

Implementing a Cardio-oncology Center of Excellence

Nuts and Bolts, Including Coding and Billing



Anita M. Arnold, DO, MBA^{a,*}, Cathleen Biga, MSN^b

KEYWORDS

• Cardio-oncology service line • Financial • Coding • Billing

KEY POINTS

Developing and sustaining a cardio-oncology program has 3 key components:

- Establishing the need: would the oncology and cardiology communities support a program; is there competition that would have a negative impact on the program; and is there administrative support for a dedicated cardio-oncology program?
- Developing the program: it must address community needs and the organizational strategy for service line development. The strategy should consist of an early phase with limited components, followed by expansion as a center of excellence.
- Financing the program: establishing the up-front clinical needs, payor mix, and services required as well as attention to billing and coding to maximize sustainability and growth of the program is paramount.

INTRODUCTION: WHAT IS CARDIO-ONCOLOGY AND WHY IS IT NEEDED?

Cardio-oncology is an evolving subspecialty of cardiology that deals with the acute and long-term care of cancer patients as well as cancer survivors. It has developed in concordance with the advances in oncology that have vastly increased the armamentarium of therapies for cancer patients and the subsequent cardiac toxicities that have emerged, both during therapy and sometimes decades later as cancer-related cardiac dysfunction.¹ The enormous complexity of the cancer treatments, with the myriad cardiac issues that can arise during therapy, mandate a

collaboration that is diverse, knowledgeable, streamlined, cost efficient, and, most of all, able to navigate patients through an increasingly complicated health care system in a timely fashion.² Although the prototype for cardiotoxicity is the anthracyclines, initial reports were of their cancer benefit^{3,4} and it was not until later that cardiotoxicity was reported. It was usually the oncologist who managed screening with periodic multigated acquisition scanning and referred to cardiology at later stages.⁵ Eventually, increasing cardiac toxicities were seen, not only from older agents like anthracyclines but also with contemporary agents as well. This was most notable in childhood cancer survivors, where the rate of

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^a Florida State University School of Medicine, Cardio-Oncology, Lee Health, 9800 South Health Park Drive #320, Ft Myers, FL 33908, USA; ^b Cardiovascular Management of Illinois, 900 South Frontage Road, Suite 325, Woodridge, IL 60517, USA

* Corresponding author.

E-mail address: Anita.Arnold@leehealth.org

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subsequent cardiac death was more common than recurrent cancer.⁶ This sparked an interest in cancer-related cardiac dysfunction as a consequence of cancer cure or transformation to a chronic disease, leading some to advocate for a cardio-oncology specialty.^{7,8}

The American College of Cardiology (ACC) has supported the creation of a Council of Cardio-Oncology with multiple working groups to advance the field with evidence-based recommendations. Training programs are being developed,⁹ and the council has begun educating lawmakers and health policy advisors about the specialty and advocating for cardio-oncology patients. A 2014 needs assessment of cardiology program directors about cardio-oncology reported 27% of centers had dedicated cardio-oncology programs, but only 12% were developing service lines. More than 70%, however, agreed that cardiac complications were increasingly common in cancer patients, and felt a cardio-oncology program would improve overall patient care.^{10,11} A more contemporary survey of practicing cardiologists in Florida noted half had no cardio-oncology program at their institutions and only 18% were comfortable treating cardiac complications due to cancer therapy, which speaks to the need for further education of practitioners as well as development of formal cardio-oncology training programs.¹² As a testament to the need, there has been a huge increase in cardio-oncology publications, conferences with dedicated cardio-oncology lectures, and whole conferences devoted to the emerging field and its needs (imaging, training, research, coding, and billing as well as funding), to name a few.

SHOULD A CARDIO-ONCOLOGY PROGRAM BE STARTED?

Similar to deciding on the development of any service line, the decision to develop a cardio-oncology program for an institution takes some research and planning. There is no question that some of the drivers for cardio-oncology programs are unique. The shifting paradigm of cancer becoming a chronic disease, with therapies lasting years, requires long-term follow-up for ongoing cardiac toxicity. As more cancer patients are cured and enter the survivorship phase, there needs to be identification of those at risk and strategies for how best to monitor long-term cancer therapy-related cardiac disease. It has been estimated that by 2040, the number of cancer survivors in the United States will increase by approximately 11 million: from 15.5 million in 2016 to 26.1 million in 2040. The proportion of

survivors older than age 65 will increase from 61 years to 73 years. By 2040, only 18% of cancer survivors will be between ages 50 and 64, and 8% will be less than age 50. This represents a very elderly population of patients who have suffered cardiotoxic therapy and also are susceptible to cardiovascular disease due to aging alone. This is the so-called silver tsunami population that will undoubtedly benefit from cardio-oncology while undergoing treatment and follow-up in the years to come (D. Sadler, personal communication, 2019). This aging of the cancer population will add to the cost of health care along with struggles with physician shortages, burnout, and health care funding.¹³ Providing cardio-oncology services early in the treatment plan would mitigate early toxicity and allow for proactive treatment as well as surveillance protocols for survivors. This should result in better outcomes at lesser cost for these patients.

