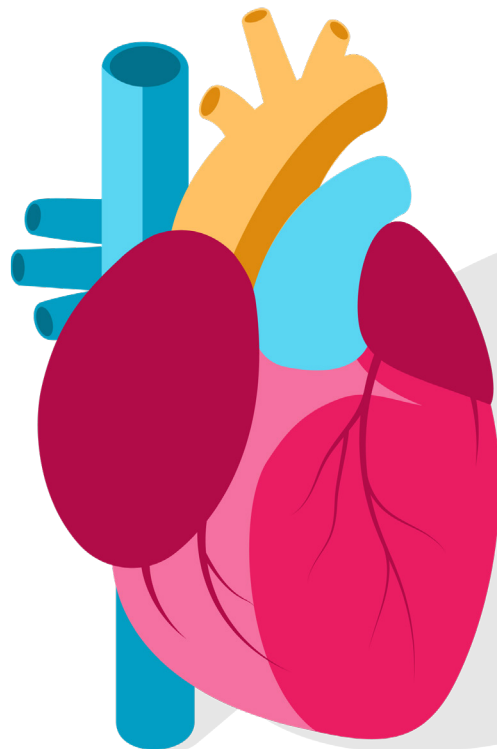


Streamlining Cardiovascular Care: Aligning Physicians and Health Plans to Reduce Waste and Improve Outcomes

Susan Bennett, MD; Christopher Kenyon; Mary E. Krebs, MD;
Russell Rotondo, MD; Jessica Smith-Amara, MSN, RN



Streamlining Cardiovascular Care: Aligning Physicians and Health Plans to Reduce Waste and Improve Outcomes

Managing the costs and complexities of cardiovascular care is a challenge for health plans, as they often lack the tools or access to clinical data necessary to coordinate a member's care across multiple providers – which makes improving outcomes for chronic conditions difficult. By harnessing intelligent utilization management technology, health plans can collaborate with physicians to ensure a timely diagnosis, the delivery of gold-standard cardiac care, and the best possible outcomes for each patient. The key is evidence-based clinical intelligence that reduces variations in care and generates medical cost savings while improving care quality.

THE COMPLEX LANDSCAPE OF CARDIOVASCULAR CARE

Cardiovascular disease (CVD) has remained the [leading cause of death](#) in the U.S. for decades, responsible for more than 700,000 deaths per year. Nearly half of Americans have some type of cardiovascular disease, a category that encompasses conditions ranging from hypertension to coronary heart disease, stroke, and heart failure.

As the population ages and becomes increasingly sedentary, the incidence of type 2 diabetes and other cardiovascular risk factors – including obesity, poor diet, and high LDL cholesterol – are on the rise. The American Heart Association estimates that total direct and indirect healthcare costs for patients with CVD will [reach \\$1.1 trillion](#) by 2035.

The landscape of cardiovascular care is clinically complex, with multiple handoffs between primary care physicians, cardiologists, and subspecialty clinicians that contribute to costly variations in care. Primary care physicians do not always have the expertise needed to select the most effective diagnostic techniques, resulting in unnecessary testing, duplicative imaging costs, and delayed diagnoses.

Once diagnosed, cardiologists have a multitude of new high-cost therapeutics to consider, though these offer variable value and require careful patient selection. In addition, patients are frequently resistant to adhering to recommended lifestyle changes and treatment regimens, and require prolonged support to avoid progressive clinical intervention.

UNNECESSARY CARE AND THE PROBLEM OF WASTE

As a result of these complexities, health plans often struggle to manage the costs and benefits of their members' cardiovascular care. Instead of an isolated episode of care, which begins with a triggering clinical event and includes associated procedures and/or services for a discrete period of time, cardiovascular issues generally require a lifetime of management. Health plans lack the clinical data necessary to manage long-term care across multiple providers – which makes improving outcomes for chronic conditions difficult.

Yet, given the scale of CVD, health plans must find ways to practice effective utilization management for this patient population. For years, there has been clear and growing evidence of waste in cardiovascular care. Unnecessary annual EKGs and cardiac imaging accounted for [42% of wasted dollars](#) for one indemnity plan, which is not an anomaly.



