networks that limit beneficiary choice of providers and conduct utilization review to limit services considered clinically inappropriate.

The success of Medicare Advantage has been controversial, with different studies showing the program to be both cost-reducing and cost-increasing compared to traditional Medicare. Medicare Advantage plans have demonstrated lower inpatient and post-acute care utilization, such as shorter lengths of stay in skilled nursing facilities and lower admissions rates to acute-care hospitals (Parashuram et al. 2018) compared with traditional Medicare. One recent study found that Medicare Advantage beneficiaries are admitted to larger, higher quality skilled nursing facilities (Jung et al. 2018). Medicare Advantage enrollees also appear to have lower hospital readmissions and fewer admissions to skilled nursing facilities, with no differences in mortality (Huckfeldt 2017, Kumar 2018). However, one recent study finds that Medicare Advantage drives down the use of both high-value and low-value services with little impact on prices (Curto et al. 2019).

A recent systematic review concluded that Medicare Advantage was associated with lower utilization of hospital, emergency department and skilled nursing facility services and lower health care spending compared with traditional fee-for-service Medicare. Medicare Advantage outperformed traditional Medicare in most studies comparing quality-of-care metrics, but this was not the case for patient experience, readmission rates, mortality and racial and ethnic disparities. The authors expressed concerns that evidence to date might not fully account for selection bias, unobserved differences in social determinants of health or risk adjustment challenges, in part because of differences in data quality that limit the comparability of outcomes (Agarwal et al. 2021).

Early research suggested that Medicare Advantage plans benefited from favorable selection through efforts to enroll younger, healthier beneficiaries. The addition of risk-adjusted premiums in the early 2000s was intended specifically to encourage plans to enroll sicker beneficiaries. Newhouse and McGuire (2014) found that risk adjustment mitigated selection problems. However, in a more recent study, Beveridge et al (2017) found that Medicare Advantage beneficiaries had lower mortality rates than would be expected for patients with similar risk scores in traditional Medicare. As Medicare Advantage enrollment now tops 40% of beneficiaries, differences in the

race, ethnicity and socioeconomic characteristics of Medicare Advantage enrollees and fee-for-service beneficiaries have diminished, with some studies showing that Medicare Advantage plans attract a higher share of lower income enrollees compared to traditional Medicare (MedPAC 2019).

Despite CMS regulation of many aspects of Medicare Advantage – such as the actuarial value of the plan, premiums and quality expectations – little is known about the operational details of Medicare Advantage plans and the payment arrangements between plans and providers. Recent surveys suggest that Medicare Advantage plans are increasingly sharing risk with providers. According to the Health Care Payment and Learning Action Network (2019), which surveys health plans to determine the share of payments in value-based models, Medicare Advantage has 29.3% of total payments made through shared savings models with no downside risk and 24.3% of payments made through shared-risk or full-risk models. In comparison, the MSSP and Next Generation ACO models together had about 39% of medical payments made through shared-risk or full-risk models in 2019 (author analysis of MSSP public use files).

A survey of 75 physician groups and integrated health systems conducted by AMGA (formerly American Medical Group Association) found that Medicare Advantage accounted for 35% of their total federal (Medicare and Medicaid) revenue, up from 22% in 2015. Moreover, 28% of Medicare Advantage revenue was estimated to be fully capitated in 2018, with larger groups reporting a higher share of capitation revenue than smaller groups (AMGA 2019).

Medicare Advantage plans and Medicare ACOs are subject to mandatory quality reporting, whereas traditional Medicare is not. This makes quality comparisons between Medicare Advantage and traditional fee-for-service plans difficult. However, a 2019 study by Figueroa et al. found that Medicare Advantage patients with coronary artery disease were more likely to receive secondary prevention services and had higher odds of receiving guideline-recommended therapy than traditional Medicare beneficiaries. Similarly, a study by Esse and colleagues (2013) found that physicians who were part of a quality compensation program through a Medicare Advantage plan were more likely to provide heart failure patients with all of the necessary lab tests, as well as the flu vaccine. No published studies compare the quality of care within Medicare Advantage to Medicare ACOs. MedPAC has issued recommendations to reform the Medicare Advantage stars program to reduce the number of measures, change the scoring from the Medicare Advantage contract level and make the program budget-neutral (MedPAC 2019).