Cancer and heart disease traditionally have been the 2 leading causes of death in the United States,¹⁴ and it stands to reason that many patients suffer both diseases. For those with advanced heart disease who develop cancer, there are unique challenges for which cardio-oncology would be most beneficial. This will require multiple types of providers, some of whom may be shared with the oncology service line to benefit the patients and providers on multiple levels (such as social work, pharmacy, and rehabilitation services).

Cardio-oncology is a fast-growing field and the questions are whether or not an institution should commit to a dedicated program to develop a center of excellence and how that would be structured to best serve the community.¹⁵ Similar to many other advances in cardiology (electrophysiology [EP] and ablation; structural heart disease with transcatheter aortic valve replacement; and MitraClip, Human Cells, Tissues and Organs, or transplantation services), it first needs to be decided if this service line can be supported or if it is even needed at a particular institution. The benefits of such a program would first be to the cancer and cardiac patients cared for as well as the providers who need expertise in problems that can arise during cancer treatment and survivorship. The complexity of caring for cancer patients has grown to the point that a dedicated program in most institutions would greatly benefit the streamlined, collaborative care of these patients as well as allow them to remain locally for their care. It is estimated that 30% of all patients undergoing cancer therapy have some cardiovascular issues associated with their care, with

cardiovascular disease as the leading cause of morbidity and mortality in the years after cancer treatment.¹⁶

The structure of an organization is a critical first step in deciding if it should have a stand-alone cardio-oncology program, or perhaps, if an organization has already started down the path of having a cardiovascular service line, it may be the best option to develop a cardio-oncology center of excellence. As cardiology continues to be subspecialized (structural heart, athletic heart, EP, vascular, and so forth), it is paramount to design the clinical, financial, operational, and quality aspects of this broad spectrum of care across a continuum. Starting with the overall strategy of a cardiovascular service line allows for the creation of subspecialties as they evolve.

WHICH PATIENTS WOULD BE EXPECTED TO BENEFIT FROM THE SERVICE LINE?

It is anticipated that 3 types of patients would benefit from a cardio-oncology program:

1. Cancer patients who are undergoing treatment with potentially cardiotoxic therapy (chemotherapy or radiation therapy) or surgery for cancer treatment, to have a risk assessment prior to undergoing any therapy and optimize their cardiovascular status.
2. Patients with known cardiac disease who develop cancer: to insure they can withstand the rigors of treatment and avoid worsening of their cardiac status as well as work with the oncology team in unique patient circumstances: patients needing dual antiplatelet therapy for coronary stenting who may develop pancytopenia; patients needing anticoagulation for atrial fibrillation, with arrhythmias and ischemic heart disease; and patients with limited life expectancy, cardiomyopathy, and possible device therapy.
3. Survivor of cancer need surveillance, especially childhood cancers with treatment usually involving anthracyclines and radiation and where there is an 80% 5-year survival; with 50% of subsequent deaths due to cardiac disease. The longer a childhood cancer survivor lives, the more likely the patient is to develop cardiac disease but at a much earlier age than siblings or aged-matched cohorts.¹⁷ These patients require follow-up for years and may develop any number of cardiac comorbidities as a result of their childhood therapies.

WHAT SHOULD BE THE GOALS OF A PROGRAM?

Within the mission statement of an organization, the vision of the service line (the goals of a cardio-oncology program) should focus on providing services that

- Ensure better outcomes (early and late) for patients with heart disease and cancer
- Recognize early cardiotoxicity of cancer therapy and how best to prevent and manage
- Prevent, reduce, and, if possible, reverse cardiac damage that has occurred
- Develop collaborative research with others in the community and nationally
- Remove cardiac disease as a barrier to effective cancer therapy and prevent delays in cancer treatment
- Participate in establishing survival standards for cardiac surveillance

It is anticipated that by providing cardio-oncology services within the cancer community, earlier toxicities can be better managed and possibly subsequent future outcomes improved.¹⁸

GETTING STARTED; WHICH BASELINE DATA ARE NEEDED?

Although it seems intuitive from the previous discussion, it is imperative to do some background research for an organization before embarking on program development. The administrative staff will expect the following issues to be addressed:

1. What are the demographics—the age, socio-economics, mobility, and education—of the service area? What is the geographic referral area? How many patients are served and what is the payor mix? Studies show that patients are more likely to participate in clinical studies and engage in health care if delivered locally, which is important for program development.¹⁹
2. What is the incidence of cancer within the community; are there specific types and do they differ by gender, ethnicity, or age? These data are available from a cancer registry or from the American Cancer Society.²⁰
3. Are there already robust oncology and cardiology service lines to support the care for these complex patients? Do they perceive that this center of excellence within their existing service line is needed (if the initial response is “no,” that may be the perfect place to start, with education of the medical community as to the services of cardio-oncology and how it would

