



Key Points

- How patients are assigned to an ACO can affect the potential for adverse selection, as well as its ability to manage the risk for which it will be held accountable.
- Risk adjustment methods are important tools to help mitigate selection concerns.
- The payment arrangements used in an ACO can affect the financial risk borne by the ACO, as well as how risk is allocated within the ACO.
- Comprehensive databases from multiple sources are critical to performance metrics and financial targets.

Additional Resources

American Academy of Actuaries, *Fact Sheet: Medicare Shared Savings Program under the Affordable Care Act*, http://www.actuary.org/pdf/ACO_fact_sheet.pdf

An Actuarial Perspective on Accountable Care Organizations

The Affordable Care Act (ACA) and recent proposed regulations incorporate a concept that some health reform proponents have advocated for several years: the Accountable Care Organization (ACO). An ACO is a group of health care providers, such as physicians and hospitals, that work together to manage and coordinate care for a group of patients—across the entire spectrum of care for those patients—and accept responsibility for the quality and cost of that care. The ACO structure is intended to encourage more integrated care for patients, resulting in quality improvements and reduced costs. Under some arrangements, including the Medicare Shared Savings Program,¹ if an ACO achieves a benchmark level of cost savings, while maintaining a measurably high quality level, the ACO shares in the cost savings.

The ACO concept and other alternative approaches, such as patient centered medical homes (PCMHs), are being researched and piloted within the health care industry. To be successful in their financial goals, these programs need to focus on measurement and key actuarial issues. The American Academy of Actuaries' Health Care Quality Work Group has developed this issue brief to provide an actuarial overview of ACOs and outline a number of issues that stakeholders should evaluate as ACOs are implemented.

The brief outlines the opportunities and financial considerations necessary to develop successful ACOs. Although the brief re-

¹Proposed rule to implement Section 3022 of ACA related to ACOs: <http://www.gpo.gov/fdsys/pkg/FR-2011-04-07/pdf/2011-7880.pdf>.

The American Academy of Actuaries is a 17,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. The Academy assists public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.



fers to the current proposed regulations on ACOs, it is not intended to be an in-depth review of the Medicare Shared Savings Program specifically.

The brief discusses the following key points:

- Attribution, or the assignment of patients to a particular ACO, should be considered carefully. Risk is closely connected to various population characteristics. There is potential for adverse selection resulting from how populations are enrolled in these programs.
- An ACO can assume varying degrees of financial responsibility and risk:
 - › Shared savings with bonus-only methods usually rely on fee-for-service (FFS) payment and may not remove incentives for overutilization.
 - › At the opposite end of the spectrum, global payments provide significant financial incentives to avoid overutilization but introduce solvency concerns, unless the ACO is structured to assume the full financial risk of a population.
 - › Other payment options are available that strike more of a balance between shared savings and global payment.
- Risk-adjustment methods are important tools to help mitigate selection concerns related to an ACO arrangement. Reinsurance also can help an ACO to manage financial risk.
- ACOs taking on significant amounts of risk should be subject to financial requirements consistent with risk-based capital (RBC) principles.
- Financial and utilization targets against which savings will be measured should be

set and adjusted to ensure a fair assessment, balancing past performance with high performance standards.

- Comprehensive databases from multiple sources—e.g., past claims experience, electronic medical records (EMRs), and disease registry data—are critical to performance metrics and financial targets.
- The payment methodology between the ACO and payer, such as Medicare or commercial health plans, should be developed as a multi-year strategy. The payment strategy within the ACO—how the ACO organization pays each provider—is equally important.
- Regulators and other stakeholders should balance broader marketplace implications, considering the effect on local prices, payment reform, and delivery efficiencies.

Background

With health care spending accounting for an increasing portion of the gross domestic product (GDP), attention has been focused on “bending the cost curve” in health care spending. Slowing the growth of spending could require fundamental changes in the way health care providers are paid. Instead of paying providers for each service they perform (i.e., FFS)—without consideration of the quality or efficacy of the services—payment could be based on the value, a combination of high quality outcomes and lower costs, across the continuum of care for a patient.

There have been a variety of initiatives over the years to improve the quality and affordability of the health system by building on existing provider organizations or networks of providers. In the 1990s, for example, provider-based integrated delivery systems and carrier-based HMOs were developed across the country.