The American Heart Association estimates that total direct and indirect healthcare costs for patients with CVD will reach \$1.1 trillion by 2035.

The American Board of Internal Medicine has partnered with the American College of Cardiology (ACC) to identify unnecessary care, which in some cases involves medical radiation. The resulting Choosing Wisely Campaign recommends avoiding routine echocardiograms for patients with mild valvular disease and stable or nonexistent symptoms; stress testing for low-risk, non-cardiac surgery; and repeat stress testing in asymptomatic patients with stable coronary disease.

To have a measurable impact on cardiovascular outcomes, providers and health plans need tools to facilitate timely interventions and encourage patients' long-term adherence to plans. Throughout the care journey, cardiovascular patients need care management support to help them make necessary behavioral and lifestyle modifications, such as increasing exercise and changing their diet.

THE POWER OF INTELLIGENT UTILIZATION MANAGEMENT

The industry's shift toward value-based care requires a new understanding of how utilization management (UM) can be leveraged to drive better clinical outcomes, rather than just to lower costs.

As outlined in a [previous Cohere white paper](#), the legacy prior authorization (PA) process requires enormous time and expense, and often misses opportunities to hasten appropriate care and improve outcomes. Despite its aim to prevent medically unnecessary care, the PA process consistently frustrates physicians and can slow down care delivery, resulting in suboptimal outcomes as well as long-term provider abrasion.

Effective population health management calls for a more strategic approach to utilization management, in which patients receive timely access to proactive,

preventive, and high-value care. Until recently, health plans were unable to play a role in the optimization of a patient's care journey, and were relegated to simply processing PA requests. This is due in large part to a lack of patient-specific clinical data, which is necessary to contextualize a request in light of the patient's condition and clinical history.

While claims data provides the full picture of a patient's care utilization, this data only becomes available to health plans long after an episode of care. Prior authorization data is one of the only signals of planned and impending healthcare encounters across multiple providers and specialists. Once structured, that data signal can be incredibly valuable for early intervention and adjustment of a patient's care pathway.

The emergence of collaborative, AI-driven utilization management technology allows health plans to finally address the fragmentation of the care decisioning process. By adopting intelligent utilization management technology, health plans can offer physicians evidence-based clinical guidance to ensure a timely diagnosis, the delivery of gold-standard cardiac care, and the best possible outcomes for each patient.

ROOT CAUSES OF VARIATIONS IN CARE

In cardiology care today, unnecessary variation in diagnosis and treatment significantly increases costs – and leads to suboptimal outcomes. Physicians must navigate complex decisions for complex patients, at times without an adequate decision support framework. To compound matters, there are multiple entry and reentry points for cardiology care, from the ER to primary care physicians, cardiologists, and hospital admissions or readmissions.



The emergence of collaborative, AI-driven utilization management technology allows health plans to finally address the fragmentation of the care decisioning process.

A patient's symptoms, such as chest pain and shortness of breath, are often non-specific; this leads to a complicated decision tree, in which a wide variety of tests may be necessary to rule out other suspected conditions. Once physicians embark on the cardiology diagnostic pathway, they might order any of several diagnostic tests. Test selection varies greatly depending on the setting, the clinical data available to date, and the physician's level of expertise and setting (i.e. a primary care physician vs. an ED physician). As a result, clinicians often use more tests than necessary to reach a diagnosis.

Once the patient is referred to a cardiologist, [misaligned payment incentives](#) can also exacerbate variations in care. As many cardiology practices have full or partial ownership of an outpatient cath lab, the tangible availability of diagnostic equipment and the incentive of revenue-generating services can complicate decisioning. This can lead to the overuse of cardiac catheterizations instead of noninvasive coronary CTA tests, which are now [recommended by the ACC](#) as first-line diagnostic tests for most patients with stable chest pain under 65 years of age.

