Canon

Innovating Clinical Transformation of Interventional Services with Canon Medical 4D CT Technology

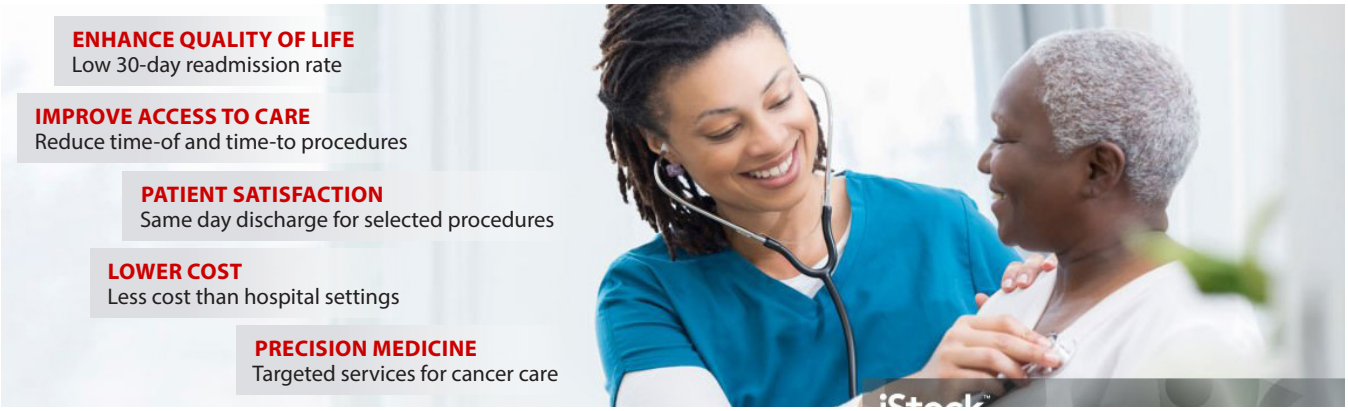
Dr. David A. Hays, M.D.
Interventional Radiologist
CARTI, Little Rock, Arkansas

Kenneth Usery
VP of Supply Chain and Contracting
CARTI, Little Rock, Arkansas

Quality Healthcare Services in Central Arkansas

Patients in rural and remote areas face significant challenges accessing specialty care, traveling an average of 41.8 minutes for such visits.[1] While nearly 1 in 5 Americans live 10 miles or farther from the nearest hospital, almost one-third of the country's population did not have access to an interventional radiologist within their county.[2] These issues are compounded by a rapidly aging population, rising healthcare costs, and staffing shortages, which place additional strain on the healthcare system. The average wait time to see a medical specialist is 38 days in major metro areas.[3] Providing equal and timely access to quality healthcare services is a critical priority for local governments, health authorities, and healthcare providers.

An independent, nonprofit provider, CARTI (Central Arkansas Radiation Therapy Institute) unveiled its new one-stop cancer care and ambulatory surgical center in its West Little Rock campus in June 2023. As the first dedicated cancer ambulatory surgery center (ASC) in Arkansas, and one of the few in the region with a dedicated Canon Medical 4D CT system, CARTI aims to meet the needs of its patients by providing convenient access to interventional oncology and radiology services in local communities. This enables patients to continue their cancer journey with CARTI. CARTI patients may avoid extended wait times or delays in care associated with in a hospital setting. The one-stop ASC translates into significant stakeholder benefits to supporting improved patient outcomes, access to quality care, faster recovery pathways, and a positive patient experience.



