For successful accountable care organizations (ACOs), population health management is the cornerstone of delivering high-quality care while lowering total costs. To be cost-effective requires developing systems and processes that identify patients for proactive intervention, building the internal staffing capacity and clinical partnerships to appropriately manage patients, and adequately integrating new programs within the existing patient care workflow. While the population health management programs can take many titles and positions within the organization, the ACOs in our study described common operational elements to their approach.

**System for identifying high-risk patients.** The crux of population health management for successful ACOs is to proactively identify patients with high clinical risk, and refer those patients to the appropriate intervention. In most cases, “high clinical risk” was defined by patients’ likelihood of hospitalization. ACOs placed importance on developing a standard risk model to stratify patients through claims and active emergency department utilization data (e.g., ADT feeds) in order to be pragmatic in matching the highest-need patients with highest value care management resources.

**General care management functions.** ACOs described multidisciplinary teams comprised of nurses, social workers, and pharmacists that serve general care management functions, but also non-licensed staff to address the nonmedical needs of ACO patients. Most ACOs mentioned utilizing the electronic health record (EHR) system to flag ACO patients for clinically-meaningful preventive care, and communicating with providers about patients at highest risk of hospitalization. Provider systems varied in the approach to integrating care management staff across the care continuum.

“A lot of what we’ve built has been built very specifically to do population health management, I think that’s the difference. I was a primary care physician in the community for 20 years, and it was the old reactive model: there’s 30 patients on my schedule today, and those are the people I’m going to work with...nothing like this proactive, population-based approach.”

Executive, Physician group-led ACO
**Specific disease management programs.** Successful ACOs have also implemented care management programs specific to patients with certain chronic illnesses or disease states. These more targeted interventions focus on supporting patient self-management to prevent ED visits and hospitalizations for certain diagnoses such as heart failure, COPD, and diabetes. Where care management programs overlap, ACOs instituted huddles or weekly case reviews to discuss individual patients that may have multiple teams involved in their management.

Managing limited care management resources is not without its own unique set of challenges. ACOs discussed ongoing efforts to refine the population health management infrastructure to be able to more accurately identify the highest-need patients, and reengineer the team structure to touch those patients with more frequency. Perhaps most importantly, ACOs are struggling with the ability to quantify the return on investment (ROI) from care management programs, considering the myriad intersecting factors at play.

We describe further the population health management methods employed by ACOs.¹

## System for Identifying High-Risk Patients

### Key Strategies

- Establish and utilize standard risk models based on claims and clinical data
- Regularly test and refine the risk model for maximum risk predictability
- Integrate real-time data sources where possible (e.g., ADT feeds)
- Make the risk score actionable for clinicians and case managers using decision support tools

High-performing ACOs have developed methods for segmenting patient panels and prioritizing high-risk patients for care management programs. Some organizations have developed care management programs that are available to all patients, while others instead reserve those programs for patients in value-based contracts. Whether implemented broadly or limited to ACO-aligned patients, calibrating the system to ensure maximum impact of care management programs for the ACO population is crucial in a world of limited resources for non-billable services.

“Our clinicians understand that we’re trying to move to the future. But we still have to be pragmatic in the meantime. And we can’t afford to do everything for everybody...We’re pushing as hard as we can so that this will be available for more people, but if they help us by letting us segment that service, it makes it easier for us to prove that it works and justify and sell it to other payers.”

Executive, Hospital-led ACO

The ACOs we interviewed described a variety of front-end tools used to stratify patients and segment the target population, including home-grown analytic models, EHR modules, and standalone population

¹ See Methodology section for detailed selection criteria for high-performing ACOs.
health management software. Use of payer claims data to establish a risk score and consequent triggers for program assignment was most common. Only one ACO in our sample relied on physician referrals alone to assign patients to care management programs, allowing for primary care and specialty providers that serve a subset of patients as de facto primary care (e.g., cardiology, endocrinology, oncology) to make the referrals.