Members of the Health Care Quality Work Group include Michael J. Thompson, MAAA, FSA, chairperson; Jeffrey L. Adams, MAAA, ASA; David V. Axene, MAAA, FSA, FCA; William S. Bade, MAAA, FSA; Gayle M. Brekke, MAAA, FSA; Andrea B. Christopherson, MAAA, FSA; Robert E. Cirkiel, MAAA, ASA, FCA, EA; Adrian L. Clark, MAAA, FSA; Gabriela Dieguez, MAAA, FSA; Glen A. Gusewelle, MAAA, ASA, FCA; Audrey L. Halvorson, MAAA, FSA; Joel C. Hoffman, MAAA, ASA, FCA; Malgorzata Jankowiak-Roslanowska, MAAA, ASA; Mary R. Lareau, MAAA, FSA; James T. Lescoe, MAAA, FSA; Laura Beth Lieberman, MAAA, FSA; Jinn-Feng Lin, MAAA, FSA, FCA; Timothy J. Luedtke, MAAA, FSA; Valerie F. Nelson, MAAA, FSA; Susan E. Pantely, MAAA, FSA; Curtis L. Robbins, MAAA, ASA; Geoffrey C. Sandler, MAAA, FSA; John Sardelis, MAAA, ASA; Allan I. Schwartz, MAAA, ASA, FCA, FCAS; Jerome P. Swenson, MAAA, FSA; Robert G. Tate, MAAA, FSA; Sara C. Teppema, MAAA, FSA, FCA; and Cori E. Uccello, MAAA, FSA, FCA. Also contributing to this issue brief is Greger Vigen, FSA.

Technical advances in the last few decades—such as improved analytic and measurement tools and improved health information technology support for care coordination—have made the implementation of such organizations more practical even as increasing health care costs have made the need for controlling health care costs more urgent.

Redesigning the financing model with new forms of reimbursement and incentives to increase accountability can be more successful if the provider organization also changes its structure to fit the new reimbursement form. Without changing the delivery of care and the relationship of providers across the continuum of care, an ACO could run into problems similar to those that occurred with earlier versions of managed care. This structural change might include redesigning the resources available to patients and providers to fit the new design of care delivery.²

While the focus of this issue brief is ACOs, it is worth noting that many of these considerations also apply to PCMHs, which are designed to support the primary care physician (PCP) in taking the lead role in coordinating care for patients.³

In recent years, a number of related initiatives/pilot programs have been established:

- The Medicare Physician Group Practice (PGP) demonstration project by CMS;
- ACO pilot programs, including existing organized systems such as the large California physicians' groups, Premier's Accountable Care Collaboratives, and the Dartmouth-Brookings ACO pilots;
- Alternative networks available in several states for Medicare Advantage plans or employed populations;
- Pay-for-performance programs in existence for more than five years in some locations;
- Pilot programs for quality improvement, complication reduction, and unbundling;
- More than 40 PCMH pilots across the country.

Recent Developments

In the past ACOs typically have required

members to enroll prospectively in the ACO, at which time they would be assigned a PCP and be required to get referrals for specialist care. The proposed regulations, instead, recommend a retrospective method in which the ACO and physicians are identified after the end of each year. This will employ an assignment methodology in which a patient is attributed to a particular physician or physician group based on number of visits or charges to that physician during the past year.

Payment to the ACO from the health plan (or other payer) could be based on FFS, bundled payments, or even partial or global payment, depending on the capability of the ACO to manage the various levels of risk and reward. The proposed regulations recommend the current FFS program with retroactive calculation of shared savings. Further options are being reviewed in other pilots and may be available through alternative programs through the Center for Medicare & Medicaid Innovation (also known as the Innovation Center).

Even with recent developments, some of the core challenges remain. Payment reform is essential to create aligned incentives, health information technology needs to be broadly implemented to enable better coordination and management, and systems of care need to address diverse consumer health care needs and expectations.

Actuarial Considerations

A number of financial and actuarial issues need to be considered when designing and implementing an ACO or similar program, such as PCMHs.

Defining Patient Populations

The financial risk a patient represents to an ACO can be measured using the patient's prior medical spending or illnesses that make the patient more likely to have large future claim costs. In addition to individual patient health, ACOs must be considered in light of how risk is correlated with various population characteristics. For the Medicare population, risk varies by characteristics such as education level,

²For more information, see the Brookings-Dartmouth ACO Toolkit: <https://xteam.brookings.edu/bdacoln/Documents/ACO%20Toolkit%20January%202011.pdf>.

³American Academy of Family Physicians, *Joint Principles of the Patient-Centered Medical Home*, February 2007: http://www.aafp.org/online/etc/medialib/aafp_org/documents/policy/fed/jointprinciplespcmh0207.Par.0001.File.tmp/022107medicalhome.pdf.

age, gender, and socioeconomic status. For a non-elderly population, in addition to these characteristics, risk also depends on employment status and whether medical insurance is obtained on a group or individual basis. In addition, it is important to determine how to handle aging of population and new entrants into the program.