Despite a large volume of research, the overall value to CMS of Medicare Advantage compared with traditional fee-for-service or the Medicare ACO program is uncertain. This is partly because CMS did not begin collecting Medicare Advantage encounter data until 2012, and the data were not made broadly available to researchers until recently. Numerous questions still remain about the quality of Medicare Advantage encounter data, because it was not used to determine plan payments. Similarly, Medicare Advantage plan design information was only recently made available to researchers.

The most recent MedPAC estimates suggest that Medicare Advantage spending is 2% higher than spending for equivalent beneficiaries enrolled in traditional Medicare (MedPAC 2020). There has been a longstanding concern that the Medicare Advantage risk-adjustment payment mechanism leads to upcoding of beneficiary diagnoses, overstating the severity of illness in Medicare Advantage enrollees relative to beneficiaries enrolled in traditional Medicare. While CMS has

the authority to adjust payments to account for upcoding, MedPAC has continued concerns that aggressive coding contributes to higher Medicare Advantage spending relative to traditional Medicare (MedPAC 2020).

Summary

- The Medicare Advantage program has grown over time with over 40% of beneficiaries participating in 2020.
- Although studies show lower costs for beneficiaries participating in Medicare Advantage, concerns remain about risk score upcoding and adverse selection.
- Medicare Advantage plans are subject to mandatory quality reporting and have generally shown high quality relative to fee-for-service programs.

Research gaps

- No studies compare the quality of care for beneficiaries in Medicare Advantage versus Medicare ACO programs or any other alternative payment model. Comparative studies would be valuable, particular with a rich set of measures reflecting clinical and patient-reported outcomes.
- No detailed data describe the prevalence or structure of alternative payment models in Medicare Advantage.
- Since some delivery systems participate in both Medicare Advantage and the ACO program, research documenting whether there are synergies when provider groups participate in risk-based contracts across both Medicare Advantage and traditional Medicare would be beneficial.
- Continued research on upcoding is needed to support all CMS value-based payment models.

REFERENCES

Section 1: Multispecialty group characteristics and performance

Rama A. 2019. Payment and Delivery in 2018: Participation in Medical Homes and Accountable Care Organizations on the Rise While Fee-for-Service Revenue Remains Stable. American Medical Association. Accessed at <https://www.ama-assn.org/system/files/2019-09/prp-care-delivery-payment-models-2018.pdf>

Physicians Advocacy Institute 2021. COVID-19's Impact on Acquisitions of Physician Practices and Physician Employment 2019-2020. Prepared by Avalere Health. Accessed at http://www.physiciansadvocacyinstitute.org/Portals/0/assets/docs/Revised-6-8-21_PAI-Physician-Employment-Study-2021-FINAL.pdf?ver=K6dyoekRSC_c59U8QD1V-A%3d%3d

Kane C. 2019. Updated Data on Physician Practice Arrangements: For the First Time, Fewer Physicians are Owners Than Employees. American Medical Association. Accessed at <https://www.ama-assn.org/system/files/2019-07/prp-fewer-owners-benchmark-survey-2018.pdf>

Simon M, et al. 2017. Exploring attributes of high-value primary care. *Ann Fam Med* (Nov) 15(6):529–34.

McWilliams JM, et al. 2013. Delivery system integration and health care spending and quality for Medicare beneficiaries *JAMA Intern Med* 173(15):1447–56.

Ho V, et al. 2020. Annual spending per patient and quality in hospital-owned versus physician-owned organizations: An observational study. *J Gen Intern Med* 35(3):649–55.

Baker LC, et al. 2019. The Effects of Multispecialty Group Practice on Health Care Spending and Use. National Bureau of Economic Research. Accessed at https://www.nber.org/system/files/working_papers/w25915/w25915.pdf

Weeks W, et al. 2010. Higher health care quality and bigger savings found at large multispecialty medical groups. *Health Aff* 29:991–7.

Section 2: ACO organizational structure and characteristics

Shortell SM, et al. 2018. The characteristics of physician practices joining the early ACOs: Looking back to look forward. *Am J Manag Care* 24(10):469–74.

Ouayogode, M.H., et al. 2020. Association of organizational factors and physician practices' participation in alternative payment models. *JAMA Netw Open* 3(4):e202019.

CMS newsroom. 2016. <https://www.cms.gov/newsroom/press-releases/physicians-and-health-care-providers-continue-improve-quality-care-lower-costs>

Chukmaitov AS, et al. 2019. Factors associated with hospital participation in Centers for Medicare and Medicaid Services' accountable care organization programs. *Health Care Manage Rev* 44(2):104–14.