Yet, organizations that allowed for or depended on physician referral to care management emphasized the importance of using standard risk models to segment the population and match intensity of the care management programs with prospective patient risk:

“We learned over time that we had to be smart about using standard risk models to identify the patients most in need. And we had to be smart about not filling up the resource with patients other than the ones who needed it the most. And that means that while we let clinicians refer to it on their own, whether they’re ACO patients or not, the bulk of these team members’ time is spent on the patients that we select, where we need the most help to manage their care.”

Executive, Hospital-led ACO

For example, one ACO utilized the Johns Hopkins ACG® System\(^2\) – which calculates relative patient risk scores based on claims data and clinical data from the EMR – and built out additional decision rules to generate a high-risk patient list. The process initially required the ACO to engage in manual chart reviews to determine the validity of various decision rules.

Regardless of the exact analytic model, the real pressure test for ACOs has been making the risk score actionable, and that means ensuring its visibility – and meaningfulness – to clinicians, care managers, and discharge specialists.

“I think it’s a mistake to think that if you get the right software package that you’re going to be able to do population health management.”

Executive, Physician group-led ACO

Claims data lacks a critical benefit when it comes to proactive population health management: timeliness. And for patients that fall into category 3 (above), preventing unnecessary hospitalizations requires real-time intervention when patients hit the emergency department. Keeping track of patients’ interactions with the hospital has particular relevance for provider-led ACOs, especially when those patients seek care outside the ACO’s network. Successful ACOs have IT systems in place to alert care management staff when ACO patients are registered in an ED or admitted to a hospital through ADT (admission, discharge, transfer) feeds.

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\(^2\) Additional tools and/or products mentioned: Truven Health Analytics care management suite, AthenaHealth patient roster tool, and Epic Health Planet readmissions risk score module.
One ACO mentioned utilizing PatientPing, a platform that pushes ADT notifications back to the practice when their attributed patients are seen at any hospital in the region. Another ACO implemented real-time visual cues within the EHR to prompt rapid intervention:

“We utilized technology to flag patients. We don’t say to the patient, you’re a frequent flier. But we used communication amongst the ambulatory case managers, the transitional case managers, and the ED case managers and social workers that cover the ED to let them know, hey, Susie Smith’s back in the ED. Can you go intervene?”

Executive, Hospital-led ACO

Building the right predictive model for care management

Atrius Health, a physician group-led ACO, determined that the second largest opportunity for savings – after post-acute care – was preventing hospitalizations in the first place. To do this, the organization built an analytic model to proactively identify patients with high clinical risk. The model assigns a score for all adult patients over age 65 for likeliness of hospitalization in the next six months, which is used three ways:

1. A multidisciplinary care team reviews the high-risk patient list on a regular basis ensure a comprehensive plan of care is in place.
2. A case management team conducts outreach and assesses patient appropriateness for enrollment in case management.
3. High-risk patients are provided enhanced access to point-of-care services (e.g., invited for same-day, face-to-face appointment or home visit rather than telephonic care management)

Several executives mentioned integrating tools into the EMR to make it easy for frontline staff to direct patients to care management and other programs available to ACO patients, such as highlighting insurance type in the patient header to alert clinicians that the patients may be eligible for “unique benefits,” (e.g., a waiver from the otherwise required 3-day hospital stay to qualify for SNF care). Some ACOs expanded view-only access to patients’ clinical data to support population management.

Segmenting and identifying the targeted patient population for care management is just the first step in delivering effective population health management, as discussed further below.
General Care Management Functions

Key Strategies

- Redefine the care management role and recruit/retrain staff to meet the new objectives of accountable care
- Use a combination of centralized and embedded services to make most efficient use of face-to-face patient time, and regularly evaluate the right balance of services
- Embed care managers in the emergency department, skilled nursing facility, and on inpatient rounds and care team huddles to support patient education and transitions of care

When asked what care delivery changes had most meaningfully and directly contributed to the success of the ACO, the executives of high-performing ACOs almost universally described the importance of care managers. In this section, the term “care manager” is used as an umbrella term encompassing care coordinators, navigators, and health coaches; for most ACOs interviewed, this work was performed by registered nurses, while some ACOs used clinical social workers. Care management was often rendered as part of a multispecialty team, and in some cases, multiple care managers were assigned to the same patient. The professional licensure, titles, and organizational structures for care management were varied, yet the ACOs described similar processes for integrating new staff and mechanisms to better care for patients with chronic disease and complex needs.

