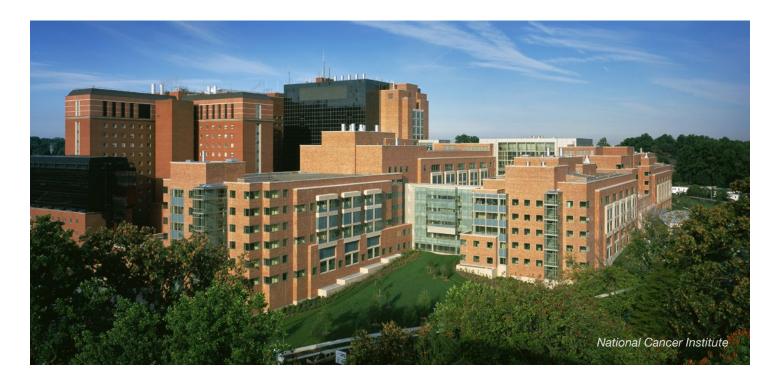


An Overview of Oncology Services and Related Valuation Considerations



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According to the American Cancer Society,¹ more than 2 million Americans will be diagnosed with cancer in 2024, growing to an estimated 2.8 million cases in 2030.² Hospitals, health systems, and medical centers treating cancer patients are facing declining reimbursement rates, rising operating and capital costs, and significant shortages of oncologists and clinical staff, all of which have created a challenging environment for patient care. To mitigate these challenges and deliver quality care in a more sustainable manner, many cancer care providers are engaging in alignment strategies with other organizations.

For example, alignment between oncology programs at academic medical centers (AMCs), particularly National Cancer Institute (NCI) accredited programs, and community hospitals can extend access to care in a community, improve population health management capabilities, and help mitigate the impact of financial pressures exacerbated by inflation and staffing shortages post COVID-19. Additionally, these alignment strategies, often in the form of network affiliations, provide community hospitals with the opportunity to elevate the care they can provide their patients and enhance their image across the community as providers of quality and innovative clinical services. Further, they bring access to critical, yet often underfunded, supportive care services such as clinical trials, genetic counseling, and survivorship programs, among others.

Apart from network affiliations, alignment strategies can take the form of acquisitions and joint ventures, professional services agreements, management services agreements, and co-branded partnerships, among others. These structures are likely to create complex compliance and valuation considerations that need to be addressed.

This white paper discusses current trends and challenges in oncology care delivery, highlights the role of oncology providers and partnership models, and offers guidance on appropriate methodologies and key considerations for performing oncology business valuations.

Overview of the Oncology Industry

When valuing oncology-related operations, a firm understanding of the factors impacting revenue including reimbursement and volume is key.

Sites of Care

According to the American Society of Clinical Oncology 2022 survey on the State of the Oncology Workforce in America, approximately 13,400 oncologists are engaged in patient care across the country, providing services across approximately 1,600 practices. These cancer services, including surgical oncology, medical oncology, and radiation oncology, are provided in a variety of settings, such as private physician practices, AMCs, community hospitals and health systems, and freestanding cancer centers.

 Private Physician Practices. In addition to professional physician services, oncologists within private practices may also provide infusion services, laboratory services, imaging, and radiation therapy. These additional services require varying levels of up-front capital investments that can be beyond the capabilities of smaller physician practices. Physician practices, therefore, are increasingly taking advantage of opportunities to diversify, further consolidate with larger groups, or seek employment elsewhere. This steady consolidation, sometimes through private equity acquisitions, is resulting in fewer, yet larger, practices. Oncology groups are also expanding from single specialty to multi-specialty providers, often including medical and radiation oncologists and key surgical oncologists, such as gynecologic or breast oncologists. Urologists, in particular, are increasingly investing in radiation therapy centers in an effort to expand and diversify.