- benefit patients and providers; try to identify gaps in knowledge and start to bridge them)?
4. Is there a nearby a university/academic/cancer program that already meets the cardio-oncology needs of the community? Are patients more likely to go out of the area to those programs? These data may be able to be extrapolated from other types of cancer programs within the institution.
 5. Who regionally has or could easily develop a cardio-oncology program, and how likely is it that patients would go there for their cardio-oncology care (classic SWOT analysis, looking realistically at institutional strengths, weaknesses, opportunities, and threats)?
 6. While working within the team, the creation of a 5-year, financial forecast often is required. This focused approach to new program development pulls together all those elements needed for a successful program and allows for the setting of realistic expectations in the financial component of the program development.
 - a. The key elements of a successful development of an accurate financial forecast should include payor mix (what insurances are in the market area), patient volume, services that are needed (*Current Procedural Terminology* [CPT] codes), average reimbursement/CPT code/payor, what staff are required, how much space is needed, and what staff are required to perform these services. A critical but often overlooked element of the financial forecast is what hospital administrators refer to as down-stream revenue. What services are anticipated that this subset of patients will require—imaging, procedures, and laboratories are just a few of the considerations that should be incorporated into this 5-year, financial forecast. This will give the administration the needed information—in addition to the clinical component—necessary to make these decisions.
 - b. The most successful programs have a dyad/triad relationship—the cardiologist, the oncologist, and the administrator—all are required to ensure the appropriate resources are planned for and the execution of the plan seamless.

Once it has been ascertained that a cardio-oncology program is needed in an area, the needed financial resources identified, and there are clinicians to support the program, the help of key stakeholders crucial for supporting the program must be engaged. A great place to start is with the oncology providers (medical, radiation,

and surgical) as well as the cardiology groups in the area. It is important to address 2 key concepts:

1. A cardio-oncologist can provide an expertise for cancer patients that would be helpful during therapy and survivorship time frames (in other words, How is this program different from the cardiology already available, and why should resources be devoted to this program?). A mini-survey of providers regarding their understanding and use (if subsequently available) of cardio-oncology services may help understand not only the needs but also the potential referral patterns of the institution.
2. Cardiology colleagues can be reassured that the cardio-oncologist will be the liaison for events during the cancer therapy and assist in long-term follow-up as needed. It would be inconceivable to care for all the needs of the cardio-oncology population, and, over time, most programs have expanded so certain members of the cardiac team (interventional and EP) have developed expertise in caring for these patients as well. It serves to elevate the entire spectrum of cardiac and oncologic care for the community.

Once a collegiality is established for the program's existence, buy-in from the hospital's administration is needed; explain the vision so that they see the potential of such a program and are willing to support the service line. One word of caution is to not go too far with the clinical set up without bringing in the administrator dyad—and if there is not one in cardio-oncology, it is good to find a nurse, advanced practice provider, or administrator who understands hospital politics/financials/process to help take this project from design through implementation. Likely there will be questions about how the service line will grow, what is needed to get started, if it will support itself with downstream revenue, how long would that take, and so forth. These issues are a bit harder to get at, but several programs have benchmarked early successes.²¹

WHO IS ACTUALLY PART OF THE CARDIO-ONCOLOGY TEAM?

Initially, it is expected the team would be small and then expanded as a program develops. At minimum, a team should be 3 dedicated persons who are the base of the cardio-oncology program; this can easily evolve from an existing cardiology practice:

1. Cardio-oncologist: in most cases the cardio-oncologist is not formally trained but has a

passion for providing care for the cancer patient. Working with an oncologist who will assist in building the program and help identify the needs of the oncology community is vital.

2. Nurse: helps navigate referrals, coordinate testing and visits, facilitate communication among the various providers, and helps triage patients and procedures and be the link between other service lines. The nurse also is instrumental in teaching cancer nurse navigators about cardio-oncology and is available for early and quick consultation.
3. Dedicated cardiac sonographer who images most, if not all the cardio-oncology patients, with an expertise in strain or 3-D imaging. Ideally this service should be offered same day and on site if possible.

BUT SPECIFICALLY, HOW TO BEGIN?

Most cardio-oncology programs started by having a dedicated cardiologist start to detail the vision and dream to others. Begin at a place that feels comfortable, for example, start attending tumor boards or a multidisciplinary breast clinic, with an introduction as cardio-oncology, and join the discussions. Offering to help staff manage their high-risk cardiac patients or being a resource is beneficial and helps to grow the program. If possible, have office space (even 1–2 days a week) physically located near the oncology team, making it easier for oncology (and their staff) to think of cardio-oncology and send patients for evaluation. Many of the most successful multidisciplinary clinics start with a simple time share agreement—take 4 hours 2 times a month in an oncology office. Alternatively, depending on the specific situation, perhaps a clinic in the hospital would offer more of a Switzerland-like approach—one where several oncologists feel comfortable referring. There will be hurdles to plan for—such as electronic health records (EHRs), billing, and staffing; but those are all resolvable elements that an administrative team can help plan for and execute a solid implementation strategy for. In some practices, offering same-day cardio-oncology consultations, or 24-hour to 48-hour turnaround for preoperative clearance for oncologic surgery, for example, has provided great value to the oncology teams. Several PowerPoint presentations should be prepared for the general public, especially cancer support groups with patients and family members (let them help drive the discussion of need for the program) as well as targeted to physician groups at the hospital,

local medical society, nurses, and training programs in the area.