Barnett M, McWilliams JM. 2018. Changes in specialty care use and leakage in Medicare accountable care organizations. *Am J Manag Care* 24(5):e141–9.

Medicare Payment Advisory Commission (MedPAC). 2019. June Report to Congress. Accessed at http://www.medpac.gov/docs/default-source/reports/jun19_medpac_reporttocongress_sec.pdf?sfvrsn=0

Hsu J, et al. 2017. Substantial physician turnover and beneficiary 'churn' in a large Medicare Pioneer ACO. *Health Aff (Millwood)* 36(4):640–8.

D'Aunno T, et al. 2018. Factors that distinguish high-performing accountable care organizations in the Medicare Shared Savings Program. *Health Serv Res* 53(1):120–37.

Lewis VA, et al. 2017. The new frontier of strategic alliances in health care: New partnerships under accountable care organizations. *Soc Sci Med* 190:1–10.

Kennedy G, et al. 2018. Accountable care organizations and post-acute care: A focus on preferred SNF networks. *Med Care Res Rev* 77(4):312–23.

Lewis VA, et al. 2018. The hidden roles that management partners play in accountable care organizations. *Health Aff (Millwood)* 37(2):292–8.

Section 3: Risk sharing and financial arrangements

Peck KA, et al. 2019. ACO contracts with downside financial risk growing, but still in the minority. *Health Aff (Millwood)* 38(7):1201–6.

Mechanic RE, Zinner D. 2016. Risk contracting and operational capabilities in large medical groups during national healthcare reform. *Am J Manag Care* 22(6):441–6.

Massachusetts Health Policy Commission. 2019. Annual Report and APM workbook. Accessed at <https://www.chiamass.gov/annual-report>

Ryan AM, et al. 2015. Salary and quality compensation for physician practices participating in accountable care organizations. *Ann Fam Med* 13(4):321–4.

Section 4: Care redesign and quality improvement

Lewis VA, et al. 2019. Clinical coordination in accountable care organizations: A qualitative study. *Health Care Manage Rev* 44(2):127–36

Mechanic RE, et al. 2011. Medical group responses to global payment: Early lessons from the “Alternative Quality Contract” in Massachusetts. *Health Aff (Millwood)* 30(9):1734–42.

Song Z, et al. 2011. Health care spending and quality in year 1 of the Alternative Quality Contract. *New Engl J Med* 365(10):909–18.

Kennedy G, et al. 2018. Accountable care organizations and post-acute care: A focus on preferred SNF networks. *Med Care Res Rev* 77(4):312–23.

Barnett M, McWilliams JM. 2018. Changes in specialty care use and leakage in Medicare accountable care organizations. *Am J Manag Care* 24(5):e141–9.

McWilliams JM, et al. 2017. Medicare ACO program savings not tied to preventable hospitalizations or concentrated among high-risk patients. *Health Aff (Millwood)* 36(12):2085–93.

Lin SC, et al. 2020. Out-of-network primary care is associated with higher per-beneficiary spending in Medicare ACOs. *Health Aff (Millwood)* 39(2):310–8.

Fraze TK, et al. 2019a. ‘Eyes in the home’: ACOs use home visits to improve care management, identify needs, and reduce hospital use. *Health Aff* 38(6):1021–7.

Fraze TK, et al. 2019b. Prevalence of screening for food insecurity, housing instability, utility needs, transportation needs, and interpersonal violence by US physician practices and hospitals. *JAMA Netw Open* 2(9):e1911514.

Fraze TK, et al. 2021. Translating evidence into practice: ACOs’ use of care plans for patients with complex health needs. *J Gen Int Med* 36:147–53.

Murray GF, et al. 2020. Upstream with a small paddle: How ACOs are working against the current to meet patients’ social needs. *Health Aff (Millwood)* 2020:39(2):199–206.

Gilstrap LG, et al. 2018. Changes in end-of-life care in the Medicare Shared Savings Program. *Health Aff (Millwood)* 37(10):1693–700.

McWilliams JM, et al. 2017. Changes in post-acute care in the Medicare Shared Savings Program. *JAMA Intern Med* 177(4):518–26.

Ouayogode MH, et al. 2019. Association between care management and outcomes among patients with complex needs in Medicare accountable care organizations. *JAMA Netw Open* 2(7):e196939.

Section 5: Financial performance

McWilliams JM, et al. 2018. Medicare spending after 3 years of the Medicare Shared Savings Program. *N Engl J Med* 379(12):1139–49.