Although the ACA does not specify how Medicare beneficiaries will be assigned to an ACO, the proposed regulations extensively examine the historical assignment process. While beneficiaries would not be required to receive services from ACO-affiliated providers, the regulations propose that:

- The historic connection between PCPs and beneficiaries would be measured based on Medicare charges for primary care services.
- If the beneficiary receives a plurality of services from PCPs who work within a particular ACO, the beneficiary would be assigned to that ACO.
- The plurality of primary care services would be based on the dollars allowed under Medicare.
- This process would be retrospective—patients would be assigned after the period.⁴
- Beneficiaries do not enroll in ACOs—they can see any provider, regardless of their assignment to an ACO.
- The proposed regulations require some communications to beneficiaries by ACO providers about their participation in the ACO.

Different alternatives are being used in pilots outside of Medicare.

The assignment, or attribution, method sometimes can result in differences in the risk profile of the attributed population compared to the original population. Any enrollment or assignment approach that has a bias toward members with certain health care utilization patterns, geographic concentration,

or socioeconomic status will affect risk.

Performance Measurement⁵

ACOs and PCMHs build on a variety of measurement approaches for quality, efficiency, and resource use. These metrics often are backed by studies that show improved performance. Given the ACA provisions related to measurement, there is growing widespread attention to performance measurement.⁶

Key developments include:

- Increased public access to basic measures of quality (often through the Internet);
- Stronger hospital quality measures (e.g., more measures, greater depth, examples of specific organizations that have proven improved performance);
- New evidence-based clinical metrics to measure quality;
- Improved efficiency metrics;
- New episodes-of-care metrics, which can improve communication and understanding between purchasers' financial focus and providers' focus on individuals and specific illnesses;
- A variety of existing pay-for-performance programs that are predecessors for payment reform and broader ACO and PCMH programs;
- Pilot programs to reduce inpatient complications and readmission rates;
- Alternative networks offered to members in certain locations.

The regulations propose an extensive system for quality measurement and incentive payments. The measures include patient experience, care coordination, patient safety, preventive health, and metrics for chronic conditions and at-risk populations.⁷

While these measures provide a solid found-

⁴In a letter to Dr. Donald Berwick, CMS administrator, the Medicare Payment Advisory Commission (MedPAC) recommended that Medicare beneficiaries be informed of their assignment to an ACO so that they can be fully engaged with improved care management. (November 2010)

⁵Society of Actuaries, *Measurement of Healthcare Quality and Efficiency: Resources for Health Professionals* (October 2009): <http://www.soa.org/research/research-projects/health/research-quality-report.aspx>. Some of the more commonly used measures include the Hospital-Patient Experience and Select Clinical Quality report for Medicare, Leapfrog Survey, HEDIS carrier/physician measures, and Physician Quality Reporting Initiative

⁶For example, "The Cost Conundrum" by Atul Gawande provides a perspective on measured differences in quality and efficiency across populations in different cities in Texas: http://www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande?currentPage=all

⁷See the proposed rule to implement Section 3022 of ACA related to ACOs: <http://www.gpo.gov/fdsys/pkg/FR-2011-04-07/pdf/2011-7880.pdf>. An overview of these measures is summarized in Table 2 and the proposed point scoring is illustrated in Table 4.

dation, since health care is complex, continuing enhancement and improvement are expected.

In addition, it appears that early versions of ACOs or PCMHs will be responsible for only a subgroup of the population, which adds complexity to measurement. Further complicating the issue, the Medicare approach will determine the subgroup of patients being measured retrospectively. Most methods of assigning (or attributing) patients to an ACO may select populations that had at least some care in the prior period, but may not need care in the future. Projecting these prior results into the future can be a complex exercise. One possible approach to this challenge would be for the ACO to set up and track a “control group,” or other “comparison group”⁸ similar to the structure of a formal quality study. This control group would have similar characteristics to the attributed population, but would not have an ACO accountable for its care.

Accountability and Risk Management

While there is an actuarial viewpoint that would argue traditional FFS arrangements provide little incentive to providers to manage health care costs, a distinguishing characteristic of ACOs is the assumption of greater financial risk for its performance. By transferring a degree of financial risk to ACOs, payers create an incentive for providers to manage the delivery of care and provide funding for alternative ways to support patients. Although a wide variety exists in the levels of risk borne by providers under these alternative payment arrangements, such payment arrangements generally can be grouped into the following models.

■ **“ONE-SIDED” SHARED SAVINGS (BONUS ONLY):** In a shared-savings arrangement that offers a bonus only, providers are eligible to receive a portion of savings if they meet quality of care standards while providing care at lower-than-projected costs. In a one-sided shared-savings arrangement, ACOs have some incentive to cut costs and increase efficiency to obtain a share of savings. If they are reimbursed under a FFS

arrangement, however, they would receive a financial reward for performing more services. On balance, the effect of these conflicting incentives would depend on the details of the arrangement, but regardless, the payer continues to bear most of the risk.

