INSIDE: EXPERT ROUNDTABLE OFFERS DATA SECURITY BEST PRACTICES

JeathData Management

When practices get into an

they might be attributed **HUNDREDS** of **PATIENTS** who they haven't seen in years

and know virtually nothing about. But you have to start working with what you have¹/4 to connect to those patients and **START BUILDING THE DATA YOU NEED TO TREAT THEM.**°

> Ð Mark Wagar, Heritage Provider Network

THE ANALYTICS OF ACCOUNTABLE CARE HOW THE RIGHT CAPABILITIES CAN OVERCOME THE BIGGEST HURDLES.

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HOW ANALYTICS TAKES THE UNKNOWNS OUT OF **ACCOS**

Technology helping organizations connect the dots and provide better care.

By Greg Gillespie



ccountable care is—to borrow a quote from Winston Churchill—a riddle, wrapped in a mystery, inside an enigma.

Under accountable care today, providers agree to take full clinical and financial responsibility for a diverse group of patients about whom they know very little or nothing. The often mysterious attribution models are used by the government and other insurers to assign patients to providers they may not have seen for years—say, a specialist or other caregiver who collected only the bare minimum of data about them.

Insurers try to help by providing whatever data they have on patients, but that information often gives providers just a blurry snapshot of a patient's identity and health challenges. So the minute the clock starts ticking for an accountable care contract, providers are at a huge disadvantage. It's messy, and frustrating, and requires a lot of back-end work to build an IT infrastructure and rethink clinical practices.

No middle ground

For Gregory Spencer, M.D., chief medical officer at Crystal Run Healthcare, the transition to a full-risk, accountable care environment can't happen soon enough. The Middletown, N.Y.-based multispecialty practice was one of the first organizations to sign up as an accountable care organization (ACO) in 2012 under the shared savings program offered by the Centers for Medicare & Medicaid Services. Since then, it's been pushing to get its commercial contracts into full-risk arrangements.

The reason for urgency is clear. To take on accountable care, Crystal Run made significant investments in IT, including a clinical data warehouse from Health Catalyst, and similar large investments in personnel, signing a group of nine care managers to make home visits, set up Meals on Wheels for elderly patients and provide a host of other face-to-face services for those in need.

"We have around 30,000 patients in the ACO—that's just a fraction of our patient population, though we are providing a new level of service to all our patients," Spencer says. "Virtually all these efforts aren't re-imbursable services, so we're making this commitment to all our patients, and most of the benefits are being accrued by the insurance companies because we're keeping their members healthier and helping them avoid big-ticket items, like expensive procedures and tests. This is all good for the patient, and we want to do what's best for them, but when you're trying to run a busi-

ness, you want to get paid for that quality of service. That's not going to happen when you're still dealing with the traditional feefor-service model."

Providers like Crystal Run find themselves at a difficult crossroads. The healthcare industry is moving rapidly away from fee-for-service reimbursement and into an environment where providers are incented to lower utilization, while simultaneously increasing the quality of care and improving patient outcomes.

Until recently, these efforts were geared largely toward treating populations of Medicare patients with specific disease states. But accountable care has expanded quickly across the commercial industry, and now providers are entering contracts for entire patient populations, regardless of diagnoses.

And the transition from fee-for-service to accountable care is accelerating. In January, Health and Human Services Secretary Sylvia Burwell announced that HHS has a goal of tying 30 percent of fee-for-service Medicare payments "to quality or value through alternative payment models, such as accountable care organizations or bundled payment arrangements by the end of 2016, and tying 50 percent of payments to these models by the end of 2018."



Today, alternative payment models account for about 20 percent of Medicare payments, up from virtually nothing in 2011, according to HHS, so the 2016 goal of 30 percent would be a 50 percent increase from now. Medicare fee-for-service payments in 2014 totaled \$362 billion.

The transition has put stress on analytics efforts at a time when the data is dirty and most healthcare software is still not fine-tuned for the complex requirements of analyzing population health data. But there are no time-outs for clinical operations or IT infrastructures, so many provider organizations are working on the fly to build analytics capabilities while positioning staff—care managers, physician assistants and other outreach staff to provide the personal touch and gather new sets of information to unravel the mysteries of unknown patient populations.

Perfect vs. good

In Mark Wagar's mind, one of the first lessons to learn about accountable care is to not let perfect get in the way of good. Wagar is president at the Northridge, Calif.-based Heritage Provider Network, which administers an ACO with more than 125,000 members through contract with the Centers for Medicare & Medicaid Services Innovation Center, or CMMI, which developed the Pioneer ACO Model program in 2012.

Heritage Provider Network employs more than 3,000 physicians and has relationships with 30,000 independent physicians who care for patients under its Pioneer ACO. In terms of EHRs and data exchange capabilities, it's a hot mess, but the network can glean enough data from EHRs and other sources to provide physicians with usable data for informed decisions.