Factors Impacting Revenue

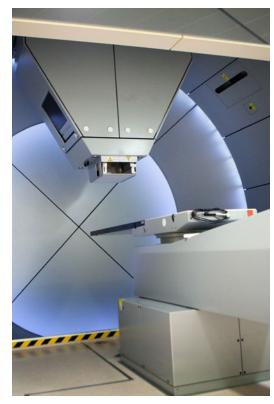


- Academic Medical Centers. Many AMCs have NCIdesignated cancer centers devoted to delivering the most complex cancer care and researching and developing new approaches to prevent, diagnose, and treat cancer with a focus on expanding access to clinical trials not available elsewhere. A majority of the 72 NCI-designated centers in the U.S. are affiliated with university medical centers.³
- Community Hospitals. The scope of cancer services available at community hospitals tends to vary in proportion to the size of the hospital and the size of the community. Smaller community hospitals may focus on offering core cancer services, including diagnostics, basic surgery, and medical and radiation oncology. Larger community hospitals or health systems, often with accredited cancer programs, are more capable of offering comprehensive oncology care, including tertiary surgical oncology, a full range of integrative supportive care services, and access to oncology clinical trials, potentially through affiliations with cancer programs/networks managed by AMCs.
- Freestanding Cancer Centers. Independent freestanding cancer centers, which may treat both inpatients and outpatients, can include non-profit organizations, such as St. Jude Children's Research Hospital®, Memorial Sloan-Kettering Cancer Center®, and MD Anderson Cancer Center[®]. The private for-profit company, Cancer Treatment Centers of America[®], was acquired by non-profit City of Hope® in 2022, extending access to City of Hope's comprehensive oncology services across the country. Other freestanding cancer centers may focus on outpatient oncology services. These outpatient centers are more commonly medical and radiation oncology-focused and may operate under many different ownership structures by AMCs, community hospitals or health systems, private physician practices, private equity, or a combination of these different parties.

Treatment Types

Medical oncology (e.g., chemotherapy), radiation therapy, and surgical oncology form the triad of primary treatment options available to cancer patients. A solid understanding of the services being provided in each setting is key to identifying appropriate approaches to the valuation of oncology practices.

- Medical Oncology. Medical oncology involves the delivery of drug therapy in the treatment of cancer, specifically chemotherapy, immunotherapy, or hormonal therapy. While most treatment continues to be delivered intravenously at infusion centers, medical oncology has grown significantly in the use of oral chemotherapy drugs administered in an infusion center or at home. Chemotherapy drugs can be very expensive, and the related profit margins are generally low due to downward pressure on reimbursement rates in recent years.⁴
- Radiation Oncology. Nearly half of all cancer patients will undergo some type of radiation therapy, which is generally delivered in outpatient settings.⁵ Depending on the type of cancer and individual needs or preferences, different types of radiation therapy treatment may be indicated:



External Beam BBRT includes conformal radiation therapy (3D-CRT), intensity modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), stereotactic radiosurgery (SRS), stereotactic body radiotherapy (SBRT), and emerging adaptive therapy technologies, such as MRI-guided linear accelerators.

- Internal Internal radiation also known as brachytherapy, involves inserting radioactive material into the tumors or a body cavity close to the tumors. The equipment used to deliver brachytherapy includes a source holding and delivery unit. This technology is most often used for gynecological and prostate cancers.
 - Proton Therapy involves the use of atomic particles to more precisely target cancer tumors with very sophisticated and expensive equipment "about five to ten times the price of an advanced linear accelerator."⁶ While the number of proton therapy centers in the U.S. has increased from 12 in 2015 to 44 in 2024,^{7.8} due to the high cost to construct and equip these centers and the issues of claims denials, "nearly a third of the existing centers lose money, have defaulted on debt or have had to overhaul their finances."⁹ As a result, proton therapy faces more payer resistance than other cancer treatments, with payers initially denying nearly 43% of prior authorization requests in 2021.¹⁰
- Surgical Oncology. Surgery is commonly the initial treatment for most cancer patients, particularly those with solid tumors. Surgical oncologists dedicate themselves to treating primarily oncology patients, while other surgeons, including urologists and general surgeons, may treat both cancer and non-cancer patients.

Capital Costs

The initial capital required for facilities, equipment, and other resources needed to provide cancer care particularly radiation oncology services — is significant and influences the resulting valuation. Depending on the features, new linear accelerator technologies may cost from \$4 million to \$8 million. Additionally, these costly machines require significant ongoing maintenance and periodic upgrades and generally must be replaced after approximately 10-12 years of use. However, a robust radiation oncology program operating at optimal capacity can recoup the capital investments and generate substantial profits over time, though margins are declining compared to prior years as efficacy with fewer treatments is becoming standard. The global radiotherapy equipment market is expected to reach \$13.7 billion by 2032.¹¹ External beam radiation will continue to represent a large portion of the radiation therapy market, fueled by an ever-increasing patient pool eligible for this service.