If possible, get the hospital to publish blogs on its Web site (or on the cancer Web site) about available cardio-oncology services and printed brochures about how to get in touch and why the services are important; call local media outlets describing the new program and its benefit for the community. The hospital may help with many of the media concerns because they are usually looking for ways to celebrate their services to the community. Do not underestimate the power of word of mouth; patients usually are involved in many community groups (Rotary, Knights of Columbus, Shriners, and so forth) as well as church groups (with parish nurses). Try to get as much exposure as possible to these community resources to help grow the program and spread awareness of cardio-oncology.

Considering a cardio-oncologist is probably practicing general cardiology as well, it becomes important to identify the cardio-oncology population of a practice. The receptionist and scheduler, as well as triage nurse, need to ask patients if they are cardio-oncology, because they may have special concerns, and triage them appropriately. Our staff has reacted with the utmost empathy and compassion and gone to great lengths to accommodate the needs of cardio-oncology patients. They understand the urgency of doing an “add-on echocardiogram with strain” to allow the next dose of chemotherapy, they facilitate communication for cardio-oncology patients, and they have at numerous times adjusted schedules to accommodate the needs of the patients. There is a sense of double urgency to help these patients with 2 of the most devastating illnesses a person can have, cancer and heart disease. The authors are blessed for having such a wonderful staff, and as a program develops, I trust it will have a similar experience. Staff also will make a program a success and help grow the service line.

Considering most cardio-oncology programs initially are not physically located in or near the oncology offices, there may be a degree of disconnect that does not allow for early patient referral or dialogue. This needs to be addressed by having cardio-oncology as part of the initial treatment team similar to palliative care. Studies have shown integrating palliative care services early in cancer care provided better outcomes for patients,¹¹ Cardio-oncology should be integrated into the cancer care program and be delivered through interdisciplinary cardio-oncology teams, with consultation available early in the course of therapy.

USE ELECTRONIC RECORDS

It is helpful to have information technology (IT) involved early, because tracking cardio-oncology patients and being able to prove service line growth and downstream revenue are important. A few simple ideas from IT have proved helpful, and, as the program expands, other ways to utilize IT to provide better care for patients may be found:

1. Some EHRs have imbedded registries that can pull patient information that may be found helpful. In particular, the authors chose to merge some fields from the cancer registry as well as from certain of the cardiovascular registries (heart failure, arrhythmia, coronary artery disease, device implantation, hypertension, and hyperlipidemia) and add specific fields to track, such as assessment of left ventricular function. This eliminated having to duplicate all the demographics and, if the fields already exist, a separate cardio-oncology registry can be created at a fairly low cost.
2. Best practice alerts can identify patients with cancer (the authors excluded nonmelanoma skin cancers) AND certain high-risk features for heart disease, OR known heart disease by a pop-up that asks if a patient may benefit from a cardio-oncology consult. Keep in mind there are a lot of best practice alerts and they may get ignored. The field may be limited to a specific cancer initially and to see if it drives referrals. If, after a period of time, it is more of an annoyance to the providers, that strategy may be rethought.
3. The authors recently developed a strategy to have the cancer intake nurses use a brief chart, adapted from a Mayo Clinic strategy that identifies high-risk patients and generates a referral to cardio-oncology for a cardiac risk assessment and ongoing follow-up if indicated. After discussion and evaluating the evidence of cardio-oncology data, leadership felt best practices dictated an automatic referral for high-risk patients.
4. Other cardio-oncology programs have used a pharmacy database, such that when an order is written for a cardiotoxic agent, a cardio-oncology consult is suggested to the prescribing oncologist. This may be difficult in situations with multiple EHRs or providers not integrated in the same health system.
5. An efficient way to help with differing EHRs is to obtain permission for a read-only status. Cardio-oncology can access real-time records without having to do a formal record release and wait for the data. Within the authors' program, only the cardio-oncologist and nurse have that access.
6. A simple way to identify and track a patient as cardio-oncology is to have scheduling identify the visit type as cardio-oncology. The authors have created 4 visit types that can subsequently be tracked and analyzed:
 - a. Cardio-oncology consult
 - b. Cardio-oncology follow-up
 - c. Cardio-oncology preoperative clearance
 - d. Cardio-oncology survivorship

ORGANIZATION OF THE CARDIO-ONCOLOGY PROGRAM

As a program grows, there are several suggested team members^{22,23} but, ultimately, it will be the needs of the community and referring oncology providers that help drive the direction of the program. Many cardio-oncology programs have evolved based on the needs of their patients and particular champions for the program.²⁴