ACO executives drew a distinction between the role of care management professionals and more traditional case management; whereas case management generally anticipates case resolution, with a set start and end date, care management requires more dedicated and ongoing relationships with patients, family, caregivers – and physician practices that may be resistant to change.

The unique skillset demanded by effective care management required ACOs to rethink their hiring, recruitment, and training programs. One ACO described the process of completely overhauling the case manager job description, recognizing that successful hospital case manager skills do not necessarily translate to population health management. Another ACO used standardized behavioral tests to match staff with the right organizational roles, resulting in lower staff turnover in comparison to industry peers. A hospital-led organization takes personal commitment to transformation into account when screening and recruiting new hires:

“Folks were brought on because they have passion for transforming healthcare. The accountable care services team is focused on how we bring the organization along with one foot in fee-for-service and another foot in value-based contracting, and so we hire people specifically who have that passion, and that vision.”

Executive, Hospital-led ACO
Building multispecialty care teams to address complex patients

Allina Health launched a team-based care management approach to support the ACO, comprised of a registered nurse, pharmacist, social worker, and care guide (bachelor-trained health coach). ACO-aligned patients are assigned to a care team based on complexity; the care team will step in to manage transitions of care and coordinate between primary and specialty care upon admission to the hospital, and for a 90-day follow-up period. The intent upon patient assignment to a care team is to eventually graduate the patient back to standard primary care.

The high-performing providers described significant investment in both human resources and infrastructure to support care management, with one physician group-led ACO estimating 150 new staff positions were created to support an ACO of about 600 total employees:

“What we have today is so much more extensive than what we started with. Our analytics capabilities are so much deeper today, and we have so many more people. Pharmacy techs, a quality assistant team, a centralized transitions of care team, analytics...We didn’t have them before. Now we have disease management teams for diabetes, heart failure, COPD, and we’ve had to expand our IT team. And that’s not the whole list.”

Executive, Physician group-led ACO

So how have ACOs deployed new staff – or redesigned positions – to both meet ACO patient needs and realize return on investment? First, ACOs differentiated between general care management functions and those tailored to meet the needs of individuals with specific conditions, which is discussed more in the following section. Second, each organization established a configuration of centralized and/or embedded staff; the exact balance of centralized versus embedded support, and the respective scopes of work, underwent many iterations.

For example, one physician group-led ACO described how the organization adapted the original scope of work for practice-embedded nurse care managers by transitioning a set of functions to a centralized team:

“One of the things we learned is that the offices were feeling pretty heavily burdened [after transitioning to PCMH]. Then you start layering all this other ACO stuff on top of them and they’re overwhelmed. And the way that we solved that was by taking some of these functions and centralizing them. Transitions of care is a good example, because our nurse care managers who were embedded in the practices were telling us they’re spending half their day making transitions of care phone calls. And so when we centralized that, it unburdened them.”

Executive, Physician group-led ACO

The ACO additionally implemented a centralized Medicare annual wellness visit team and prescription refill program, critical care management functions that could be delivered telephonically that were otherwise dominating the clinic-based care managers’ limited time. Conversely, another physician group-led ACO moved telephonic health coaches back into the clinics:

“The health coaches [RNs] work with the individual and the families telephonically primarily...Now what we’ve done is we’ve placed them in the different clinics, so if their patients do come in, they can spend more time with them. I think that’s been more effective.”

Executive, Physician group-led
Within this ACO, the health coaches are assigned to “rising risk” patients to address social determinants of health and teach lifestyle modifications, serving in complement to the hospital-embedded nurse care managers. Embedded care managers also work closely with clinicians when patients show up in the hospital. An integrated ACO described the general structure for daily team huddles, which support more real-time management:

“We have been doing daily huddles on any ACO patient admitted to the hospital. All the case managers jump in. We now know who’s in the hospital. We run down them. Why are they there? What’s going on? What’s the plan?”