A PARTNERSHIP TO IMPROVE CARDIAC CARE

In 2021, Cohere partnered with the ACC to drive improvements in cardiology care quality and generate medical cost savings by increasing the use of gold-standard medical guidelines. For more than a decade, the ACC has sought to decrease the burden of prior authorization on providers while prioritizing the appropriate utilization of cardiology services. However, the organization has been unable to make significant progress advocating for prior authorization reform on its own.

By partnering with Cohere, the ACC seeks to ensure that its evidence-based guidelines are more fully utilized by primary care physicians and cardiologists across the country. Cohere's platform analyzes historical clinical, claims, and outcomes data to determine condition-specific cardiology care paths that are built around the patient's journey from initial presentation to postoperative care.

By leveraging interoperability and machine learning to look across the patient's unique clinical history, the Cohere platform can contextualize the current prior authorization request within the patient's longitudinal care history. This comprehensive view of the patient's care trajectory allows health plans to effectively manage a condition, and not simply one procedure or service.



In 2021, Cohere partnered with the ACC to drive improvements in cardiology care quality and generate medical cost savings by increasing the use of gold-standard medical guidelines.

SPEEDING THE TIME TO AN ACCURATE DIAGNOSIS

Placing patients on cardiology care paths enables Cohere's intelligent utilization management platform to offer automated, evidence-based guidance at the point of authorization to help physicians make the highest-value decisions for each patient. For example, a primary care physician who is creating a prior authorization request for a new cardiology patient might be prompted to select a cardiac CTA rather than an MPI SPECT, or a routine treadmill test before a stress echo.

While these clinical prompts are not mandatory, they are designed to increase providers' selection of optimal noninvasive testing services. Expanding the provider's repertoire of appropriate, evidence-based testing that is recommended by the ACC helps speed the diagnostic process. By ensuring that the vast majority of prior authorizations are approved within one day, the platform helps providers and patients avoid the complications that arise from delayed care.

These prompts also assure providers that the recommended evidence-based modalities will be approved by the health plan. For instance, primary care physicians often order a stress test followed by an echocardiogram, whereas a stress echo is both more efficient and less expensive; when physicians are unaware of the health plan's policies, they may err on the side of caution. By offering full transparency, the platform's clinical prompts help to decrease variation in the sequence of testing and the number of tests. For instance, the platform might prompt a physician to begin with a coronary CTA rather than stress testing for a patient with an intermediate or high pre-test probability of coronary artery disease (CAD).

As the platform's automated clinical recommendations are based not only on the ACC's evidence-based guidelines but also on the patient's specific clinical history, physicians can be confident that these suggestions are intended to improve the patient's care and not solely to save costs. As [national medical associations](#) have argued, health plans should provide full transparency into their prior authorization requirements and criteria in order for utilization management to function smoothly. Physicians should understand the clinical rationale behind a health plan's policies – and trust that these policies are anchored by evidence-based medicine – before they are willing to entertain high-value care suggestions.

An intelligent utilization management platform also offers the convenience of ensuring that all PA requests are complete before submission, thereby accelerating care and decreasing the time staff spend on authorizations. For example, if the platform detects that the necessary documentation for a cardiac catheterization is incomplete, it will automatically prompt the staff to attach the documentation before proceeding with the request. Administrative prompts can

also include recommendations to change a procedure's site of service from the inpatient to outpatient setting when appropriate, creating an opportunity for both the patient and health plan to decrease cost.

FACILITATING HOLISTIC CARE MANAGEMENT

Patients with cardiovascular disease often need to make significant long-term changes to their lifestyle. Providers and health plans need tools to help connect patients to available support resources, including a health plan's existing care management programs, community partners, exercise apps and vendors, nutritionists, and mental health providers.

Facilitating patient access to holistic care management services can help to delay or even eliminate the need for progressive clinical intervention. In one authorization, physicians can activate a patient's covered benefits for programs that will provide direct support to cardiovascular patients in need. Perhaps the health plan offers a smoking cessation program, gym membership with a personal trainer, or access to a nutritionist to help the patient implement dietary changes.