Architects of shared-savings arrangements should be wary of unintentionally creating misaligned incentives. For example, if bonuses are benchmarked on historical costs, an ACO has a real incentive to increase utilization and incur higher costs in the benchmark period, thereby creating opportunities for savings in future years. In addition, if benchmarks are based on a provider’s previous experience and not adjusted, then shared-savings arrangements may disproportionately reward providers who have been inefficient and wasteful. This type of arrangement, if not carefully designed, actually could penalize cost-efficient providers. A final point to consider is the size of a savings pool over a group of providers. If an individual provider’s share of the pool is small relative to its FFS reimbursement, the financial incentive to improve efficiency may be weak.⁹

In any case, determination of whether savings have occurred can be complex and potentially problematic. In numerous instances, disputes have arisen between parties on whether savings associated with the programs actually have occurred. Predefining a multiyear methodology can mitigate some of these concerns. As an alternative, stakeholders may consent to an initial definition of savings with an agreement to refine the methodology in future years.

■ **“TWO-SIDED” SHARED SAVINGS:** Under a two-sided shared-savings model (with downside risk), ACOs still would receive payment primarily on a FFS basis and would be eligible to receive a portion of the savings. They also would be at risk, however, for a portion of the spending over the designated target. Under this model, the incentive to reduce costs and control spending would be strong, even if it resulted in lower FFS revenues as providers perform fewer ser-

⁸A control group measurement technique has been used for programs, such as the PGP demonstration.

⁹Medicare Payment Advisory Commission letter to CMS Administrator Dr. Donald Berwick regarding the request for comments on ACOs and the Medicare Shared Savings Program (Nov. 22, 2010): http://www.medpac.gov/documents/11222010_ACO_COMMENT_MedPAC.pdf.

VICES. As mentioned above, determination of savings is complex and there is potential for misaligned incentives.

■ **BUNDLED/EPISODE PAYMENTS:** Further along the spectrum of financial risk that an ACO could bear is the concept of bundled or episode payment arrangements. Under this type of arrangement, providers receive a single payment for all the services a patient requires for an entire episode of care. In the case of a hip fracture, for example, this payment would cover the hospitalization, surgery, purchase of a prosthetic hip, and all other associated expenses necessary to care for this episode. In such a payment arrangement, the payer bears the incidence risk, or the risk that the illness/injury occurs, while the ACO and its providers bear the severity risk, or the risk of the level of complication of the patient's case. ACOs, accordingly, take on more financial risk under this arrangement than in a bonus-only shared-savings arrangement, as they now assume the downside financial risk for each case—namely that the cost to treat an episode will exceed the payment. The ACO, however, does not assume the incidence risk, which still is borne by the payer.

■ **PARTIAL CAPITATION/GLOBAL PAYMENTS:** In a partial capitation model, an ACO is at financial risk for some, but not all, of the items and services provided to its patients. An ACO may be at risk for some or all physicians' services, for example, but not for hospital or other non-physician services.

Global payments lie at the far end of the spectrum of financial risk an ACO can assume. These arrangements call for setting budgets for health care services and paying the ACO's specified monthly or annual payments regardless of the services rendered or costs incurred by providers. Under such a system, payers face little financial risk because payment amounts are predetermined. This shifts both the incidence and financial severity risks—which traditionally are associated with insurers—from the payers to ACOs. Under a global payment arrangement, the ACO bears the risk that the payments received are insufficient to

cover the costs of the services it provides, and insolvency of the ACO is a real risk. To assume global risk successfully, ACOs need a suite of tools and systems to monitor and manage cost and utilization similar to those currently used by payers. Solvency considerations are discussed later in this brief.

In a global payment arrangement, the only way for a provider to increase its financial benefit is to increase efficiency and reduce costs. Episode payment arrangements exert similar pressure, albeit only for specific instances. Under both arrangements, ACOs also have incentives to better coordinate care among multiple providers treating a patient or to replace inappropriate care settings (e.g., emergency rooms) with more efficient settings (e.g., physician offices). In addition, because payment under these arrangements is not tied to specific procedures, these models create an incentive for ACOs to try new and non-traditional treatment methods that would not have been reimbursed under a FFS arrangement.

The proposed ACO regulations offer an ACO two possible financial arrangements: a one-sided and a two-sided method. There are substantial differences between the approaches. Under the one-sided option, ACOs can be paid 50 percent of savings, after various adjustments for quality, a required minimum savings rate, and savings threshold. Under the two-sided option, the base percentage is 60 percent of savings after quality and a slightly different minimum savings rate.¹⁰

As noted above, all payment arrangements rely heavily on comparison of actual performance to some benchmark target. The methodology and data used to calculate this benchmark must be considered carefully in the strategic set-up of the ACO and its payment method. There are two key issues:

- Development of the starting benchmark—what would the program have paid if no changes were made?
- How to pay only for real change, not random fluctuation—especially when the “one-sided” approach is used.