The authors' program has evolved to include other team members believed needed to care for cardio-oncology patients (Fig. 1). They have proved to be an integral part of the cardio-oncology team and add greatly to the patient experience and satisfaction. As a team continues with needs assessments for the community, it may be found that other services should be added. For example, in rural areas or socioeconomically disadvantaged communities, help may be needed with transportation or child care for patients to benefit from the services. Paying for prescription therapies is challenging enough with both cancer and heart disease; patients may need help navigating the financial programs available for them. Language services are important, and not all of these services need to be provided by high-cost employees. A 2017 study from the University of Alabama used a novel approach using lay navigators to assist patients throughout their cancer experience and noted a significant decrease in overall cancer costs, with increased patient satisfaction.²⁵ Dieticians, social workers, and exercise physiologists may all need to become part of this new team. Looking past normal treatment modalities will expand a center of excellence and treat the whole patient. There is a movement to try to include cardio-oncology patients into a cardiac/oncology rehabilitation-like environment—all of these dedicated specialties should be evaluated as potential team members. This speaks to

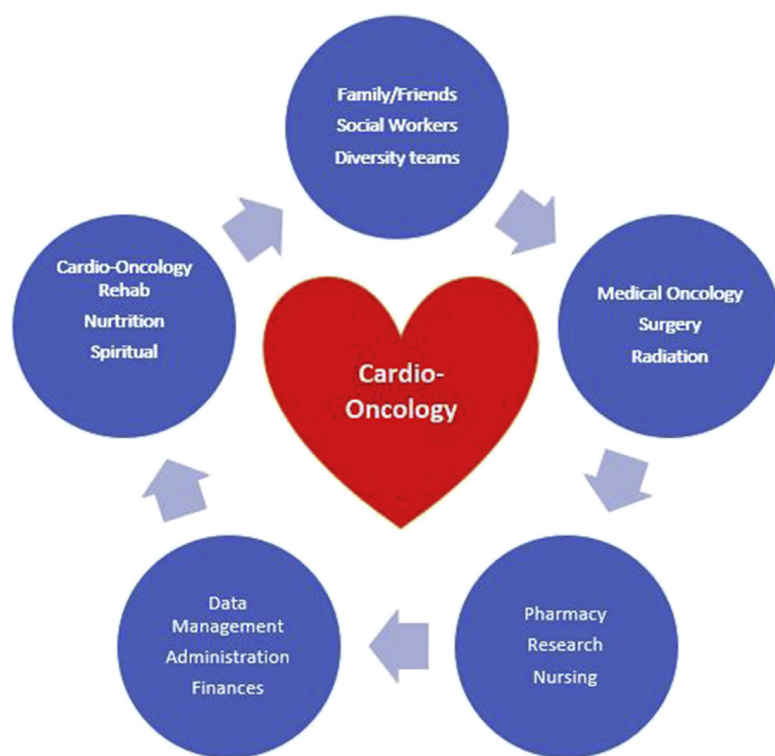


Fig. 1. Components of the cardio-oncology program, Lee Health.

having an initial needs assessment (as well as ongoing barriers to care) for patients to see where improvements to the cardio-oncology program are needed to advance as a center of excellence.

WHICH ANCILLARY CARDIO-ONCOLOGY SERVICES SHOULD BE PROVIDED?

Cardio-oncology patients present unique challenges and require collaboration with other cardiovascular specialists to provide care that does not compromise the oncologic treatment of the patient. Unique situations, such as treatment of ischemia with antiplatelets, need to be discussed with oncology due to pancytopenia with chemotherapy, or, if there is a need for urgent oncologic surgery, then revascularization with a bare metal stent or even balloon angioplasty may be more appropriate for this type of patient, rather than a drug-eluting stent, or maximization of medical therapy without stenting to get the patient through a critical point in the oncologic care. Arrhythmia is common both in the cardiac and oncologic patient but especially with certain anticancer therapies. Anticoagulation and antiarrhythmic strategies (long corrected QT interval [QTc] frequently is seen in many cancer patients) can significantly compromise the oncology treatment plan if not discussed in advance with EP and oncology colleagues. This also is important with device therapy and pacemaker placement with respect to

radiation fields and life expectancy. The multidisciplinary heart failure team often is involved when there is acute cardiac decompensation as with myocarditis but can help as a resource for chronic failure as well. Expertise in cardiovascular imaging in an institution to assess left ventricular function is critical to follow oncology patients exposed to cardiotoxic agents. Although many institutions are using echocardiography particularly with strain or 3-D imaging, the cardiac sonographers should be trained and comfortable with the technology before the team makes treatment decisions based on strain or 3-D. Many programs (the authors' included) try to keep the bulk of the strain work with 1 or 2 technicians and reporting cardiologists. Cardiac magnetic resonance is still the gold standard for left ventricular assessment but for any number of reasons is not as accessible, although indications are expanding, especially in survivorship programs.^{26,27} The most important part of cardio-oncology is to monitor for possible early cardiac complications that may require interruptions in oncologic therapy²⁸ and to minimize the impact on the cancer therapy. It involves a true collaboration of cardiovascular and oncologic teams, and the cardio-oncologist is the bridge for those interactions.