Many health plans have already invested heavily in such care management programs, but encounter difficulties with patient identification and enrollment. By identifying at-risk CVD patients in need of targeted resources, the platform helps health plans fully utilize these resources to improve member outcomes. For example, patients who have experienced a heart attack might need to be enrolled in a cardiac rehabilitation program to improve their cardiovascular health.

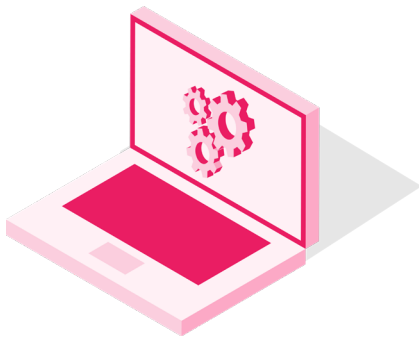
Despite the fact that cardiac rehabilitation is a class I intervention with proven benefits to morbidity and mortality, it is underutilized in treatment. As few as [14-35% of myocardial infarction survivors participate](#)



By ensuring that the vast majority of prior authorizations are approved within one day, the platform helps providers and patients avoid the complications that arise from delayed care.

[in treatment](#), with the lowest participation occurring in marginalized groups that may benefit the most. Increasing patients' access to and use of cardiac rehabilitation is central to improving outcomes. Cohere leverages its intelligent platform to identify rehabilitation opportunities and communicate them to a patient's care team via nudges. The platform can also help physicians leverage existing rehab partnerships to increase adoption, and can even connect patients with access barriers to resources such as transportation.

An intelligent utilization management program can also help with medication adherence. By ingesting pharmacy claims data, which is often more immediate than medical claims data, the platform can detect when a patient on a maintenance medication neglects to refill their prescription. Depending on the health plan's preferences, the platform can either flag this gap directly to the patient or to their primary care physician – at a time when it is actionable. While physicians often receive such information from health plans, it is easily lost in the abundance of emails and notifications. Cohere's platform surfaces actionable care management data to the clinician in real time, while they're already working on a patient's case.



Over time, as patient data is collected within the platform, applied machine learning algorithms can identify the best outcomes for specific clinical scenarios, enabling the development of targeted interventions for more complex patient cohorts.

Over time, as patient data is collected within the intelligent authorization platform, applied machine learning algorithms can identify the best outcomes for specific clinical scenarios. This added layer of intelligence enables the development of targeted interventions for more complex patient cohorts. As more patients receive care, the platform will aggregate real-world data to create optimal care paths for specific subsets of the patient population, such as patients with multiple comorbidities.

IMPROVING INVASIVE/INTERVENTIONAL PROCEDURE SELECTION AND OUTCOMES

When a patient requires an invasive cardiac evaluation, such as a cardiac catheterization, or an interventional procedure, an intelligent utilization management platform can help physicians avoid unnecessarily aggressive treatment by requesting proper documentation of the indication(s). By analyzing the patient's calculated risk score and accounting for their previous healthcare utilization, the platform can deliver in-platform recommendations for a procedure that meets ACC guidelines or appropriate use criteria. The platform can also indicate when a patient is a good candidate for skipping over more conservative care and moving directly to surgical intervention.

When cardiologists request an interventional procedure, an intelligent utilization platform can also suggest a bundled authorization when appropriate. A bundled authorization consolidates multiple authorizations into one, including every service relevant to an episode of care. For example, a cardiologist requesting a coronary stent can also order blood thinners for postprocedural care. The improved upfront alignment of prescribed drugs via carrier-specific formularies may help eliminate post-procedure problems when trying to fill the prescription. Using pharmacy claims data, the platform can help health plans ensure that all prescriptions have actually been filled in a timely fashion following a patient's discharge.

Bundled authorizations can also activate communication protocols to ensure that health data is shared with the patient's care team. A cardiac procedure

authorization can trigger the transmission of procedure data, prescribed therapies, and postoperative care directives to the primary care physician. By facilitating care coordination between the patient's primary care physician and cardiovascular specialists, the platform can help improve long-term outcomes and encourage ongoing follow-up, medication adherence support, and proactive care management.