The development of a benchmark often is

¹⁰See Table 6 in the proposed rule to implement Section 3022 of ACA related to ACOs: <http://www.gpo.gov/fdsys/pkg/FR-2011-04-07/pdf/2011-7880.pdf>.

done by health actuaries and a variety of analytic techniques are used. These techniques involve taking historic experience and projecting results into the future. Future projections can be calculated anticipating a percentage growth rate or based on a flat dollar amount. In some cases, the calculations are quite detailed, breaking results into location, illnesses, and separate major components such as hospital inpatient, outpatient care, and outpatient pharmacy. In others, the projection focuses entirely on the total program costs. The proposed regulations require a determination of an “expenditures benchmark” for total cost for the Medicare Part A and Part B programs, and projection of future costs on a national average based on flat dollar amounts.

How to determine whether the savings are real or random is a challenging technical and financial issue. Health care claims can be higher or lower than expected benchmarks due to randomness, and random fluctuation is more pronounced for smaller programs. This issue becomes further complicated when one-sided shared savings is introduced. ACO X, for example, could experience costs that are 3 percent lower than expected, and ACO Y could experience costs that are 3 percent higher. If the apparent 3 percent gain is shared with ACO X, then the overall system still experiences a loss for ACO Y, creating overall costs that are higher for the payer than they would have been without the shared savings. The variation should be considered for all programs, but the asymmetry is most important when only gains are shared (e.g., under one-sided financial arrangements).

To deal with this financial situation, the regulations propose several financial requirements for most ACOs:

- Only savings above a 2 percent threshold would be shared under the one-sided method.
- There would be a 25 percent withhold between years to smooth costs over time.
- The one-sided approach would become a two-sided approach by the third year.

While the list above is representative of the spectrum of available ACO reimbursement

models, it is by no means comprehensive. A significant amount of research currently is underway to develop and test new arrangements by numerous payers. One notable example of this is the recent establishment of the CMS Innovation Center for Medicare & Medicaid. The ACA defines the Center’s purpose expressly “to test innovative payment and service delivery models to reduce program expenditures... while preserving or enhancing the quality of care.”¹¹ The Innovation Center may use other financial arrangements beyond the one-sided and two-sided approaches.

Regardless of the payment structure implemented globally between the payer and the ACO, the payment of individual providers within the ACO also must be considered. The risk tolerance of individual providers, the potential for disproportionately high- or low-risk patients, and the past and future efficiency of the provider, among other factors, will affect how each provider is reimbursed by the ACO. The success of an ACO is affected by the degree to which its individual providers are aligned and willing to participate and coordinate care.

In addition, ACOs are intended to reduce spending and deliver more efficient care. Past experience with managed care, however, has shown that providers’ behavior can change in unanticipated ways. Transferring financial risk to ACOs could create a new layer of risk selection, in which providers could choose not to treat certain members if they are unhealthy. Some level of risk adjustment would help mitigate this concern. This is a tactic that must be considered when designing any payment arrangement.

Risk adjustment

Properly implementing a risk-adjustment mechanism is critical to intelligently assigning budget responsibility to an ACO.¹² To align an ACO’s payment with the actual budget of its enrolled patient population, risk adjusters should be considered to set payment levels accurately so that ACOs with less healthy patients are not disadvantaged unfairly. If an ACO is operating under a shared savings arrangement, the benchmarks used to calculate savings similarly should be risk-adjusted to

¹¹Section 3021(a) of the Affordable Care Act: <http://docs.house.gov/energycommerce/ppacacon.pdf>.

¹²American Academy of Actuaries, *Risk Assessment and Risk Adjustment*, May 2010 issue brief: http://www.actuary.org/pdf/health/Risk_Adjustment_Issue_Brief_Final_5-26-10.pdf.

ensure that ACOs are rewarded for efficiency and not their ability to select risk. In general, risk adjustment should be implemented so that ACOs are responsible for cost increases because of an increase in the cost of treating individuals of a given level of disease severity; they should not be penalized financially for increases in the average illness of their enrolled population.

The ACO proposed regulations recommend risk adjustment using the CMS-HCC risk adjustment model that already is used to adjust for risk under programs such as Medicare Advantage. This calculation would be done once at the start of the program.

Reinsurance

Under many payment reform models, ACOs take on the risk of treating unusually high-cost patients or high numbers of patients with multiple or severe conditions. ACOs should consider the advantages of reinsurance arrangements as an effective way to limit their exposure to these catastrophic risks.¹³

Solvency Considerations

If an ACO assumes significant risk (either partially or completely) based on the collective financial and clinical performance of the covered population, the issue of ACO solvency becomes a heightened concern. If an ACO is managed improperly or unfavorable circumstances arise—for example, inadequate pricing resulting from unexpected inflation, a shift in the covered population’s demographic characteristics, or one or more very expensive claims—the ACO’s financial sustainability could be threatened.