TAKE ADVANTAGE OF NETWORKING

As the specialty of cardio-oncology grows, local networking with other cardiologists interested in

the field is helpful. Some groups have created monthly meetings to discuss interesting or challenging cases, others a yearly cardio-oncology update at ACC chapter meetings. The national ACC, Council of Cardio-Oncology, and CardioSource Web sites are excellent places to take advantage of national and international expertise in the field. The number of outstanding cardio-oncology meetings nationally and internationally grows yearly and provides an excellent venue for networking.

MAKING A PROGRAM FINANCIALLY VIABLE

A cardio-oncology program can be a valuable asset to a system, providers, and patients who are affected by cancer. But the reality is that in the current health care environment, a program must be financially solvent. Initially, a program may be an extension of a particular cardiology group or a cardiology department but eventually will need a separate cost center to support its work. In order to truly organize and implement a successful cardio-oncology center of excellence, a solid financial footing is mandatory. In addition to that initial financial forecast discussed previously, a solid understanding of the socioeconomic infrastructure is critical to developing a successful program. Some of these topics have been outlined in recent publications,²⁹ but the following section may help to build on that foundation.

START WITH THE BASICS

It might be best to start with a basic outline of health care economics—how do healthcare providers get paid for what they do? Health care economics often is referred to as the allocation of scarce health care resources.³⁰ Understanding the elements that are critical in the payment of services will help create a successful program that is viable and sustainable. It also is important to identify where health care economics is today—moving from a fee-for-service model to a value world.

Health care in the United States has dominated the social, political, and financial arena in the past decade. Although it is assumed that the United States having some of the best medical care is the explanation for higher costs, facts do not bear that out. In the United States, health care costs are indeed the highest in the world, yet the overall health of the population lags far behind other countries that spend much less. An analysis comparing health care spending, supply, utilization, prices, and health outcomes across 13 high-income countries shows the United States in 2013 spent far more on health care than these other countries. Despite this, Americans had

poor health outcomes, including shorter life expectancy and higher rates of chronic conditions.³¹ As a comparison, the United States spends 17.1% of the gross national product on health care whereas the United Kingdom spends less than that at 8.8% with better outcomes.³² That model of increased spending with worse outcomes is not sustainable.

Although the debate as to why the United States spends so much and has worse outcomes is ongoing, the government has been trying not only to change the way it practices (focusing more on evidence-based guidelines) but also to restructure the payment system that was spiraling out of control. Each year the government relied on the sustainable growth rate to hold down costs. The sustainable growth rate was part of the budget act of 1997 and proposed that if spending exceeded the expected target, then the payments to physicians would be cut to keep spending in check.³³ Year after year, as spending increased, the House of Medicine would descend on Capitol Hill and lobby for a real fix for the problem.

The paradigm shift that was thought to have been occurring rapidly has accelerated 10-fold in the past 24 months (2017–2019). In the past, health care focused largely on fee-for-service care, with providers paid by the number of visits, services, and tests ordered. The Institute for Healthcare Improvement launched the Triple Aim in October of 2007, which was designed to help health care organizations and providers redesign health care delivery. The belief was that new processes must be redesigned and adopted that would simultaneously pursue 3 dimensions:

1. Improve the patient experience of care (quality AND satisfaction).
2. Improve the health of populations.
3. Reduce the per capita cost of health care.

This compass of health care slowly but surely became widely accepted and yet there was an unexpected and unintended consequence—provider burn out. This has now evolved to what is commonly referred to as the Quadruple Aim—adding the prevention of provider burnout to the dimensions of the Triple Aim. The passage of the Affordable Care Act and the Health Care and Education Reconciliation Act in 2010 continued the comprehensive health care reform whose impact has been felt for the past 5 years and continues today in 2019 and will for years to come.³⁴ This act set the stage for rapid changes in health care delivery. It became imperative for every provider

to look at how, when, where, and why health care is delivered.

With the advent of the Department of Health and Human Services (HHS) mandate released on January 26, 2015, and the passage of Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act (MACRA) on April 20, 2015, the transition to payment based on the value of care delivered truly ramped up. The HHS mandate set the stage for payment reform—30% of all Medicare payments by the end of 2016 to be paid via alternative payment models (and not fee for service); and by the end of 2018, 90% of all payments would be tied to quality or value—with 50% paid via alternative payment models (Medicare Shares Savings, Next Generation Accountable Care Organizations, and so forth).

The result is MACRA—now referred to as Quality Payment Program—will continue to move the focus from fee-for-service to value-based payments. This has proponents and detractors on both sides, but it makes sense to be the best custodian of health care dollars and focus on providing the best care for patients at the same time. The value of work is publicly reported, accessible by consumers as well as payors. In 2019, one of the issues that providers are facing is that because the data collected are assessing outcomes as value, they ultimately will reflect financially on physician's compensation, both as bonuses and penalties. Many physicians in the United States are integrated and now work for a health care system. Some of those physicians have deluded themselves into thinking they are no longer responsible for data, coding, or documentation that supports a level of service, that it has become the system's problem. That may seem correct, but if the physicians do not code properly or document appropriately, billing is sub-optimal, and patients cannot be cared for as cuts are made in staff and services. Providers need to understand how much of the data are reported and how personal data can be viewed, to see where there may be gaps in documentation. This becomes the infrastructure on the economic base for a successful cardio-oncology program.

