Cardiovascular disease is the leading cause of death in the United States and accounts for ≈17% of national health expenditures and 30% of Medicare spending. Among physician groups and professional societies, cardiologists have been among those leading efforts to create evidence-based guidelines and to measure quality of care. In the post-health reform era, national efforts have expanded beyond quality to include innovative delivery models, such as the patient-centered medical home (PCMH), the medical neighborhood, and accountable care organizations (ACOs). This next generation of care models and the payment strategies that support them incentivize efficiency, patient-centeredness, and care coordination with an emphasis on primary care. We propose strategies for cardiologists to create collaborative opportunities within these new models drawing from examples from around the country within the context of a framework developed by the American College of Physicians. Pursuing these approaches or others along similar lines will enable cardiologists to lead and to be active participants in shaping delivery system transformation.

These innovative delivery models share similar features. The PCMH is a model of care that emphasizes additional support for primary care providers within a patient-centered team, whereas a medical neighborhood represents a broader collection of primary care doctors, specialists such as cardiologists, hospitals, and other stakeholders within a region that seek to reduce fragmented care by sharing accountability. The ACO, too, is a broader care delivery arrangement, but in this case, groups of providers are accountable for the quality, cost, and overall care of a particular population, typically defined by the payer. In the Medicare Shared Savings Program (MSSP), an ACO model for Medicare beneficiaries, the ACO can capture shared savings if it reduces its healthcare expenditures and meets certain quality performance standards, nearly half of which are related to cardiovascular disease. Within the ACO, the cardiologist can be identified through claims information to be the primary provider for the patient, considered the attributed provider, depending on the amount and type of primary care services given or can otherwise serve as an integral member of the care team.

The American College of Physicians have proposed 3 types of general interactions between primary care physicians/providers (PCPs) and specialists within medical neighborhoods, the pre-consultant exchange, formal consultation, and co-management, based on whether a cardiologist or other specialist has had a formal consultation with a patient. In the pre-consultant phase, when the patient does not have a cardiologist, the focus would be on providing generalists ready access to cardiology expertise. For example, American College of Cardiology/American Heart Association practice guidelines could be readily available at the point of care or embedded into decision support tools within electronic order entry systems to assist with appropriateness for medications, imaging, or other management as delivered in the outpatient, inpatient, emergency department, or other care settings. In addition, an eReferral system could be established where cardiologists would screen electronic cardiology referrals for urgency, offer guidance to generalists about consultation or testing appropriateness, or request additional diagnostic testing as part of a pre-visit workup. University of California, San Francisco (UCSF) and San Francisco General Hospital developed and implemented an eReferral system, which gave PCPs from 26 city-funded and independent clinics in San Francisco easier access to specialists based at San Francisco General Hospital. They found that there were remarkable improvements in wait times for specialty appointments. For example, the median wait time for a routine rheumatology appointment decreased from 126 to 29 days. PCPs also gave the eReferral system overwhelmingly positive reviews with ≈70% noting an improvement in patient care and 90% reporting easier referral tracking.

The second interaction highlighted by the American College of Physician and the form we are all most familiar with, the formal consultation, would include a cardiologist’s evaluation of a patient in real time. Although this generally relates to traditional face-to-face office visits, it could also use innovative technologies such as telemedicine to virtually bring the cardiologist and patient together. While the patient and PCP are in the office, the cardiologist could do a consultation via videoconference. This dramatically increases the potential geographic reach for specialty services. In addition to the patient interview, data can be collected and transmitted to the cardiologist’s office via Bluetooth enabled medical devices, such as amplified stethoscopes and handheld EKG devices. Telemedicine, videoconferencing, store and forward, and home monitoring, all have the potential to impact on the quality and cost of care while broadening access. University of Pittsburgh Medical Center (UPMC) is currently using telehealth services in several areas of patient care such as dermatology and believes it can positively impact specialties.
including cardiology. Telemedicine has created cost savings for UPMC in the form of fewer admissions and better provider efficiency. Alternatively, the PCP can seek a curbside cardiology consultation. At Massachusetts General Hospital, a cardiology e-consult program was piloted where cardiologists electronically reviewed a patient’s data and images and were able to offer recommendations without having to see the patients in clinic. The primary care provider then gave the recommendations to the patient. Cardiologists were paid for their time via a fee-for-service model. Of the 67 e-consults performed, the cardiologist advised further diagnostic testing in 50%, and medication changes were made in 12%. All 27 referring providers who filled out the survey found the e-consults beneficial. Of the 30 patients surveyed, 100% were very or somewhat satisfied with the experience and 97% were very or somewhat satisfied with their understanding of the recommendations. This type of provider-to-provider interaction has also been shown to trim costs. As an example, the US Department of Defense conducted a project called the Pacific Asynchronous Telehealth Program (PATH) where providers submitted patient information and data along with a consultation question to the PATH system. A case manager would review the information and forward it to the appropriate pediatric specialist. Approximately 90% of the teleconsultations originated from outpatient clinics, and 60% of the cases no longer required additional specialty care after the telehealth consult. Provider-to-provider communication led to a change in diagnosis/treatment plan in 74% of cases. In this cohort of 1000 cases, PATH saved the military as much as $750,000 per year.