An intelligent utilization management platform can also help primary care physicians and cardiologists identify top-performing specialists for a referral, by indicating at the point of authorization which physicians have the highest adherence to evidence-based guidelines.

Cohere's platform can also provide primary care physicians with patient-facing educational materials, developed in partnership with the ACC, that address the need for achieving and maintaining better cardiovascular health. Equipping physicians with these materials can help them foster productive conversations with patients who are just beginning to internalize the fact that they have a lifelong condition. Patients may take a course of medication for a few months and then discontinue it once they feel better; providing clear education about the nature of cardiovascular disease can help increase patient adherence.

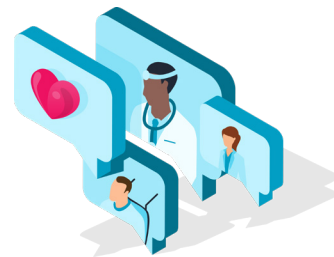
SIMPLIFYING THE PATIENT'S JOURNEY

Consider a typical patient's diagnostic journey (Table 1).

Hazel is a 60-year-old woman with chest pain with walking and other risk factors including uncontrolled high cholesterol despite treatment. She visits her cardiologist, who takes a history and does a physical exam and EKG, which is normal. He is concerned that his patient may have angina; he begins some medication and orders labs and a CT angiogram, but the PA request is delayed for 8 days. Hazel remains worried and has a few more episodes of chest pain, so she goes to the ER. She is admitted for a two-day stay; an inpatient CT angiogram suggests moderate to severe CAD, but due to high census in the hospital and her clinical stability, she is discharged with a

recommendation to follow up with Dr. Evans in a few days.

At her follow-up visit, Dr. Evans submits a PA for a cardiac catheterization, which is scheduled at the hospital. He also submits a PA for a new prescription to help Hazel manage her cholesterol, which is high despite her high-dose statin. Hazel makes multiple trips to the pharmacy trying to get her prescription filled, but approval is delayed, and the cardiologist's office does not pursue peer-to-peer review for the request. Hazel does not get the medicine she needs.



By facilitating care coordination between the patient's primary care physician and cardiovascular specialists, the platform can help improve long-term outcomes and encourage proactive care management.

Finally, Hazel's cardiac catheterization is approved as she continues to have some anginal symptoms despite maximal medications, and she receives an inpatient cardiac catheterization five weeks after her initial visit. Dr. Evans placed a stent for significant disease, improving Hazel's likelihood of good symptom control. As a result of this convoluted timeline, both the patient and the cardiologist are frustrated.

- Overall timeline = 33 days from initial evaluation to diagnosis
- Unnecessary care delays = 2 PAs delayed for more than a week; 1 withdrawn PA
- Unnecessary costs = Avoidable 2-day hospital stay; 2 suboptimal site-of-service choices
- Poor medication management = 0 filled prescriptions