Executive, Integrated ACO

On the opposite end of a hospital stay, one physician group-led ACO has implemented a more reactive huddle method to prevent potential readmissions. For one hour per week, the team in each practice gets together with the care managers to review any hospital discharges from the past week and confirm that any patients at high-risk for readmission are connected to care.

Finally, most high-performing ACOs had dedicated resources to supporting transitions of care, including navigating patients to the right post-acute care setting or wellness program, tracking patients at risk for readmission to the hospital, and educating families and caregivers to make informed, shared decisions. ACOs have embedded care management staff in the emergency department, hospital, and/or skilled nursing facilities, with the goal of making sure patients are cared for in the most clinically appropriate setting to meet their needs:

“There’s a lot of people likely to default to skilled nursing facilities [following a hospital stay]. So we worked with our case managers, saying that’s not the best place to send patients…Nurse practitioner rounding models also make sure those patients are reviewed and navigated, and a project in ortho called the ‘Wizard of Oz.’ Because there’s no place like home.”

Executive, Integrated ACO

**Chronic Disease Management Programs**

Under the auspices of population health management, high-performing ACOs operate programs to actively engage patients with specific diagnoses that correlate with higher overall spending, and those with higher variation in cost and quality outcomes. The most frequently mentioned disease management programs addressed the following chronic conditions:

- Diabetes
- Chronic Heart Failure (CHF)
- Chronic Obstructive Pulmonary Disorder (COPD)
- Chronic Kidney Failure

Most interviewed ACOs created patient rosters and registries for targeted conditions, building upon the systems and platforms described above that were utilized to identify high-risk patients. One ACO created registries using EHR data dedicated to identifying and closing care gaps (e.g., diabetic patients due for a visit), but shared those patient rosters externally so clinics without access to the same EHR would still be able to review the outreach lists. Some ACOs delegated chronic disease management to specific teams.
for each disease state; one organization used the targeted conditions to prioritize patients for general care management:

“It’s really focused around that multidisciplinary case review. So the rosters or the lists or the registries of patients that go to the teams, if those patients have CHF or COPD, they bump up to the top of the list.”

Executive, Physician group-led ACO

The disease management programs generally comprise two pillars: first, implementing evidence-based standard treatment protocols for patients with chronic disease. A physician group-led ACO developed an algorithm on the likely protocol for certain diseases, which providers reference as a checklist to guide the patient interview process. A health system-led ACO convenes groups of employed physicians to establish care protocols by consensus for the priority conditions, with clear outcomes data supporting consensus-based approach.

The second pillar of chronic disease management is promoting effective patient self-management. One example of patient engagement was relayed by a physician group-led ACO which had implemented a stoplight modality to assess and react to disease management that was easily translatable across clinicians, care managers, and patients; in the patient record, green denotes well-managed disease with limited need for follow-up, whereas patients “in the red” require immediate treatment. The program is overseen by a chronic disease educator who additionally offers educational programs multiple times per month in various clinics to engage patients and caregivers directly and to ensure they understand their role in the care plan.

Educating patients to support self-management

A well-crafted and well-intentioned patient education webpage is only useful if patients visit the site. Banner Health addressed the issue of low website traffic in a unique way; the organization partnered with a branch of the local newspaper to create a magazine for the offices that is very community-centric, with local physician and community-member interviews interspersed with stories related to the ACO quality metrics, such as fall prevention, diabetes management, and shared decision making. But to what does the organization attribute increased traffic to the patient education page? Including a crossword puzzle in the magazine, with answers only available on the website.

Managing multiple care management programs and functions – including continuous, rapid-cycle evaluation and refinement of the approach – prompted many high-performing ACOs to restructure operations accordingly. For larger health systems, this often took the form of newly instituted (or reconstituted) departments and leadership tasked with aligning care management activities across all ACO contracts.

“We have a population health division, with an EVP of pop health. We have a VP of care management. And so that’s really the focus: how do we align and make sure that we’re paying attention to all the needs of all the populations we serve.”