CARTI and 4D CT Technology

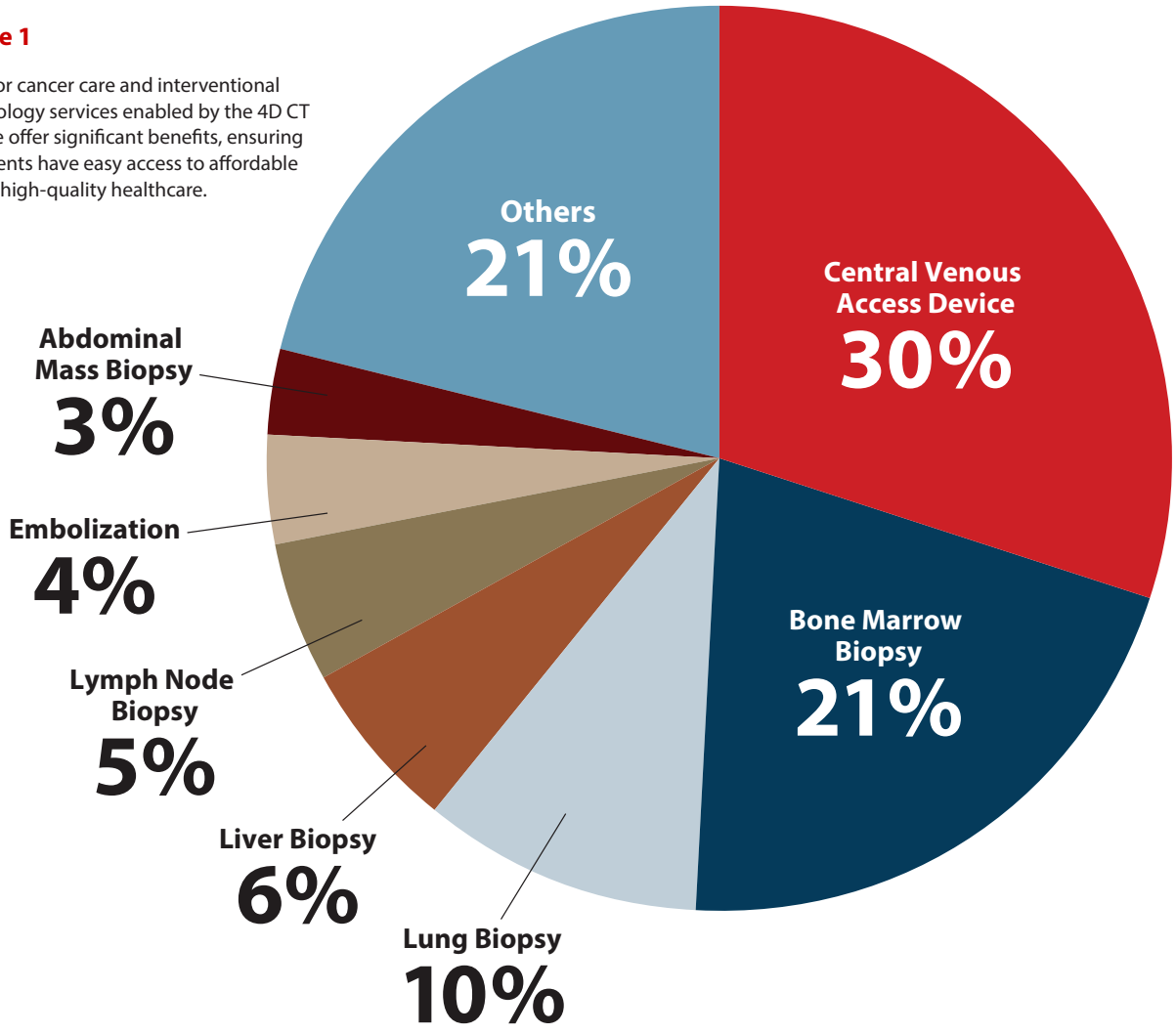
Canon Medical's innovative 4D CT system combines two powerful imaging modalities; allowing CT examinations and image-guided interventions within the same room. This innovative solution features wide-area detector CT technology, capable of acquiring images up to 16 cm of coverage in a single split-second rotation. This high-quality, morphological and functional imaging capability supports better treatment workflows allowing interventional radiologists to position catheters, devices and needles accurately, safely, and quickly, enabling real-time verification to procedures. In addition, this fusion modality of CT and angiography eliminates the need to transfer patients between rooms. It helps to reduce procedure times and allows operators to prioritize patient safety while improving workflow efficiency. It may also help to support the expansion of complex interventional procedures with the potential to increase referrals among the local community.