Table 1: Chest Pain/Coronary Artery Disease - Typical Patient Journey

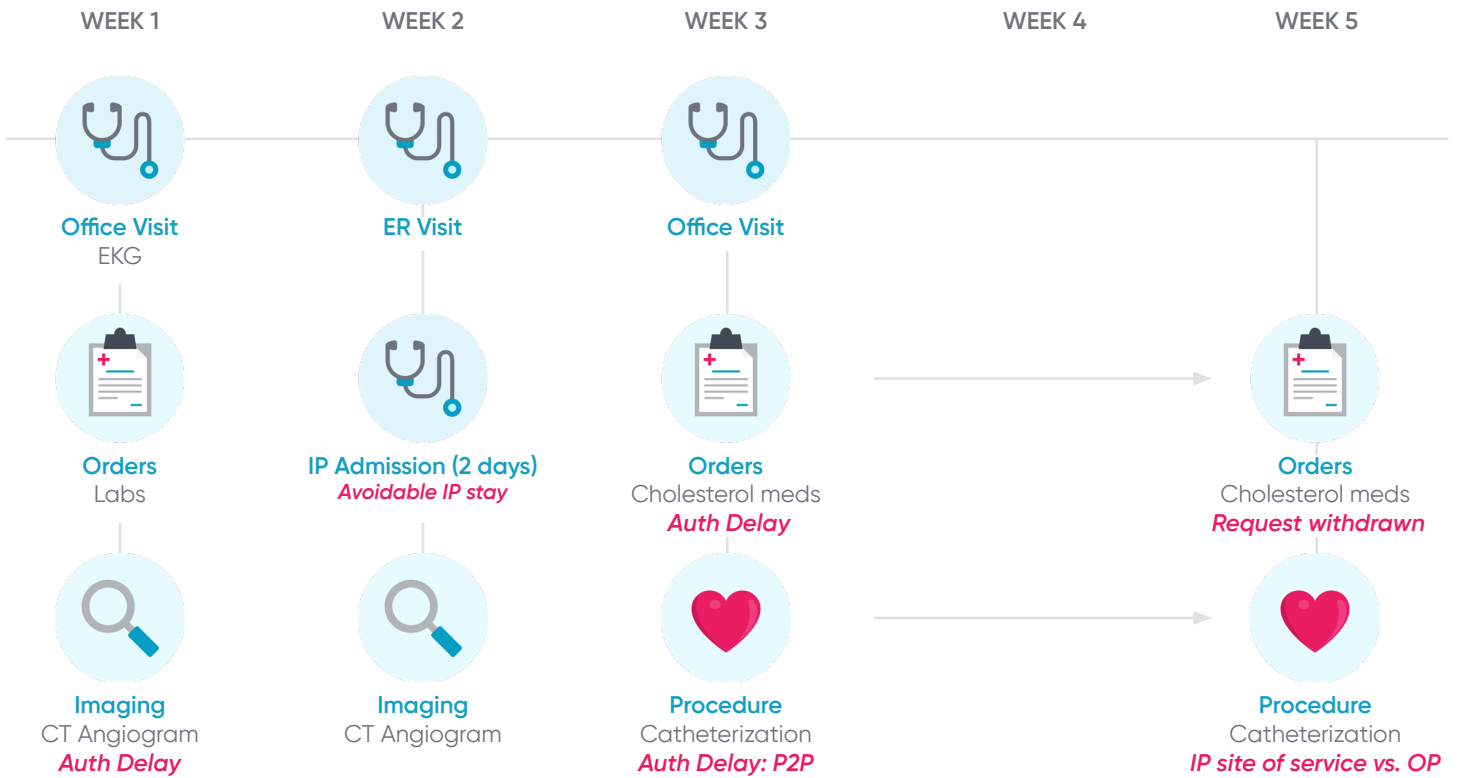


Table 2: Chest Pain/Coronary Artery Disease - Cohere Patient Journey



Consider how the same patient's journey could be reduced to a mere 15 days from initial evaluation to diagnosis, with fewer unnecessary steps and lower costs (Table 2). When PA requests are automatically approved for appropriate care, patients can receive a timely diagnosis that enables a faster path to treatment, without compromising care continuity or risking care abandonment.

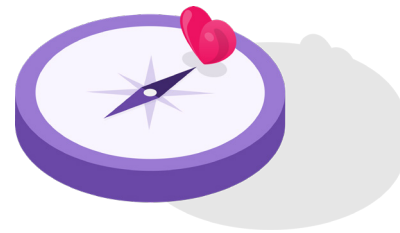
DRIVING HIGH-VALUE CARE CHOICES

Supporting the patient's entire healthcare journey is crucial for improving outcomes, especially for chronic conditions. As long as legacy utilization management programs are still locked into the framework of managing individual services, they will remain limited in the ability to help health plans manage the cost and value of care for lifelong conditions like cardiovascular disease. As the industry continues to shift away from fee-for-service payment models, utilization management must evolve to address the entire care journey across multiple physicians, locations, and episodes of care.