The formal consultation stage could also take the form of evaluation within specialty observation units and outpatient infusion centers. Certain cardiac conditions may be too complex or require services not able to be delivered in a typical ambulatory environment. These observation and infusion units can provide a venue for patients to receive accelerated evaluation and inpatient-like treatment directed by cardiology staff without necessarily requiring an actual hospital admission. For example, a patient with congestive heart failure who present to an outpatient clinic volume overloaded may be directed to the emergency room. Johns Hopkins Hospital has a multidisciplinary heart failure infusion clinic that enables otherwise stable patients with heart failure exacerbations to receive intravenous diuretics, blood work, and basic monitoring. The goal was to improve their volume status before they become clinically unstable and without requiring an unnecessary visit to the emergency room. Other cardiac conditions like syncope can sometimes be managed with protocols on a specialty observation unit without requiring an inpatient admission. In the Syncope Evaluation in the Emergency Department Study, investigators at the Mayo Clinic examined the utility of a syncope management unit based on a protocol designed by a multidisciplinary team, including electrophysiologists, ED physicians, and allied staff. They found that the cause of syncope was determined in 67% of the patients who underwent evaluation in the syncope unit as opposed to 10% in the standard care group. Only 43% of syncope unit patients were admitted compared to 98% of patients in the standard care group. In both specialty units and bridge clinics, there is the potential to improve the quality of care and drive cost savings from decreased hospital admissions.

The third described level of interaction, or comanagement, enables the cardiologist and PCP to delineate each provider’s responsibility in the patient’s care to ensure ongoing care continuity. For example, the primary care provider and cardiologist can both manage a patient’s cardiac disease and risk factors, such as hypertension and dyslipidemia. Or the cardiologist can assume total care of a patient’s cardiac disease while the PCP is in charge of other medical problems. As appropriate, the cardiologist and PCP can communicate updates on managements via phone calls, e-mails, and other forms of electronic communication. Because of their patients’ concerns about care coordination between primary care providers and specialists, The Family Care Network, a family medicine practice in Washington State, established a service agreement with a local cardiology group focused on comanagement. Components of the agreement included role delineation such as who prescribes specific medications and who is the point of contact for certain issues. They also agreed on ensuring that there was bidirectional access to patient data. Comanagement can impact care across the continuum including in the community, in the acute care environment, and in post-acute or skilled nursing facilities (SNFs). Within SNFs, the number of Medicare patients admitted postdischarge is steadily climbing, and a large percentage of them are older patients that have sustained a myocardial infarction and underwent coronary artery bypass surgery (CABG). Generalists are typically responsible for patient care, but there can be an important role for cardiologists to play in management. Cardiologists from Johns Hopkins Bayview Medical Center are helping to manage patients with heart failure discharged from the hospital to nearby SNFs. The goal is for SNF patients with heart failure to be monitored closely, especially in the early postdischarge stage. The cardiologists are reimbursed directly by the SNFs.

It is essential that payment mechanisms incentivize these types of interactions between primary and specialty care that are both patient-centered and allow for care in the right place at the right time. Under the current structure, the MSSP continues to pay ACO providers for services rendered to Medicare beneficiaries. The Centers for Medicare & Medicaid Services (CMS) allows organizations to choose either a shared savings (no risk) model or shared savings and losses model, and nearly all entities to date have elected to pursue the former. The ACO may be able to share in savings if quality performance targets are achieved and the cost of care is reduced versus benchmark calculations. Shared savings can be reinvested in infrastructure, such as for telemedicine or to support cardiologists’ participation in eReferrals, curbside consultation, or to support other provider incentives. Health and Human Services recently announced that Medicare plans to have 30% of Medicare payments linked to quality or value through alternative payment models such as ACOs by the end of 2016, and 50% of payments to these models by the end of 2018, which will lead to a dramatically increased prevalence of these care delivery arrangements. There are hundreds of commercial insurance ACOs throughout the country that are increasingly aligning payment and incentives with high-value care and seek to reduce variability along these lines. Although
relative value unit–based incentive models have typically been
the norm, how an individual cardiology practice may choose
to structure its compensation models to further support high-
quality care and related activities could be a powerful tool to
motivate behavior change moving forward.

Bundled payment models could also incentivize these types
of interactions between primary care providers and cardiology-
gists. The CMS Bundled Payments for Care Improvement
initiative (BPCI) proposed several models of care that linked
payments for services provided to Medicare beneficiaries
during a defined clinical episode. Under the BPCI, there are 48
clinical conditions that are eligible to receive bundled pay-
ments. Examples include hospital and physician services for
an implantable cardioverter-defibrillator or hospital and sup-
port services associated with the management of a patient
with congestive heart failure. A bundled payment would be
automatically triggered by a patient with an eligible episode
of care in a participating facility. The Medicare Participating
Heart Bypass Center Demonstration of 1998 showed that an
all-inclusive bundled payment arrangement for CABG saved
$42.3 million, or ≈10% of expected spending, on CABG sur-
gery at the 7 participating hospitals over a 5-year period.

