

ChristianaCare Adaptive Radiation Therapy Varian Ethos™

Certificate of Public Review

Delaware Health Resources Board Proposal

July 25, 2024



About ChristianaCare

Nonprofit academic health system, serving Delaware, Maryland, Pennsylvania and New Jersey. Delaware's largest private employer and a Top 10 Philadelphia area employer.

Acute Care

- Three hospitals and a freestanding emergency department.
- Level I trauma center.
- Level III neonatal intensive care unit.
- Comprehensive stroke center.
- Regional centers of excellence: neurosciences, heart & vascular care, **cancer care** and women's and children's health.

Research & Innovation

- Gene Editing Institute.
- Health & Technology Innovation Center.
- CareVio virtual care platform.
- Institute for Research on Equity and Community Health.

Community Care

- Primary and specialty care.
- Home health care.
- Urgent care centers.
- Community health.
- Center for Virtual Health.

More than
13,000
Caregivers

More than
370
Residents &
Fellows





The Helen F. Graham Cancer Center & Research Institute

- National Cancer Institute Community Oncology Research Program with more than 220,000 patient visits last year.
- Recognized as a national model for multidisciplinary cancer care and a top enroller in clinical research trials.
- Offers a vast array of cancer specialty and outpatient services:
 - Cancer surgery.
 - Medical oncology.
 - Radiation oncology.
 - Support services.
 - Community health outreach and education.

Radiation Oncology: Current State

- Approximately 50% of patients with cancer will receive radiation.
- When radiation is recommended, a plan is developed that targets the tumor and regions at risk, and spares nearby normal tissues,
- Given uncertainties in positioning and location of nearby critical structures, treatments are given daily, often over the course of 5-7 weeks to allow repair of normal organs receiving “bystander” radiation, and doses are limited.
- Radiation is effective but resource-intensive.



Radiation Oncology: Future State

- New technologies enable increasingly precise treatment delivery and patient positioning.
- We remain limited by daily variations in tumor position and nearby anatomy.
 - Bladder and rectal filling.
 - Location and filling of bowel.
 - Tumor position and size.
- Adaptive radiotherapy negates this limitation by enabling daily modification of treatment in real time.



Adaptive Radiotherapy (ART)

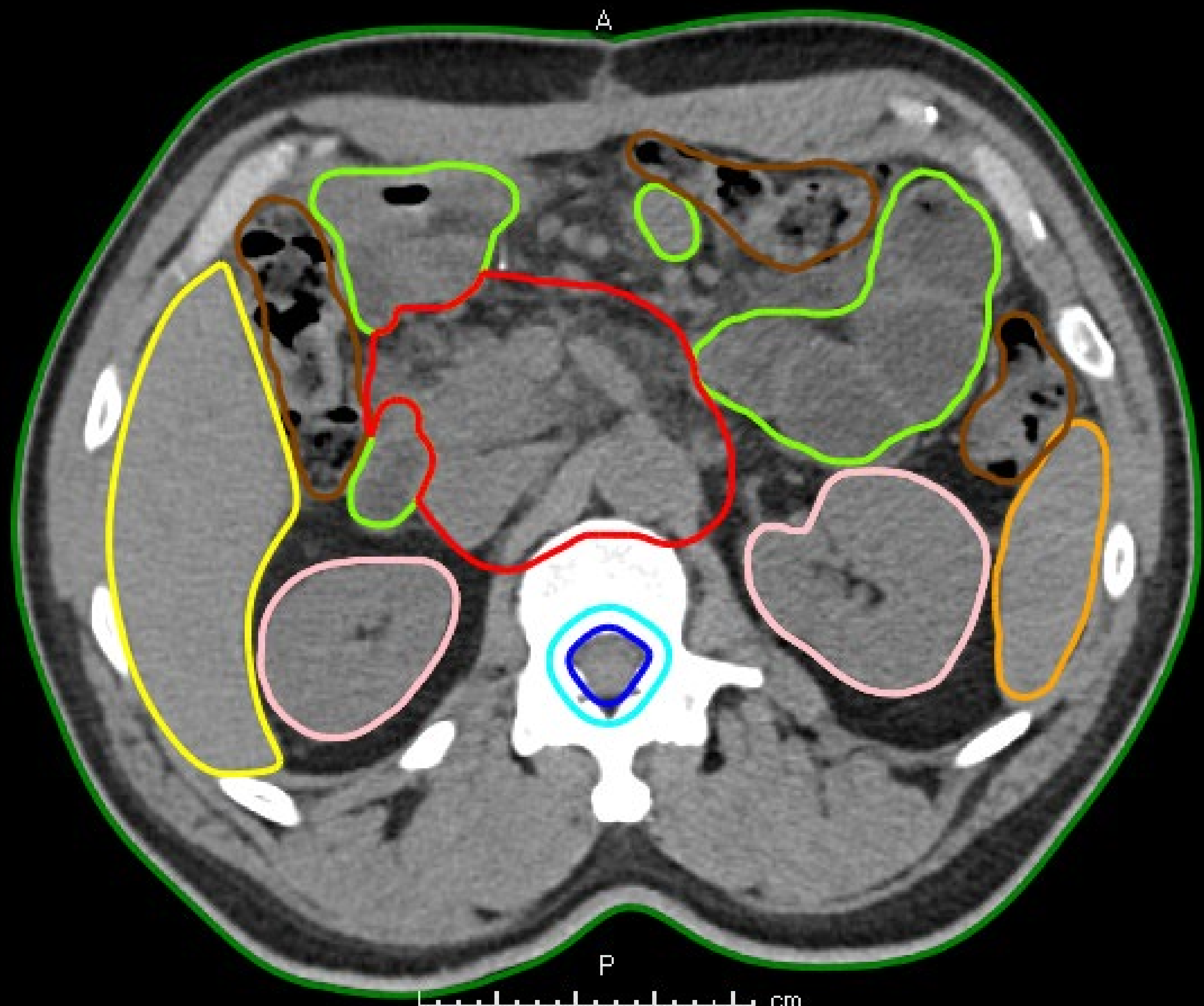
- Clinicians can adapt a patient's treatment plan each day based on tumor and anatomical changes.
 - Patient positioned for treatment → high quality CT obtained → tumor and nearby organs contoured → daily plan created, checked → adapted treatment delivered
- Increased accuracy of radiation delivery, allowing higher doses of radiation to the tumor while sparing surrounding healthy tissue.
- Shorter courses of treatment (fewer visits) due to higher doses of radiation per treatment.
- Potential for same-day planning and treatment for emergent cases, shortening hospital stays.