REIMBURSEMENT IS EASY

In order to build a program, a few basics are critical, starting with how providers are paid. There are several fee schedules that are critical to understand in the realm of cardio-oncology:

1. The physician fee schedule—this is the mechanism whereby most Medicare Part B services are paid. It also is the followed (eventually) by most of the private payors—but it is critical to review and analyze how private payors interpret the rules.
 - a. The physician fee schedule is a complete list of fees used by Medicare to pay doctors and other providers (advanced practice practitioners and suppliers). This is the base of the current fee-for-service model of payment.
 - b. CPT codes (there are 3 levels of CPT codes—this article concentrates on Level 1). Level 1 CPT codes are divided into 6 categories that include work done in evaluation and management (E/M) (office/hospital visits, surgery, radiology, anesthesiology, pathology, and laboratory).
 - c. ICD 10 is mechanism used to document the current medical classification of codes for diseases, signs and symptoms, abnormal findings, complaints, and so forth. This is referred to the diagnosis used for what is done (the CPT code) and results in payment.
2. The hospital outpatient prospective payment system (HOPPS) also referred to as hospital outpatient department (HOPD) is how Medicare pays for outpatient care—based on where the care was rendered. A hospital outpatient department may be physically located on the hospital campus, or it may be off-campus but following specific/complex rules.
 - a. In use since 2000, HOPPS pays based on ambulatory payment classifications, which are designed for payment for services that have similar clinical characteristics and costs.

Cardio-oncology programs will use both these systems for payment. In addition, it is critical to understand that the Medicare payments are determined by local entities, called Medicare Administrative Contractors (MACs). The MACs are awarded geographic jurisdiction to process Medicare Part A and Part B claims for beneficiaries. There currently are 12 MACs that provide these services across the United States. It is critical to know who the carriers are because they are the ones that interpret the Medicare rules. Without getting too complicated, there are 2 main ways MACs adjudicate the bills submitted—local coverage determinations (LCDs) and national coverage determinations. If national coverage determinations are thought of as the basement—the minimal elements that must be met for being paid—these must be followed by every MAC. The LCDs, on the other hand are determined by the local MAC and often are where physicians go for help in adding *ICD-10* codes to a specific test (such as echocardiogram with strain)

in order to get paid. THIS IS THE MOST CRITICAL THING TO UNDERSTAND IN DESIGNING A PROGRAM. If a cardio-oncologist is not getting paid for the diagnoses they use in this subset of patients, the cardio-oncologist needs to find the local MAC medical director, meet with that person, present data and rationale, and request a change in the LCD. It is possible that the state ACC advocacy section may be able to assist.

The national team of cardio-oncologists must band together and work on solutions to this crucial issue—how to get paid for what they do. This is one of the most frustrating elements of a fee for service payment model; imagine if a bundled payment or a payment could be designed for an episode of care that would not be as dependent on *ICD-10* codes, *CPT* codes, and sites of service but just concentrate on providing the best care, in the right environment, and at the right time—what a world that would be for providers and their patients. The discussion on networking is critical and where national ACC health advocacy, in particular, cardio-oncology advocacy, can help.

THE NEXT WORK RELATIVE VALUE UNIT

It is often said that risk scores will become a provider's next benchmark—much like the work relative value unit is today. Yet most providers today pay little to no attention to this critical component of coding and documentation. What is a risk score? And why would providers care?

Risk scores have become foundational for any population health program. It may be asked, what does population health have to do with our cardio-oncology patients? “Everything” is the correct answer! By using big data and large sample sizes to better understand patterns of what is likely to happen to individuals, organizations can develop insights into how each unique patient is progressing along common disease trajectories and plan interventions accordingly. Fundamentally, a risk score is a metric used to determine the likelihood that an individual will experience a particular outcome. Initially used in Medicare Advantage Plans, risk scores are now calculated for every Medicare beneficiary on an annual basis. Although this topic might be found complex, and not one a physician chooses to concentrate on—beware! Oncologists and cardiologists are operating in a whole new world. The new mechanism to account for sick cardio-oncology patients is called hierarchical condition category (HCC) and is a mechanism to account for the additional care and subsequent added costs often associated with these complex patients.³⁵ A risk adjustment factor that predicts a patient's cost of care

based on both the *ICD-10* codes used and how those cross-walk to the HCC codes. It may be asked, Why care? The answer is simple: insurance companies and Medicare see a high-risk adjustment factor and expect the cost of care for the patient will be higher than the benchmark for the primary condition. Patients with chronic conditions, such as cancer and coronary heart disease, need to have all their comorbidities—with as specific a diagnosis as possible—billed for in order for the insurance companies to give weight (value) to these complex patients.