In Pursuit of Better Outcomes

CARTI treats more than 50,000 patients each year. The new 4D CT suite in the 57,000-square-foot ASC enabled CARTI interventional radiologists to perform an additional 1,781 procedures between 11/2023-10/2024 in a safe and efficient manner. Patients requiring central venous access for port placement or removal, as well as those undergoing lung, bone marrow, and liver biopsies, benefited significantly from easy access to the 4D CT suite (Figure 1).

Figure 1

Major cancer care and interventional radiology services enabled by the 4D CT suite offer significant benefits, ensuring patients have easy access to affordable and high-quality healthcare.



The 30-day readmission rate of IR procedures was statistically significantly lower than typical at 3.3%. Inpatient readmission rates run 15%-50.5% when IR procedures are performed in a hospital, which is often linked to higher 90-day mortality rates.[4] Unlike a hospital setting, a surgery center maintains a cleaner and more controlled environment, which helps prevent the spread of infections. Physicians in the ASC setting are also able to assemble teams of specially trained and highly skilled staff to ensure that the equipment and supplies are best suited to their techniques.[5] The design of facilities are tailored to the ASC physician specialties and to the specific needs of their patients.[5]

Improved Efficiency with Reduced Costs

Cancer treatment is difficult to navigate. It normally entails numerous procedures, pre- and post-operative visits, and trips to multiple campus locations. Ensuring that patients receive cancer care within an optimal time frame helps to reduce stress and anxiety, maximize speed to intervention and treatment to optimize outcomes, and attract and retain patients. A 4D CT suite is fully capable of supporting all image-guided interventions. It may help to ease staff scheduling and increase productivity by reducing the need to have clinical staff balance their time between multiple rooms and cases.[6]

Implementing 4D CT technology provided innovative capabilities and new synergies to tackle the most complex interventions such as TACE, Y-90 or combinations. Because of facility fees, the same procedures cost more in hospital outpatient departments than in a surgery center. From a payer perspective, paying a lower fee is a strong incentive to steer procedures to an ASC. Medicare pays surgery center 55% of the amount paid to hospital outpatient departments for performing the same services.[5] By carefully offering targeted services, the 4D CT suite expands many new, diverse and/or high revenue interventional procedures (Figure 2) supported by its innovative imaging technology.[7] Within the period of 11/2023-10/2024, the 4D CT suite in this ambulatory surgery center is estimated to have generated additional annual payments as much as $2.1 million (Figure 3).