Reimbursement Landscape

Reimbursement for oncology services can vary substantially based on the type of service, the site of care, the payer, and how the provider's site of care is structured for contracting purposes with the payers. The Centers for Medicare & Medicaid Services (CMS) reimburses based on the Medicare Physician Fee Schedule (MPFS) for medical services provided in a private physician practice or freestanding cancer center setting, but it reimburses based on the Outpatient Prospective Payment System (OPPS) for services provided by a hospital outpatient department (HOPD). Specific criteria determine whether a hospital may bill outpatient services as an HOPD or as a "provider-based" entity but at lower non-HOPD or freestanding rates.

While the professional fee may not differ between environments, the "non-facility" technical fee for services delivered under the MPFS is typically lower than that of an HOPD facility. For example, in 2024 a 3D radiation therapy plan [Current Procedural Terminology (CPT®) code 77295] has a non-facility technical fee component of \$256.98 under the MPFS¹² but a fee of \$1,321.58 under HOPD rates.¹³ As hospitals consider arrangements with physicians to expand services, the advantage of serving all patients under "provider-based" billing may be significantly greater today, though this gap is expected to close more and more each year. Such revenue may then be used to offset or subsidize non-revenue generating activities typically associated with the provision of cancer services and allow hospitals to continue to meet their missions by providing indigent care.

One of the greatest challenges to achieving a profitable medical oncology program is access to affordable chemotherapy drugs. Congress created the 340B Drug Pricing Program (340B program) that requires pharmaceutical manufacturers to provide covered outpatient drugs to 340B-eligible covered entities at significantly reduced prices. The 340B program is discussed further herein.



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Recent Developments

- The MPFS final rule for CY 2024 and subsequent adjustments reduced the overall conversion factor by 1.7% from the previous year.¹⁴ CMS estimated a 2% overall impact for hematology/oncology and a 2% overall decline for radiation oncology. These changes, however, do not include the full conversion factor reduction, and the actual impact will differ based on location and mix of Medicare services billed.¹⁵
- In contrast, CMS increased overall payment rates by 3.1% in CY 2024 under the OPPS.¹⁶ However, payment rates specifically for radiation oncology Ambulatory Payment Classifications under this site of service had been cut from -1.4% to -6.5% and are expected to continue declining in the next few years, as hypofractionation¹ use continues to grow. Only proton therapy codes were provided a payment rate increase, which is 2.2%.¹⁷
- Independent Cancer Hospitals receive additional reimbursement by CMS, differing from other OPPS hospitals to reflect their higher outpatient costs due to extensive cancer research and treatment. They are provided additional payments, so their payment-to-cost-ratio (PCR) after this payment is equal to the weighted average PCR for other OPPS hospitals. In 2024, this adjustment policy showed payment increases to the 11 cancer hospitals ranging from 14.5% to 58.0%.¹⁸
- CMS launched the Oncology Care Model (OCM) on July 1, 2016. The six-year program was developed to incentivize practitioners to improve the way they provide cancer care to focus on the patient, improve or maintain quality, and avoid unnecessary costs. In July 2023, the Enhanced Oncology Model (EOM) was launched to expand on the learnings of the OCM by focusing on value-based, patient-centered care for cancer patients undergoing chemotherapy, based on six-month episodes of care, with a specific focus on health equity. As of June 27, 2023, 67 oncology physician group practices providing services in 600 sites of care across 37 states were committed to participating in the EOM.¹⁹

The impetus to develop these models is causing an acceleration of partnerships or consolidations across provider entities to achieve several objectives: build larger physician networks to access more covered lives and offer services across the care continuum; reduce operating costs through shared infrastructure and the creation of group purchasing; and gain expertise in delivering value-based care models from others who have found success.

Paying attention to these models is critically important, as they serve to inform future payment models and reimbursement priorities for oncology care.

¹ Radiation treatment in which the total dose of radiation is divided into large doses and fewer treatments.



Key Factors Influencing Oncology Alignment Transactions

Organizations engage in alignment transactions for oncology services for several primary reasons, and all impact valuation. One reason organizations seek alignments is to gain access to necessary core oncology services and complex, cutting-edge resources to serve the growing demand for oncology care. Another reason is to reduce the financial burden on an organization while reimbursement tries to keep pace with rising costs.

Access to Oncology Services

From large health systems to the smallest of hospitals or physician practices, organizations are challenged with providing cancer patients access to the complex continuum of care they require, either directly or indirectly through relationships with others. The continuum of care includes not only the core services of surgery, medical oncology, and radiation oncology but also all the supportive services, such as genetics counseling, rehabilitation, clinical research, psychosocial services, and more, some of which are non-revenue generating. Access to care is exacerbated by the growing healthcare workforce shortage.