The National Association of Insurance Commissioners (NAIC) has adopted various methods to monitor the financial and operational condition of insurance organizations, including promulgating RBC standards for health organizations (e.g., HMOs, insurers, providers) that take on financial risk. Even some provider organizations that function as ACOs (e.g., Kaiser Permanente) currently are subject to such standards. These RBC standards dictate capital requirements based on the risk characteristics of a health organization. It would be reasonable to conclude, for example, that relatively less capital would be required for

an ACO that takes risk only on the care its organization actually delivers, than would be required if it also takes on the risk for care delivered outside its organization. RBC models can be adapted to different circumstances and will be critical as new and innovative risk arrangements arise in the context of ACOs.

Data Availability and Management

Data about health history, including chronic conditions, can be useful tools to improve quality and manage costs; and, the earlier the data can be made available, the greater the opportunity for timely patient support.

Data management also is key to setting target measures of efficiency, quality, and value; calculating results; and identifying opportunities for improvement. Historical experience data often are used as a baseline target from which improvement can be measured and are used to determine budget splits by category of care, service, or trend. Current data are needed for ACOs to provide feedback to physicians, as well as track patients with complex medical needs.

The proposed regulations offer two sets of data:

- Detailed data—inpatient data from Part A, outpatient information from Part B, and outpatient pharmacy from Part D—would be available monthly on the assigned patients.
- Aggregated historic statistics would be available at the start of the program. Given retrospective assignment, however, these statistics do not reflect the actual population that will be assigned in the future.

Payers have claims data that are useful to measure processes and costs—for example, did a particular service happen, was a treatment protocol followed, and what was the cost? Many quality measures are based on these process measures.

Health information technology, such as electronic medical records for physician, hospital, lab, imaging and other services, can provide additional data, which is valuable to determine patient outcomes. If an ACO is responsible for the care of a diabetes patient, for example, knowing the results of a patient’s HbA1C test

¹³American Academy of Actuaries, *Medical Reinsurance: Considerations for Designing a Government-Sponsored Program*, January 2005 issue brief: http://www.actuary.org/pdf/health/reinsurance_jan05.pdf.

and showing improved and/or stable sugar levels (outcomes) is more valuable than simply knowing that the HbA1C test was performed.

Disease registries and state immunization registries offer additional data to help round out information about specific patients. Flu shots are a good example. Patients often receive a flu shot at a retail pharmacy, but if the flu shot is not covered by the payer, the payer will not receive that information. The data related to the flu shot should be in the immunization registry.

Data integration

Integrating the data from these disparate sources can provide more comprehensive information on the delivery of efficient, quality care to patients. Even if payer claims data are all that is available initially, if an ACO can receive and manage the detail claim and cost data of all payers, it can aggregate more easily the results across the payers.

Payers historically have not had access to medical record information. The ACO, therefore, may be in a better position to manage that information.

Integrating large proprietary databases from multiple carriers, including Medicare, will add complexity to these arrangements. In addition, the ACO may need to receive and integrate care provided by non-ACO providers as some patients will obtain care outside of the ACO network.

Impact of “closed” versus “open” systems

Some ACOs may operate as open systems and some may operate as closed systems. Under Medicare, in which members are assigned to an ACO, the ACO essentially operates as an open system. In a closed system, such as an HMO, members are required to see physicians and use hospitals within the HMO network. In an open system, such as a preferred provider organization (PPO), global or indemnity system, members can seek treatment outside of a strictly defined network.

From a data perspective, a closed-system payer may not have all the information available on care provided to the patient, unless it also maintains data on denied out-of-network claims. This information may be necessary for measuring the “continuum of care” provided to a patient, even if the care was not provided by the ACO.

Open-system payers should have readily available information on claims whether or not there is an in-network only option.

It will be imperative to determine what cost metrics the ACO will be measured against and how data on costs outside of a closed system and beyond benefit maximums will be handled. This determination may depend on the level of risk the ACO accepts from a payer and whether the ACO accepts different levels of risk from different payers. And, beyond the formal external metrics, a variety of additional analytic tools would be useful.

Whether the ACO or the payers perform the quality-, efficiency-, and value-measurement depends on the capabilities of the ACO, the willingness of organizations to share detailed information, and the availability of experts to manage health information technology data, such as medical record data. While certain data may be considered proprietary or confidential, success could be contingent on addressing these concerns so that data can be shared appropriately within the ACO.

Other Significant Considerations

When implementing an ACO, a number of nonactuarial considerations also should be evaluated. A PCMH may not be as robust an organization as the ACO model, but it still may need to address many of the considerations outlined below for its smaller business model.