"You have to work around the technological shortcomings as well as the lack of data," he says. "Something I hear a lot is that physicians don't have enough data in their EHRs to treat patients. When practices get into an ACO, they might be attributed hundreds of patients who they haven't seen in years and know virtually nothing about. But you have to start working with what you have and use the information you can to connect to those patients, and start building the data you need to treat them. You can't wait to do something good because your data isn't perfect, because if you do that, you will be forever spinning your wheels. You can start with evidence-based practice and then build in the nuances, based on the patients' unique clinical and socioeconomic factors."

Wagar adds that organizations should start their analytics efforts by developing a clinical analytics strategy, but build that in tandem with financial analytics. "You don't want to get lost in the weeds and forget that, first and foremost, you are driving the ACO with clinical quality and utilizing the best medical science available to optimize care," he says. "Building financial capabilities is going to feed the clinical [end]. When you're analyzing whether patients are getting formulary drugs, you'll also find out if they're actually filling those prescriptions, which feeds right back into your clinical efforts."

People and patients

Fear of the unknown is the impetus behind many analytics efforts. Accountable care requires providers to go far beyond providing episodic care, instead actively managing patients and disease states.

Christiana Care Health System got its first taste of what accountable care would require when it received a three-year, \$10 million award from CMMI to design new care models for its population of ischemic heart disease patients.

The health system started its IT effort by using standard regression analytics to risk-stratify that patient population based on factors that contributed to outcomes, both good and bad. But Christiana Care has found that the tried-and-true approach to analytics was not enough to bridge the gap between the known and unknown, says Terri Steinberg, the health system's CMIO.

"Regression analytics relies on us to decide what we think the factors are that contribute to outcomes, and then write and run that algorithm against the data we have, and use that to decide who is at a higher risk and needs additional services," she says. "But we don't really know which factors are important in determining outcomes, and humans bring biases to the decision making. Predictive analytics look at all the data points to provide correlations that are not limited by bias or experience."

That insight has led to a multipronged analytics effort that now is expanding into the realm of Big Data analysis. Christiana Care has created a care management system called CareLink that relies on a multidisciplinary team that uses an analytics engine to monitor real-time triggers—like a hospital admission or abnormal lab results—as well as frequent outreach to keep tabs on ischemic heart disease patients and communicate with caregivers. If the analytics indicate a potential health problem, the team reaches out to patients and asks how they're feeling, and might administer a test to assess a patient's condition. That information feeds into a population health EHR from Wayne, Pa.-based Medecision that identifies and stratifies atrisk patient populations, manages workflow tasks and creates care plans, among other functions.

While the CMMI program is winding down in a few months, Christiana Care is poised to significantly expand its analytics program to keep up with a changing financial environment, Steinberg says. The health system plans to use the care model to manage 16 disease states and clinical programs of known patients-including childhood asthma, adult COPD and behavioral health-and also leverage its analytics for accountable care contracts with commercial insurers. In these new agreements, it would assume risks for entire patient populations, many of whom have never been treated at Christina Care. "We're going to assume risk for people, not patients, and to do so requires a fundamentally different approach," Steinberg says.

Big Data's role

At the heart of the effort is the Big Data initiative. Christiana Care is starting to analyze huge data sets, including feeds from the Delaware Health Information Network, using machine learning to identify the known and unknown associations in the data with outcomes.

"We're better off having a machine determine what the factors are, instead of assuming we know them, and analyze who in this huge population is likely to require additional services, and more importantly, why they would need them," Steinberg says. "We are going to need to make clinical decisions about people without knowing very much about their healthcare, and machine-generated predictive models are going to give us insights about what these patients need, even if they're not getting care from us.

"This is a big experiment—we are taking data that is generated elsewhere, outside our business walls, and using the data to drive our predictive algorithm," she adds. "Usually, any analytics are driven by data generated within the health system. But accountable care takes a completely different approach, not just from IT but also the clinical mindset. Moving from patients to people is fundamentally different."

Another issue that's fundamentally different is how analytics force physicians to address the financial aspects of medicine, says Wagar at Heritage Provider Network.

The network uses its analytics engine to provide detailed clinical, utilization and financial summaries to its owned and affiliated providers. One of the first myths dispelled by the information is that a physician's patient population is different than that served by other clinicians, a frequently used disclaimer when accountable efforts shine a spotlight on variations in care delivery. "I've heard 101 reasons from physicians why they shouldn't be held accountable to the same degree as others, and except in a few instances, the analytics doesn't reflect that," Wagar says.

Many of the performance issues in an accountable care environment focus on pricing disparities, Wagar says, and that's another essential ingredient to changing a physician's mindset—focusing not just on clinical care delivery but also on the price tag associated with it.