AMCs are typically in the forefront of providing high-quality patient care in the oncology space, fueled by their investment in research, clinical trials, and cutting-edge technology. Community hospitals leverage these capabilities primarily through affiliations with AMCs' cancer care networks. Networks like the MD Anderson Cancer Network® often carry prestige and signal to providers and patients that community hospitals have the ability to provide a breadth of high-quality services. These affiliations can be structured to provide physician support through professional services agreements, access to clinical protocols and quality oversight, access to clinical trials, and the ability to use the AMCs' brands.

Community hospitals and physician practices also collaborate extensively to extend access to cancer care. Physician groups are critical in some communities to fill specific clinical needs, such as access to medical or radiation oncologists, or a surgical subspecialty. Practices also may have the additional quality or operational expertise to assist community hospitals with management of the oncology service line, serve as medical directors, or provide administrative support and oversight. And the hospital may provide the additional access to technical services, supportive care, and other needs that round out the care continuum for the patients.

The Financial Burden of Oncology Care

As indicated earlier, oncology services require substantial capital, which can include the purchase of a linear accelerator, imaging equipment, laboratory equipment, and infusion center facilities and equipment. On an ongoing basis, the cost of chemotherapy drugs, equipment maintenance costs, as well as the cost of physician services impact margins and valuations significantly. Standalone costs to keep up with the latest radiation therapy technologies, not to mention the cost for entire freestanding cancer centers, are increasingly difficult for hospitals to shoulder alone.

As previously described, site-of-care shifts resulting from reimbursement and policy changes impacting hospital-based cancer programs will have implications on any expected future benefits from a partnership that anticipates merging services into HOPD or non-HOPD (freestanding) environments. Both CMS and commercial payers are seeking opportunities to reduce reimbursement for services that can be performed in lower-cost settings. For example, reimbursement for services performed in a "non-grandfathered" off-campus HOPD may be reduced by up to 60% to incentivize organizations to move care from a hospital outpatient setting to one that is freestanding (i.e., physician practice).²⁰ Such rules have impacted and will likely continue to impact health systems' strategic decisionmaking with respect to acquiring a private practice, building a new off-campus cancer center, or converting new space to hospital-based care-all popular ways for revenue growth in the past.

The 340B program is a significant driver in medical oncology transactions especially given the savings eligible hospitals realize when they purchase drugs under this program, a benefit not available to private medical oncology practices. Government reports have indicated that 340B eligible hospitals typically receive a discount between 20% and 50% for covered drugs. In 2024, CMS pays an average sales price + 6% for outpatient drugs purchased through the 340B program. The 340B program grew 22% between 2021 and 2022, with purchases reaching \$53.7 billion.²¹ Eligibility requirements vary depending on the organization type. Almost all hospitals, with the exception of critical access hospitals, must meet a disproportionate share (DSH) adjustment threshold (the percentage of Medicaid and low-income Medicare patients seen) of greater than or equal to 8% at rural referral centers or sole community hospitals or greater than 11.75% at non-profit, children's, or cancer hospitals.²²

Private practices or freestanding cancer programs unattached to hospitals that meet disproportionate share thresholds are unable to obtain the savings available under the 340B program. As a result, the 340B program has been an impetus for medical oncology where oncologists sell or merge to reduce operating costs and improve efficiencies.

Further, physician practices that do not have the scale to efficiently address declining reimbursement, increasing drug costs, investments in equipment, recruitment needs, and a challenging compliance environment independently tend to be targets for acquisition, especially by private equity (PE) investors. PE firms typically seek to acquire the non-clinical assets of a physician practice and enter into a management arrangement to provide all management-related services with the physician entity retaining responsibility for patient care delivery, payer contracts, and employment of clinical personnel.²³

Compliance Matters

Key regulatory considerations that affect oncology businesses must also be understood and addressed in the valuation process. The healthcare industry is very highly regulated, and a solid understanding of any applicable regulatory restrictions is critically important when attempting to value a healthcare entity. Key regulatory issues that generally apply to transactions between physicians and hospitals or other medical facilities include the federal Anti-Kickback Statute (AKS), the Ethics in Patient Referrals Act (Stark Law), and the Internal Revenue Service's (IRS) intermediate sanctions regulations and prohibitions against private inurement.