Level Playing Field

The dynamic of the provider marketplace can change from independently run physician groups with separate financial and quality goals to larger, multispecialty physician groups with a common set of financial and quality goals. Hospitals also may be part of the ACO model. Hospitals are both partnering with and acquiring physician groups to offer patients a broad and connected spectrum of care.

Concentration of Economic Power

The dynamic of the provider marketplace can change depending on how the ACO model develops. ACOs could become so large that single or small physician groups may no longer find it feasible to practice without being a part of an ACO. If an ACO becomes too large, it could result in a negotiating power shift to the ACO. An ACO that has greater network strength and

membership with a particular insurer could result in that ACO being able to negotiate for higher prices. In addition to these pricing concerns, this consolidation of market power could raise concerns with federal anti-trust regulators.

Impact of Mixed Systems of Reimbursement

The incentives under FFS programs are quite different from potential new arrangements. And, in the short term, both systems would continue; so transitioning will be a challenge.

The effect on each provider will be different and should be evaluated. If an effective physician participates in the ACO, for example, the ACO and physician can earn various levels of revenue depending on how much performance risk is taken on by the ACO. The ACO leadership needs to decide what revenue stream makes the most sense for the ACO (e.g., could start with FFS and accept more risk over time), recognizing that physicians could leave the ACO if it does not provide a stable revenue stream for the physician.

For ACOs that take on more risk, the ACO and affiliated providers also will need to have contracts that clearly state how gain-sharing or global payments will be distributed among all applicable parties. Consumers also may share in the savings either directly through future premium reductions or indirectly through lower cost sharing.

Challenges to Entry

From the provider perspective, a number of challenges are associated with becoming an ACO. These include having a variety of physician disciplines available to patients, hiring new staff to help with administration and monitoring the budget structure, investing in new information technology, tracking patient medical records, developing secure data retention practices, and tracking and measuring data against efficiency and quality standards.¹⁴ In addition, a population approach to patient care can be much different from an approach that starts with an office visit or admission.

The ACO is required to set up a management oversight committee that is responsible for monitoring the budget and quality of care

delivered within the ACO. Some physicians and physician groups have not had to work within this type of model in the past. Providers should determine who will fill leadership roles within the new organization and who will fill the care delivery roles. Regarding care delivery, physicians may change how they practice medicine so that the physician, and in turn the ACO, meet certain quality standards. Providers will need to accept recognized clinical guidelines, which may differ from their past practice.

Privacy Issues

HIPAA constraints should be considered. In a coordinated care environment, providers will need to be able to share personal health information with other providers in the ACO. These providers may be split among a variety of facilities. This sharing of information needs to be done without breaches of security. The requirements also are different for each payer (Medicare, fully insured commercial population, or self-funded employer-based programs). The proposed regulations outline some of these requirements for Medicare.

Implications for Policymakers and Other Stakeholders

The existing financial situation in health care is quite challenging. The environment for both health care delivery and health benefit coverage has evolved significantly from the beginnings of coordinated care. In today's environment, there will be new benefits, new provider configurations, new financial configurations, and new ways to assess and manage risk. This environment will support the important role that ACOs can play in coordinating and delivering health care.

ACOs that take more responsibility for performance and financial risk will need to have sufficient membership thresholds to have credible results to measure and ensure the success of the entity. The minimum membership will vary by market segment (e.g., Medicare, commercial) and can vary based on other parameters if specialty entities such as chronic care or cancer ACOs evolve. Membership thresholds will be an important tool to help ACOs achieve success. Smaller ACOs could agree to be sub-

¹⁴For more information, see the Brookings-Dartmouth ACO Toolkit: <https://xteam.brookings.edu/bdacoln/Documents/ACO%20Toolkit%20January%202011.pdf>.

ject to performance metrics as an alternative to taking financial risk.

Underlying all of the possible ACO configurations is the use of health information technology, such as electronic medical records or disease registries. This electronic infrastructure will greatly facilitate the coordination of care. At the same time, it will enable the creation of “virtual” ACOs that link providers in separate locations. Even physicians in solo practices, who in the past could not have participated in coordinated care networks, could be linked over time to virtual ACOs.

As ACOs become more integrated and sophisticated in managing the health of their patients, health plans will want to consider whether their existing medical management processes are duplicative in effort and administrative costs.

As ACOs look to be more cost-effective in delivering quality care, their infrastructures will need to better adopt and disseminate evidence-based medicine. Standardization of quality and performance measures, risk-adjustment methodologies and payment mechanisms also will help to streamline workflows and provide uniformity within and across regions.

The way members are assigned, or attributed, to an ACO (e.g., prospectively or retrospectively) also will affect the risk profile of the ACO and its ability to manage the risks for which it will be accountable. An accurate risk-adjustment mechanism would help mitigate adverse risk selection/assignment. The risk-adjustment mechanism also may alleviate concerns that providers turn away less healthy patients or those with chronic conditions.