Cohere's intelligent utilization management platform supports not only the immediate approval of prior authorization requests for high-value care, but also the complicated art of making care decisions and the activation of ecosystem partners. Instead of increasing

friction between health plans and providers, this process is designed to complement how physicians practice, offering valuable, evidence-based guidance at every step.

In the near future, cardiovascular disease is likely to remain the most expensive long-term condition for health payers to manage. Adopting an intelligent utilization management platform that drives the use of evidence-based medical guidelines will increase the value of cardiac care across a health plan's membership. By enabling optimal care paths for each cardiovascular patient, health plans can achieve the ultimate goal: better clinical outcomes at a lower overall cost.



By enabling optimal care paths for each cardiovascular patient, health plans can achieve the ultimate goal: better clinical outcomes at a lower overall cost.

ABOUT THE AUTHORS



Susan Bennett, MD

Associate Medical Director, Cardiology, Cohere Health

Dr. Bennett is a non-invasive consulting cardiologist practicing in both metropolitan and rural areas for over 25 years, specializing in echocardiography and preventive cardiology. She created and established the George Washington University Women's Heart Program, one of the first in the country. Dr. Bennett trained in Internal Medicine at Barnes Hospital, Washington University of St. Louis, then in Cardiology at Hospital University of Pennsylvania and University of Maryland in Baltimore.



Christopher Kenyon

Vice President, Clinical Programs, Cohere Health

Chris Kenyon serves as Cohere's Vice President of Clinical Programs. Previously, Chris held leadership and product development roles at CVS Health and spent a number of years in strategy and management consulting for health plan customers with Monitor Deloitte. He holds an undergraduate degree from Boston College and a Master's in Business Administration with a certificate in Health-Sector Management from Duke University's Fuqua School of Business.



Mary Krebs, MD

Associate Medical Director, Primary Care, Cohere Health

Dr. Krebs earned her medical degree from the Ohio State University College of Medicine in Columbus and completed a family medicine residency at Miami Valley Hospital in Dayton, Ohio. She is Associate Medical Director at Cohere Health. She also teaches residents and medical students at a family medicine residency program. Previously, Dr. Krebs was in solo practice at a rural FQHC, and co-ran Family Practice Associates, an independent rural practice.



Russell Rotondo, MD, FACC

Associate Medical Director, Cardiology, Cohere Health

After practicing cardiology for over 25 years, Dr. Rotondo joined Cohere in 2021 from Humana, where he was with the health plan for two years. As a practicing general, invasive, and interventional cardiologist, Dr. Rotondo was a partner at East Tennessee Heart Consultants. He holds bachelor's and MD degrees from Brown University. Dr. Rotondo received his Internal Medicine training at the University of Tennessee Medical Center in Memphis and the Washington University Medical Center in St. Louis, MO, and completed his cardiology fellowship at the Washington University Medical Center.



Jessica Smith-Amara, MSN, RN, NE-BC, CPHQ

Clinical Program Manager, Cardiology, Cohere Health

Jessica Smith-Amara is a board-certified nurse executive and certified professional in healthcare quality with over 15 years of experience in health-systems care delivery, population health strategy, pay-for-performance programs, data-driven program development, and operations. Her work spans nursing, quality improvement, and Medicaid and Dual-Eligible Medicare managed care. She holds a bachelor's degree in nursing and a Master's of Science in Nursing Education and Leadership from Carlow University.

ABOUT COHERE

Cohere Health solutions transform UM programs from an inefficient burden into a strategic asset, by aligning physicians and health plans on evidence-based care paths for the patient's entire care journey. By integrating these care paths into the prior authorization submission process, Cohere's digital UM platform reduces denial rates and medical expenses while improving patient outcomes. The company is a winner of the TripleTree iAward and has been named to both Fierce Healthcare's "Fierce 15" and CB Insights' Digital Health 150 lists. Cohere's investors include Flare Capital Partners, Define Ventures, Deerfield, Polaris Partners, and Longitude Capital.