"You cannot be bashful about talking about the economics of the marketplace," Wagar says. "I find that a lot of ACOs are reluctant to really address the economics with physicians, but the fact is that there's no value in being perfect clinically if that clinical strategy is not affordable and not accessible to the patient. The whole point here is to moderate what we spend without sacrificing quality. We see this all the time: A patient needs an invasive procedure, and there's a 50 percent difference in cost to achieve the same quality and outcomes. We can't be bashful about making decisions based on costs, because who better to make these decisions than physicians?"

Wrestling with EHRs

To succeed in accountable care, providers need more data. However, there are so many data gaps for ACO-attributed patients that caregivers are taking educated guesses on the right treatments while simultaneously reaching out to those patients so they can develop more data-intensive profiles and apply high-quality/low-cost principles.

But that's only part of the problem. Providers also face hurdles trying to apply those principles to existing patients. And the root cause of that pain is electronic health records systems, says Clive Fields, president at Village Family Practice, a Houston-based multispecialty with 25 providers.

"We've raced into this transformation to a digital environment, and we've been given EHRs that are impractical for clinical practice," he says. "If you ask physicians who've been around before and after EHRs, the vast majority will tell you that few clinical impacts have been driven by EHRs."

Even with the significant obstacles thrown up by its EHR and other data gaps, Village Family Practice has transitioned virtually all of its contracts into risk-based models, Fields says, and for a simple reason. "There's an economic tsunami coming our way in healthcare, and anyone who doesn't see it has their head in the sand," Fields says. "We want to get ahead of that tsunami and have our clinical and financial operations in order so we can not only survive, but be a leader in a very different healthcare world."

To do so, Village Family Practice has rethought how it applies analytics so that its systems help lift the fog surrounding the massive amount of data in its EHR to make it clinically relevant to physicians when they're delivering care. "Like a lot of practices, we used to risk-stratify for revenue enhancement, but now we're risk-stratifying for care coordination, which is a big leap," Fields says. "Accountable care requires you to literally get in front of patients and technologically get ahead of their conditions by anticipating what they're going to need."

The challenge is that traditional data sources don't provide the insights needed to get out in front, Fields says. CMS provides hierarchal condition categories (HCC) codes that risk-stratify patients based on their diagnoses and adjust reimbursements accordingly. But HCC codes are retrospective and don't provide a timely snapshot of patients. And practicing medicine based on HCC codes does a disservice to patients, Fields says.

"HCC coding is very user-dependent; you need physicians to understand those codes at the point of service to provide treatment for those conditions—and bill for them—and physicians aren't terribly interested in learning the nuances of coding," Fields says. "It also doesn't give us any insights on avoidable utilizations, which is really the heart of the matter when it comes to accountable care. If we are going to take complete responsibility for costs and quality, we need to stop medical problems from happening, not treat them when they do."

The practice has implemented an analytics engine from San Francisco-based Healthline that analyzes structured and unstructured data in the practice's EHR and looks for words and word combinations that may indicate a health risk or condition. The engine then displays the most likely diagnoses and conditions for a patient at the point of care. That gives physicians the opportunity to decide what makes no sense at all, what might be clinically relevant, and what the game plan should be with the available information.

Connecting the dots

"I'm good at diagnosing chronic conditions, and I was surprised on a personal level at how much information I didn't pick up, mostly because I didn't know about all the data and couldn't connect the dots to an underlying issue," Fields says. "Patients are giving us clues all the time about their conditions, in phone calls and e-mails and conversations that end up in our notes, but it hasn't been analyzed in a way that helps us unravel what's going on with their health.

"In the past, if a patient came in with a persistent cough, and it was a busy day, we might have just given them something for the cough and told them to come back if it persisted, even if there were clues in our data that [showed] we were dealing with a patient with potential COPD. The next time we would hear about them would be when they were in an emergency room."

The analytics engine flags a wide range of variables that might need clinical attention. For example, if a patient starts calling frequently for refills of an asthma inhaler, the application would flag the change in medication usage and trigger a call to the patient to see if his or her asthma has gotten worse. Or, if a patient is older than 65 and has been hospitalized in the past for a respiratory infection, the analytics engine would flag that so the clinician could suggest a pneumonia shot as well as a flu shot.

"It all comes back around to avoidable utilization, and when you're relying on just the EHR, you miss numerous opportunities for that," Fields says. "I can't sift through every note and discrete piece of data in the EHR, but the analytics engine can, and put the potential diagnoses and chronic problems in front of me so I can make a medical decision.

"In terms of the technology," he adds, "we shouldn't dismiss the difficulty of the transition from paper charts to electronic records, but we also shouldn't dismiss the fact that EHRs haven't to date helped physicians practice better medicine—it's made us all better documenters, not better doctors. But we're at an inflection point where we have a new generation of analytics tools that can make us better doctors, right at a time when the economic model is being overhauled."