There will be a variety of payment mechanisms, along a continuum from FFS (with shared savings) to partial capitations or global payments. ACOs can move along this continuum as they gain operational and financial experience in recognizing, assessing, and managing their risks. Uniform criteria for moving along this continuum would serve to protect both ACOs and subscribers.

To the extent that an ACO is and will be affiliated with many different organizations and providers, shared savings and risk sharing present additional issues related to the allocation of gains/losses among the various entities. The ACO’s financial structure needs to be clearly defined. Uniform regulatory rules would be helpful.

ACO management should understand the risks taken and the ACO’s financial structure should recognize those risks accordingly. If ACOs take on the same risks as an insurer or health plan, their solvency risks should be recognized, and regulated, in a comparable manner. The amount of risk an ACO takes on should be commensurate with its ability to assume risk. The ability of an ACO to manage and absorb risk is influenced by many factors, such as size, capital, and its provider payment agreements (including new alternative payment systems). The states likely will play a major role in regulating ACOs, including solvency oversight. Comparable treatment between insurers and ACOs for comparable risks will help ensure the financial stability of both types of entities and will provide comparable solvency protections to subscribers.

A final key element for success is broad acceptance of these new structures and payment methodologies. Enough providers and payers must be willing to accept these new structures and methodologies to sustain a behavioral shift away from rewarding quantity and toward rewarding quality and outcomes.

Managing ACOs needs to be reinforced by new metrics, analytic techniques, and other payment reform programs that are under development. In-depth analysis, integration of claims, and clinical information will help ACOs meet their new responsibilities and overall financial commitments.

Transitioning to this new environment, ACOs will need to coordinate with multiple federal and state-level entities. Regulators, providers, and payers will need to work together to coordinate rulemaking, definitions, timing, and oversight to ensure as smooth a process as possible.

EXISTING ACO MODELS: CHALLENGES AND SUCCESSES

Examining the challenges and successes of programs already in existence and/or in the early stages of development can offer some insight as new ACOs are implemented.

CMS Physician Group Practice Demonstration: Created by the *Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000*, this program creates incentives for physician groups to coordinate the overall care delivered to Medicare patients—rewarding them for improving the quality and cost efficiency of health care services and creating a framework for physician groups to collaborate with providers. Ten physician groups, representing 5,000 physicians and 220,000 Medicare FFS beneficiaries, are participating in the program.¹⁵

■ **SUCCESSES:** The physician groups have increased their quality scores for the items measured from baseline to the fourth performance year: 10 percentage points on diabetes; 13 points on heart failure; 6 points on coronary artery disease; 9 points on cancer screening; 3 points on hypertension. Five of the groups also earned incentive payments based on the estimated savings in Medicare expenditures for the patient population they serve.

Greater Rochester Independent Practice Association (GRIPA): GRIPA is an integrated delivery network in New York founded as a collaboration between area physicians and local hospitals to improve the quality and efficiency of health care for their members. GRIPA uses a gatekeeper system, with members choosing a PCP and patients needing referrals to see specialists. It accepted global payment from payers and established physician and hospital incentive pools funded by a 15 percent withhold. Reimbursement to providers is on a FFS basis, and incentives were paid out according to tiers after providers were ranked on three measures: quality, cost, and citizenship (e.g.,

participation on committees, provider satisfaction scores).

■ **CHALLENGES:** Providers struggled to adapt to the new partnership. In particular, the hospitals and physicians often had competing interests. As patients were managed out of the hospitals, the hospital revenue decreased. Patient flow between PCPs and specialists also changed, causing a change in revenue patterns as well as competition for patients.

■ **SUCCESSES:** Through the receipt of monthly claim files from payers, and the creation of its own data warehouse, GRIPA have been able to manage its own data. This simplified measurement and auditing of the incentive program and financial results of the enterprise.

ACO pilot (State of Washington): Legislation established an ACO pilot to begin in 2012 that will run two different network designs—an integrated delivery network and a more loosely integrated network. Washington also has a medical home pilot beginning in 2011, which should provide some input into the design of the two ACO pilots. The medical home pilot, and a consideration for the ACO pilots, includes an option for an upfront payment to physician groups for investment in infrastructure and technology. Providers in Washington state already score well on quality measures, so the focus of the pilots could be on overall cost reduction.

■ **CHALLENGES:** Encouraging payers to agree to use similar methodologies for payment, funding incentives, measuring results and incentives, resolving “proprietary and confidential” data concerns, and agreeing to allow the ACO to aggregate data for measuring results.

¹⁵CMS press release on the *Medicare Physician Group Practice Demonstration* (December 2010).