Valuation Considerations

The AKS, Stark Law, and IRS tax-exempt restrictions all have unique considerations and exceptions; however, each includes the common requirement that applicable transactions must be at fair market value, and Stark Law further expects transactions to be commercially reasonable. Ensuring the financial terms of an applicable oncology business transaction are at fair market value and are commercially reasonable requires the appraiser to have a solid understanding of the oncology industry.

Valuation Methods

Three generally accepted and well-established approaches exist for valuing businesses, business interests, and related assets, including oncology entities and service lines. Additionally, each valuation approach includes multiple methodologies whose appropriateness depends on the particular facts and circumstances of the arrangement. The three valuation approaches are defined as follows:

In most instances, all valuation methodologies should be considered to determine the ultimate conclusion of value.

Specific considerations for analyzing and valuing medical and radiation oncology businesses are outlined in additional detail in the following pages.

	Market Approach	The market approach is a "general way of determining a value indication of a business, business ownership interest, security or intangible asset by using one or more methods that compare the subject to similar businesses, business ownership interests, securities or intangible assets that have been sold."
<	Cost Approach	The cost approach is a "general way of determining a value indication of an individual or group of assets by quantifying the amount of money required to replace the future service capability of the assets."
	Income Approach	The income approach is a "general way of determining a value indication of a business, business ownership interest, security or intangible asset using one or more methods that convert anticipated economic benefits into a present single amount."

Medical Oncology

Physician professional services and oncology drugs used in chemotherapy are the primary revenue generators in medical oncology practices. Additionally, certain ancillary services, such as infusion services, laboratory testing services, and imaging services may be provided within medical oncology practices.

Income Approach

The Income Approach considers excess cash flows available for distribution after considering all expenses, including physician compensation. When performing a valuation of a medical oncology practice using the Income Approach, especially for a physician-owned practice, it is important to ensure that the projected compensation expense for physician services is at fair market value. A common observation is that medical oncology practices are unlikely to generate significant net cash flow in excess of fair market value physician compensation without the provision of ancillary services and/or the utilization of advanced practice providers to provide professional services. In these instances, the Income Approach may have limited use.

Regarding ancillary services that do not have access to the 340B program discussed earlier, the high cost of oncology drugs typically implies limited margin from the use of chemotherapy drugs apart from payments related to the administration of these drugs, i.e., infusion services. Even in the event an acquiring entity has access to the 340B program, but the seller does not, from a valuation standpoint, the potential synergistic benefits to a hypothetical buyer related to the 340B drug discount program would be deemed outside the parameters of fair market value (i.e., because it is a synergy the seller would not have).

Market Approach

The use of the Market Approach to value medical oncology practices is also challenging due to a lack of comparable transaction data involving similar entities. Specific details for most healthcare transactions, especially physician practice acquisitions, are generally unavailable to the public. Additionally, available physician practice transaction data is often not usable due to significant differences between the entities. Important factors to consider when evaluating market transaction data related to medical oncology practices include a comparison of physician productivity levels, service mix, payer mix, reimbursement rates, and the level of competition in the local market.

Further, the lack of reliable market data specific to the impact of emerging treatment and therapy options continues to pose a variety of challenges including, but not limited to, the following: whether and when CMS may decide to provide coverage under a national Medicare policy; potential discretion of local Medicare Administrative Contractors over whether to pay for new therapies not yet covered under a national Medicare policy; and the unknown or otherwise unestablished cost structures associated with producing, distributing, and administering new therapies (i.e., based on market conditions such as restrained demand, undeveloped economies of scale, etc.). Moreover, many experts believe researchers have recently surpassed a "tipping point" in cancer therapy research, which has accelerated and will continue to accelerate the emergence of exciting new breakthrough therapies (e.g., CAR T-cell therapy).

Cost Approach

Without sufficient excess cash flow or reliable transaction data needed for the Income and Market approaches, respectively, the Cost Approach is often the default valuation method for medical oncology practices that primarily provide physician professional services. The net asset value (NAV) method, a form of the Cost Approach, provides an indication of value by subtracting the entity's liabilities from its assets after adjusting both to their respective fair market values. Adjusting the assets and liabilities to their fair market values is often challenging. For example, many small medical oncology practices use the cash method of accounting and omit significant assets and liabilities from their balance sheets, such as accounts receivable, drug and medical supplies

Radiation Oncology

Radiation oncology businesses typically generate the majority of their revenue from technical radiation therapy services administered via medical equipment, such as linear accelerators, which are operated by radiation therapists while under the supervision of physicians (radiation oncologists). The use of expensive equipment and facilities needed to provide radiation therapy services normally results in a significant percentage of operating costs being fixed or semi-fixed; accordingly, profitability is highly dependent on the volume of services provided.