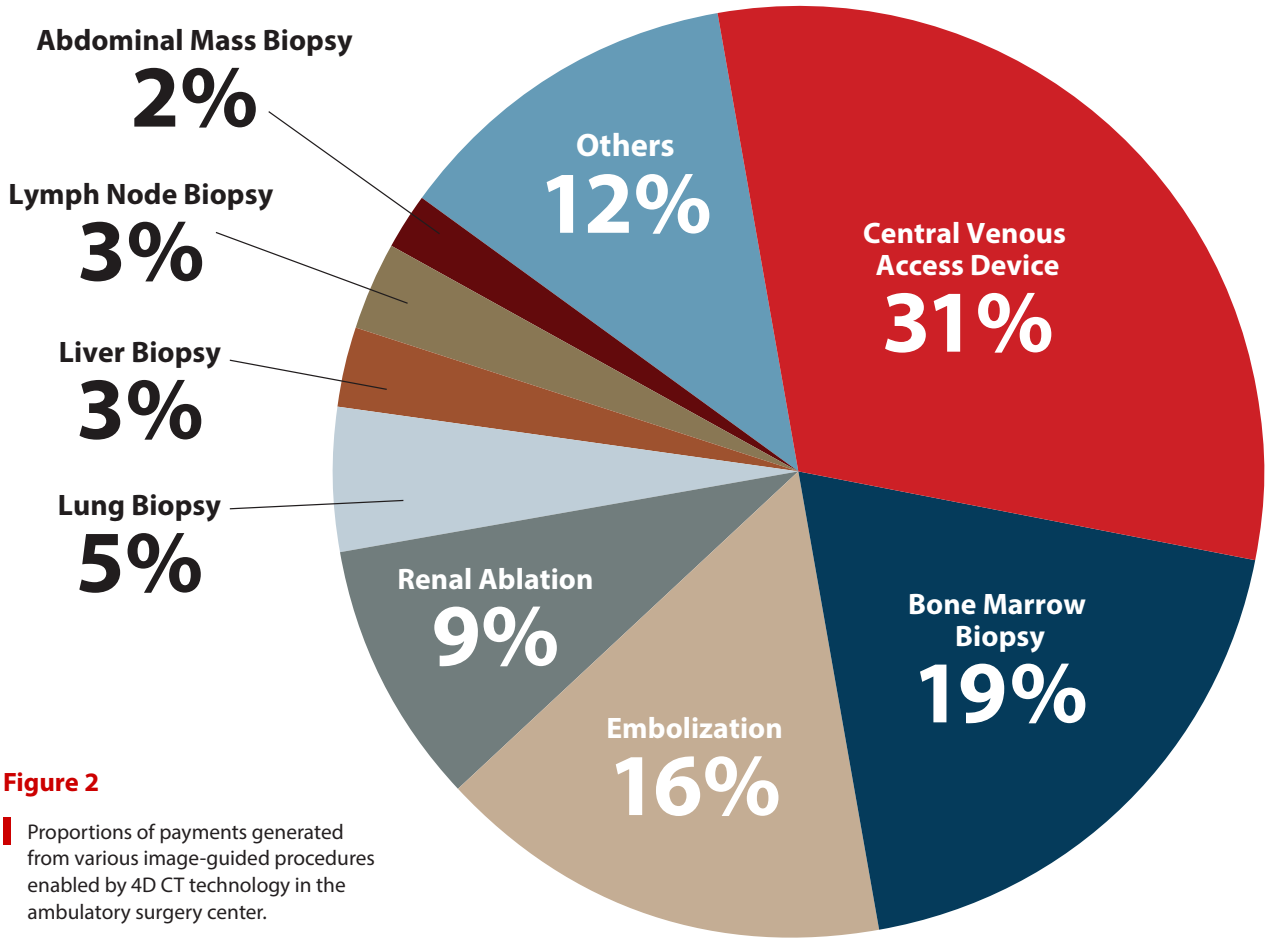
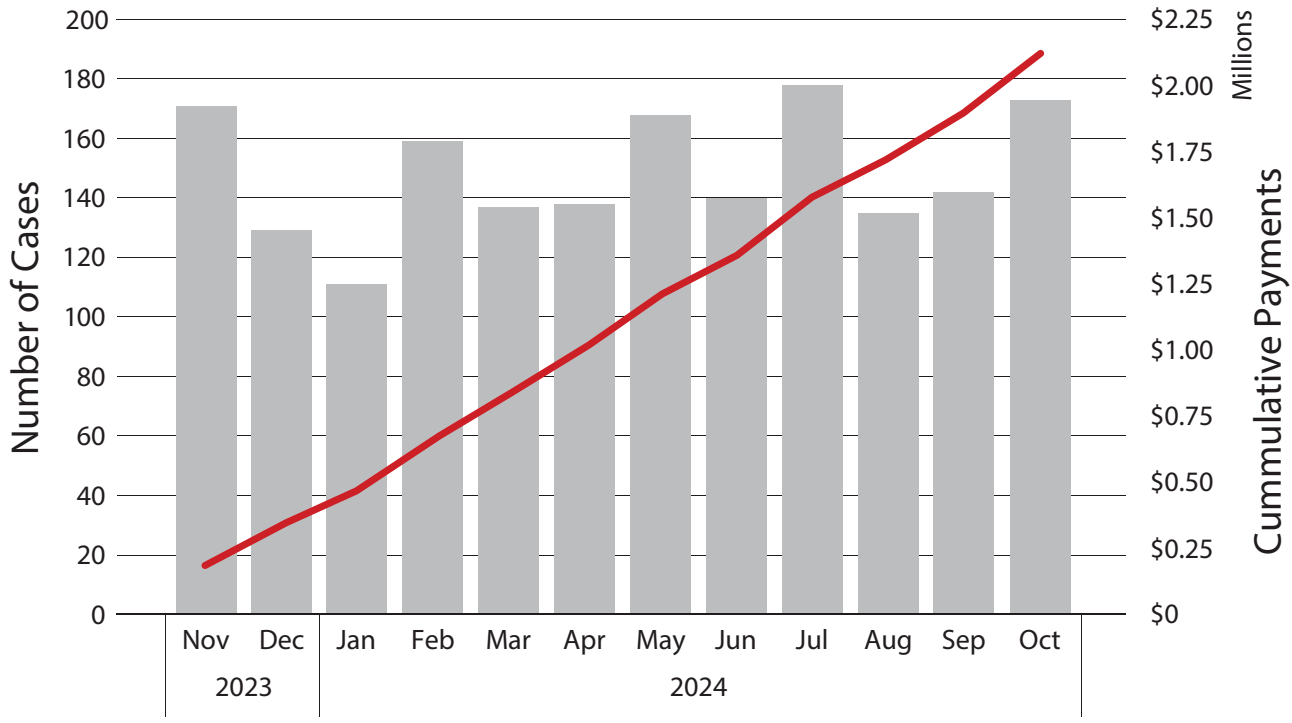