In the private sector, payers and health systems are apply-
ing bundled payments to cover acute medical conditions, such
as acute myocardial infarction, chronic conditions such as
heart failure, and procedures such as coronary revasculariza-

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based on their knowledge of the patient or the condition. This may lead to reductions in unnecessary testing and hospital admissions. In contrast with a traditional PCMH model, the PCMH-C model would likely require more intensive cardiologist real time evaluation and involvement. A PCMH-C could support active cardiologist comanagement of multimorbid, high-cost patients throughout the care continuum from outpatient clinics to acute rehabilitation centers and SNFs. Other nonprimary care specialties that have created PCMHs have met success. For example, a 9-physician oncology PCMH outside of Philadelphia, Consultants in Medical Oncology and Hematology (CMOH), reduced emergency visits by 68%, hospital admissions per year for patients being treated with chemotherapy by 51%, and length of stay for admitted patients by 21%.24 CMOH’s total economic savings was estimated to be $1 million per physician per year. It became the first oncology practice recognized by the NCQA as a level III PCMH because of its ACO capabilities and strong performance in quality measures.

The financial arrangement envisioned for the PCMH-C model would be a per member per month plan (PMPM) in which the cardiologist or the PCMH-C would be given an agreed amount payment per month by the payer, likely supplementing existing payment, to provide additional medical and supportive care. This could help incentivize better communication between cardiologists and other physicians. Furthermore, this could lead clinicians to favor nontraditional communications on clinical matters, when possible, and improved access to care for urgent problems as opposed to sending patients directly to the emergency room or having them admitted to the hospital.

A capitation model is another financial model that could support more advanced and integrated care delivery arrangements. There are 2 primary capitation models. In global capitation or full risk capitation, an entity receives a global payment over a period of time for services ultimately rendered for a patient, including physician services, home health, laboratory tests and durable medical equipment. In a partial or blended capitation model, certain services are paid on a capitated basis, whereas others remain on a fee-for-service basis. The Pioneer ACO model is a Center for Medicare and Medicaid Innovation initiative tailored for more advanced care delivery entities that are better prepared to transition to a population-based payment model.25 The first 2 years are marked by a shared savings payment arrangement. By year 3, the ACO can transition to a partial capitation model. Launched in 2012, data are still being collected, and it will be important to see how revenues are distributed between providers. A possible way to distribute revenues fairly in a capitated model (such as with a bundled payment) is to split the physicians into risk and nonrisk groups. For example, the risk group in a joint replacement would be orthopedic surgery and anesthesia. In this case, a fixed fee would be calculated based on the average commercial rate or a percentage of Medicare. The risk group would be paid X% of the fixed amount, and the remaining 100-X% would be withheld and paid out based on quality performance. Nonrisk physician groups such as radiology and pathology would be reimbursed at a predetermined rate. Each health system or provider group system will have to decide the best payment structure for them to ensure that physicians, such as cardiologists, are properly compensated for effort expended and that as a system, the focus is on ensuring high-quality and efficient care in appropriate care settings.

Care delivery is increasingly focused on the primary care provider as quarterback within a network of invested stakeholders and a population health framework. To be high-value partners, cardiologists will need to consider opportunities for promoting efficiency in their interactions with both primary care providers and patients and seek to provide high-quality care in lower cost settings or through lower cost interactions, when appropriate. Opportunities include deployment of decision support tools, review of referrals or testing for appropriateness, evaluation in clinic or virtual settings, as well as the construction of cardiology-focused care teams for particular patient groups. Furthermore, cardiologists can apply an evidence-based and data-driven framework to support rapid cycle evaluation, continuous quality improvement, and dissemination of the science of care delivery. While seeking to promote optimal care arrangements for their patients, cardiologists must simultaneously work with stakeholders to ensure payment opportunities within delivery systems and payer contracts are sustainable.

It is important to note that cardiologists’ participation in innovative delivery models may be more easily adapted in highly integrated systems with information technology investments, care team support, and the incentives to coordinate care. However, all types of organizations can transform themselves. For example, the MSSP does not require being an integrated delivery system for participation, and many organizations are using it as a tool to help accelerate transformation. One benefit of the MSSP is that it provides an entry point for smaller practices or physician groups to gain experience with this type of payment model before assuming greater risks. Currently proposed modifications for the MSSP offer an opportunity to continue in the no risk model for more than one 3-year period.26 Whether in a large integrated health system or a smaller entity, lessons can be learned to determine whether these models are effective and should be scaled. Ultimately, cardiology teams that adapt and embrace the principles of delivery system reform will be the ones that both providers and payers will wish to include in their value-driven teams and networks.

Disclosures
None.

References