Executive, Hospital-led ACO
One physician-led ACO assigns a lead care manager to coordinate the patients’ care plan in those instances where a single patient is referred to multiple programs:

“For any given patient, they need to have one nurse care manager who’s on point. Now, that might be their practice embedded high-risk nurse care manager, or it might be the nurse care manager in the COPD program, or it might be the nurse care manager in the at-home program. We actually have an established hierarchy, that if you are going to be treated under any of those programs, your nurse care manager will be determined based on the hierarchy.”

Executive, Physician group-led ACO

Team huddles were another common approach for effectively managing the care managers. Overlap huddles provide the opportunity for multiple teams to discuss a single patient and to develop care plans that fully consider all aspects of their care.

Conclusion

High-performing ACOs have launched extensive population health management infrastructure to address cost and quality variation and opportunities for improvement, resulting in successful performance under the Medicare ACO programs. However, the organizations in this cohort expressed a number of similar ongoing challenges, with the top concern being inability to accurately quantify the return on investment of care management programs. There was a shared opinion among high-performing ACOs that organizations need to spend to save; investment in the care management model must start on day one of the contract, while savings – if achieved – will not be paid out for nearly two years. This concern was punctuated by financial reality: if the organization does not achieve savings, the longevity of maintaining ACO overhead costs will come into question. ACOs are addressing these challenges by continuing to improve upon care management models and to provide patients with high-quality, high-value care while transitioning to a sustainable value-based system.
Methodology and Acknowledgements

Recognizing the importance of identifying and disseminating levers of success among high-performing ACOs, the Health Care Transformation Task Force (HCTTF) designed and conducted a nearly 12-month qualitative study analyzing the elements of ACO success. To do this, the Accountable Care Work Group conducted a multi-step project which included, among other things, a series of in-depth interviews with leaders of successful ACOs to investigate the common structures and strategies that enable success.

It was determined that all interviewed ACOs must meet the following criteria:

- Shared savings rate ≥2%
- Quality score ≥90%
- Below-average baseline
- ≥5,000 ACO-covered lives
- More than one year under accountable care contract
- At least one commercial ACO contract (in addition to a Medicare ACO contract)
- Diverse geographic representation (preferred)

Using the PY 2015 Medicare ACO performance results and the Leavitt Partners ACO database, 21 Medicare Shared Savings Program (MSSP) and Pioneer ACOs were identified as meeting the criteria. The Work Group conducted interviews with 11 of the 21 ACOs, corresponding to over 10 hours of interviews. Within each ACO, the HCTTF interviewed senior decision-makers involved in designing and implementing accountable care-related activities across the ACO. To standardize the areas investigated, all ACOs were interviewed using the same interview guide. Interview transcripts were then coded to enable a thorough qualitative analysis. All quotes in this report draw from these interviews and written transcripts.

This is a product of the Health Care Transformation Task Force under the leadership of the Accountable Care Work Group. The Accountable Care Work Group is comprised of Task Force members and other organizations dedicated to improving the design and implementation of the ACO model in public and private payer programs. The Work Group addresses both internal operational challenges as well as public policy issues that challenge transformation efforts for health care organizations.

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3 The HCTTF is a consortium of private sector stakeholders who are committed to accelerating the pace of delivery system transformation. Representing a diverse set of organizations from various segments of the industry — including patients/consumers, purchasers/employers, providers, and payers — we share a common commitment to transform our respective business and clinical models to deliver the triple aim of better health, better care, and reduced costs. Our organizations aspire to put 75 percent of their business arrangements into value-based payment models, focusing on the Triple Aim goals, by 2020. We strive to provide private sector leadership through policy, operational, and technical support, and expertise that, when combined with the work being done by CMS and other public and private stakeholders, will increase the momentum of delivery system transformation.

4 ACOs with below-average baselines — or lower expected average expenditures — were considered more desirable to study based on the hypothesis that these ACOs began with less excess expenditures, and therefore, a shared savings rate ≥2% was even more meaningful.