Nyweide DJ, et al. 2015. Association of Pioneer Accountable Care Organizations vs. traditional Medicare fee-for-service with spending, utilization, and patient experience. *JAMA* 313(21):2152–61.

MedPAC. 2019. June Report to Congress.

Dobson|Davanzo. 2019. MSSP Savings Estimates 2013–2017. Accessed at https://www.naacos.com/index.php?option=com_content&view=article&id=931:press-release--new-independent-analysis-shows-acos-have-saved-medicare--3-53-billion&catid=20:site-content

Lowell KH, et al. 2020. Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare & Medicaid Services, NORC at University of Chicago. Third Evaluation Report. Accessed at <https://innovation.cms.gov/data-and-reports/2020/nextgenaco-thirdevalrpt-fullreport>

Markovitz AA, et al. Performance in the Medicare Shared Savings Program after accounting for nonrandom exit: An instrumental variable analysis. *Ann Intern Med* 171(1):27–36.

McWilliams JM, et al. 2020. Savings or selection? Initial spending reductions in the Medicare Shared Savings Program and considerations for reform. *Milbank Q* 98(3):847–907.

Kaufman, BG, et al. 2019. Impact of accountable care organizations on utilization, care, and outcomes: A systematic review. *Med Care Res Rev* 76(3):255–90.

Song Z, et al. 2019. Health care spending, utilization, and quality 8 years into global payment. *N Engl J Med* 381(3):252–63.

Section 6. Medicare Advantage

Parashuram S, et al. 2018. Inappropriate utilization in fee-for-service Medicare and Medicare advantage plans. *Am J Med Qual* 33(1):58–64.

Jung HY, et al. 2018. Medicare Advantage enrollees' use of nursing homes: Trends and nursing home characteristics. *Am J Man Care* 24(8):e249–56.

Curto V, et al. 2019. Health care spending and utilization and private Medicare. *Am Econ J: Appl Econ* 11(2):302–32.

Agarwal RR, et al. 2021. Comparing Medicare Advantage and traditional Medicare: A systematic review. *Health Aff* 40(6):937–44.

Newhouse JP, McGuire TG. 2014. How successful is Medicare Advantage? *Milbank Q* 92(2):351–94.

Figuroa, J, et al. 2020. Quality of Care and Outcomes Among Medicare Advantage vs Fee-for-Service Medicare Patients Hospitalized With Heart Failure. *JAMA Cardiol.* 5(12):1349-1357.

Beveridge, RA, et al. 2017. Mortality differences between traditional Medicare and Medicare Advantage: A risk-adjusted assessment using claims data. *Inquiry* 54(2):1-8.

MedPAC. 2019. Report to Congress, Chapter 8. Accessed at June 2019 Report to the Congress: Medicare and the Health Care Delivery System http://www.medpac.gov/docs/default-source/reports/jun19_medpac_reporttocongress_sec.pdf?sfvrsn=0

Health Care Payment and Learning Action Network. 2019. APM Measurement Report. Accessed at <https://hcp-lan.org/apm-measurement-effort/2019-apm/>

AMGA. 2019. Taking Risk 4.0: Clearing a Pathway to Value-based Care. Accessed at https://www.amga.org/AMGA/media/PDFs/Performance%20Improvement%20and%20Publications/Best%20Practices%20and%20Analytics/Benchmarking%20Surveys/Risk/AMGA_Risk_White-Paper-4_final.pdf

Esse, T. et al. 2013. Quality compensation programs: are they worth all the hype? A comparison of outcomes within a Medicare advantage heart failure population. *J Manag Care Pharm* 19(4):317-24.

MedPAC. 2020. Report to Congress, Chapter 13. Accessed at http://www.medpac.gov/docs/default-source/reports/mar20_entirereport_rev_sec.pdf?sfvrsn=0

Baker LC, et al. 2016. Medicare Advantage plans pay hospitals less than traditional Medicare pays. *Health Aff* 35(8):1444–51.

Ndumele CD, et al. 2019. Differences in hospitalizations between fee-for-services and Medicare Advantage. *Med Care* 57(1):8–12.

Newhouse JP, et al. 2019. The comparative advantage of Medicare Advantage. *Am J Health Econ* 5(2):218–301.

Pelech DM. 2020. Prices for physicians' services in Medicare Advantage and commercial plans. *Med Care Res Rev* 77(3):236–48.

Welch WP, et al. 2019. Concentration of physician services across insurers and effects on quality: Early evidence from Medicare Advantage. *Med Care* 57(10):795–800.