Every provider must begin to understand this topic and ensure that coding and documentation embrace the core concepts. Those critical concepts include

1. Using THE most specific *ICD-10* code that describes the reason for a patient's visit. Avoid at all costs unspecified codes. Although all *ICD-10* codes do not qualify for HCC codes, all *ICD-10* codes are cross-walked.
2. Documenting and billing as many *ICD-10* codes as appropriate. If physicians fail to document the comorbidities that are core to the medical decision making in caring for these complex patients, they could be viewed as providing expensive care in a low value manner.
3. Many alternate payment models relying on risk adjustment factors
4. Merit-based incentive payment system (MIPS)—a pathway in Quality Payment Program—uses risk-adjusted scores to determine MIPS scores
5. Many physicians mistakenly thinking that they do not have to code for congestive heart failure, diabetes, hypertension, or other comorbidities, because they are not the principal or primary care physician who is managing those conditions. If a comorbidity influences the cancer or cardiac treatment decision or is assessed during a visit in any way, it should be coded, with a comment that a primary care provider or specialist is managing.³⁶

In summary, on this critical element of coding and documentation, ensure the billing system can handle up to 12 *ICD-10* codes, remembering that comorbidities need to be documented in the medical record annually, and document all conditions a patient may have that have an impact on the medical decision making.

TYING IT ALL TOGETHER

Although it is impossible to distill coding advice into a single comprehensive article, here are a few key tips—although it is imperative to understand the nuances of each code and use it

compliantly. Make sure to be aware of the following codes and use them where appropriate with appropriate documentation:

- Use of communication codes: keep in mind that both telehealth and the new communication codes use technology to communicate, but they are separate and distinct services. Telehealth is meant to be a substitute for an in-person visit and has significant rules that must be followed. The new communication codes (G2012 and G2010) require patient consent and 5 minutes to 10 minutes; the G0071 code is reserved for rural health clinics and federally qualified health centers. They facilitate that needed post-clinic visit touch base and carry some reimbursement.
- Use of telehealth—as noted, telehealth encompasses a broad variety of technologies and methods to deliver health and educational services under specific rules and guidelines.³⁷
- Use of non-face-to-face prolonged service codes: these 2 codes (99358 and 99359) are time-based codes that reimburse for providers' non-face-to-face prolonged services. The key to the successful use of these add-on codes is ensuring to document the specific time the physician used to review records (not the providers' own) and speak with referring physicians, consultants, family, and so forth. These services may or may not be provided on the same day as the face-to-face E/M code—but an E/M code MUST be billed. In addition, the time does not have to be continuous, but the time must be documented, including the lapsed time.³⁸
- Use of chronic care codes: these codes are a bit complex but often critical for oncologic patients. One of the best references is the frequently asked questions from Centers for Medicare and Medicaid Services.³⁹
- Use of advanced care planning codes: talking with all patients regarding their unique wishes for quality of life is never more critical than with cardio-oncology patients. Additionally, these codes are used as quality metrics for many of the bundled initiatives, such as Bundled Payments for Care Improvement Advanced. There are codes that are reimbursed⁴⁰—based on time spent with the patients—as well as F codes that, although they carry no reimbursement, do leave a record in the EMR regarding a patient's wishes.⁴¹
- Use of transitional care codes: cardio-oncology patients transition through many different settings in their journey. Physicians and advanced practice practitioners utilize

these codes to ensure continuity of care that may begin 30 days from discharge and include (1) interactive contact within 2 business days; (2) providing a non-face-to-face service, such as review of medications or upcoming tests/treatments; and (3) ensuring there is a face-face visit within 7 days or 14 days.⁴²

- Use of echocardiogram, 3-D echocardiogram, and strain codes: echocardiography often is the first choice of imaging modality for diagnosing cardiac dysfunction in cancer patients. Traditionally, an echocardiogram determination of left ventricular ejection fraction is requested by the oncologists in all cancer patients at baseline, in any situation in which the suspicion of heart failure is plausible, and both during and after completion of the anti-cancer therapy.⁴³ These add-on codes to an echocardiogram facilitate care of cardio-oncology patients. The use of strain imaging has demonstrated its value in cardio-oncology patients.^{44,45} The payment for 3-D and strain is ICD-10-dependent—and an area where working with MAC carriers often is needed to ensure inclusion of the critical oncology codes.

These are just a few of the codes that should be in a toolkit as a cardio-oncology program is begun. It is imperative to work closely with payors and medical societies to remain current in their application and to remain ever vigilant for new codes as they are released.

SUMMARY

With the current status of cancer care in the United States, it stands to reason that many, if not all, hospitals would benefit from a dedicated cardio-oncology service line, with some expanding to a true center of excellence. There is background work that needs to be done, with respect to planning and garnering support of colleagues and administration, as well as attention to keeping the program financially viable to continue to provide the services that patients need. In the end, the value and commitment to providing the best care for cancer patients will be the sustaining force for a program.

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