Radiation oncologists are, with few exceptions, totally dependent upon referrals from other physicians to generate service volumes. Whether a program has strong relationships with medical oncologists is critical to strong radiation therapy volumes. Similarly, prostate cancer patients, for example, will likely be referred by urologists, making awareness of any competing urology-owned radiation therapy centers important to determining the stability of the program. inventories, and accounts payable. Balance sheets also do not typically record the value of intangible assets, such as the employee workforce or brand.

After identifying the omitted assets and liabilities, significant analysis is often required to estimate their respective fair market values. For example, accounts receivable reports for most physician practices generally include a combination of gross charges (i.e., before contractual adjustments) and net receivables (i.e., after contractual adjustments). Drug and supply inventories are commonly expensed when paid for, as opposed to being capitalized as an asset and expensed when used. Accounts receivable and drug inventories are typically material assets of medical oncology practices.

Income Approach

The discounted cash flow (DCF) method, a form of the Income Approach, is commonly used when valuing radiation oncology businesses unless patient volumes are insufficient to be profitable. Projecting cash flows, however, can be particularly challenging especially for newer cancer centers.

For example, radiation therapy revenues are substantially influenced by multiple factors, such as the service mix, disease sites treated, payer mix, reimbursement rates, competition, changing technologies, and relationships with other providers, (e.g., medical oncologists). The service mix alone can have a substantial effect on revenues, as some disease sites require a significantly larger number of treatments than others and may be treated with a higher-reimbursing technology. As such, valuing a radiation oncology practice utilizing the Income Approach will require an intimate understanding of treatment protocols and the reimbursement environment for different forms of radiation therapy services.

Market Approach

The Market Approach is used more often for radiation therapy centers than medical oncology businesses due to greater availability of transaction data. However, assessing certain considerations, such as market- and practice-specific factors, is critical when evaluating the Market Approach. For example, some states require a certificate of need (CON), which can limit the development of new radiation oncology facilities in the market. A key purpose of CON-based programs is coordinated planning of new healthcare facilities and services based on the size and needs of the community. Given that CON laws essentially protect current providers from competition, radiation oncology facilities holding CON protection will generally be considered less risky and more valuable (i.e., all other factors considered equal). Because a CON can have a material effect on competition, market transaction data related to a radiation therapy business operating in a CON state may not be comparable for a business operating in



a non-CON state. Furthermore, given the relatively high fixed-cost model of providing radiation oncology services, volume is a critical factor in determining the extent to which relevant market transaction data may be applicable to a subject entity.

Cost Approach

The Cost Approach/NAV method is generally used for radiation oncology businesses with patient volumes insufficient to produce positive net cash flow. In addition to assets and liabilities previously discussed regarding medical oncology practices, radiation oncology businesses have more significant investments in fixed assets including medical equipment. At times, they may also have intangible assets such as a CON and/ or a brand name. As previously indicated, the highly specialized equipment and facilities needed for radiation therapy treatments are expensive, typically running into the millions of dollars; therefore, an accurate inventory and appraisal of these assets is critical when using the Cost Approach/NAV method.

Associated Arrangements

Oncology practices often rely upon professional services arrangements (PSAs) for physician services and management/administrative services agreements (MSAs or ASAs) for administrative support. This is especially true for radiation therapy centers and PE transactions. These agreements must also be established at fair market value. A sound understanding of how medical, radiation, and surgical oncologists are compensated for professional services, including medical directorships, will be critical when determining fair market value for PSAs. Additionally, MSAs and ASAs may include the upfront and ongoing costs of associated assets, such as real property, leasehold improvements, and medical equipment in addition to other expenses, such as staffing and billing and collections. Typically, the Cost and Market approaches are used to determine fair market value fees for such arrangements.



Conclusion

Oncology business transactions will continue to be a critical part of the healthcare ecosystem to maintain viable services to support patient needs. Prompted by the need for technology integration, access to novel therapies, a solution to provider shortages, ways to mitigate ever-changing reimbursement and expenses, and compliance management, among others, private practices, hospitals and health systems, and AMCs will seek ways to further align to provide coordinated and comprehensive care in the communities they serve. Such alignments entail and will continue to require complex financial and economic considerations as the value of transacting entities in oncology is determined. PYA's professionals have a solid understanding of the oncology industry and how to accurately value entities and arrangements in support of successful and compliant transactions. Please contact PYA to learn more about how we can HELP.

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