Figure 2

Proportions of payments generated from various image-guided procedures enabled by 4D CT technology in the ambulatory surgery center.

Figure 3

Proportions of payments generated from various image-guided procedures enabled by 4D CT technology in the ambulatory surgery center.



Improving Patient Satisfaction

Increasing patient choice and reducing wait times provides individuals improved access to high-quality services; creating a new marketplace. Establishing the surgery center, CARTI effectively alleviates patients' burdens by consolidating their care within a single system in a familiar and comfortable environment. Supported by the Canon Medical 4D CT system, the new surgery center provides significant time and cost savings through streamlined processes and procedures, flexible scheduling, and helps to improve patient outcomes. Offering same-day surgery options, less delays and shorter IR procedure duration can elevate patient satisfaction. "The shift of complex procedures to the ASC model is incredibly exciting. It not only reduces costs but also enhances patient satisfaction through streamlined operations, faster recovery times, and lower infection risks. With a strong emphasis on value-based care, CARTI is well-positioned as a leader in regional healthcare delivery," according to Kenneth Usery, CARTI VP of Supply Chain and Contracting.*

Unique features of an ambulatory surgery center, such as better accessibility, more convenient parking, and a calmer and less confusing environment are more appealing to patients. The net benefit extends beyond cost savings, positively impacting both patients and physicians.

"Interventional radiology and oncology are rooted in innovation, and technological advancements like the Alphenix 4D CT opens exciting new possibilities, shaping the future of patient care. For today's patients, the Alphenix 4D CT transforms complex procedures into more manageable ones—making them easier, faster, and more precise."

— **Dr. David Hays, MD, FACR**
Diagnostic and Interventional Radiology, CARTI*

Conclusion

The success of the CARTI surgery center hinges on its multidisciplinary teams and cutting-edge technology to retain and serve a growing and aging patient population with increasing disease burden. The seamless integration of Canon Medical's industry leading interventional system with best-in-class CT and interventional technology offers one versatile solution for all possible interventional needs. This innovative 4D CT system may help you to boost efficiencies, improve throughput, expand radiology services and simultaneously deliver high-quality care while maximizing patient safety.

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*The clinical results, performance and views described in this publication are the experience of the authors. Results may vary due to clinical setting, patient presentation and other factors. Many factors could cause the actual results and performance of Canon Medical's products to be materially different from any of the aforementioned. Some products shown might not be available in all regulatory jurisdictions, please consult with your local Canon sales office for availability in your region.

Acknowledgments: The authors would like to thank Yiemeng Hoi, Mark Hohn, Dale Marek, Tom Szostak, and Andrew Kuhls-Gilcrist for their valuable feedback to prepare this manuscript.

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