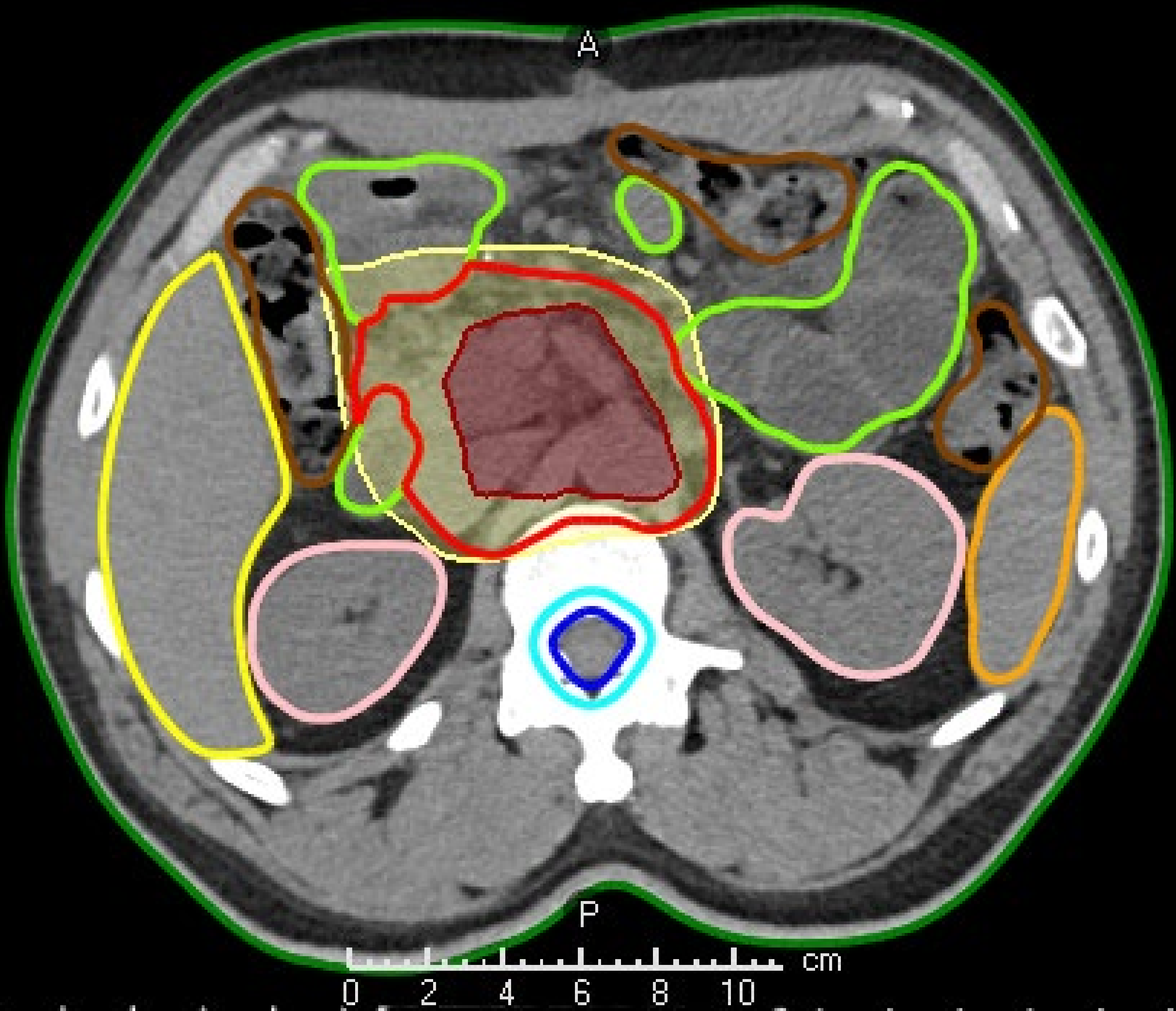


Treatment for Multiple Cancers

Currently, adaptive radiation can treat individuals with cancers of the prostate, bladder, cervix, ovaries, uterus, head and neck, rectum, liver, kidney, lung and mediastinum, upper abdomen including the stomach and pancreas, and cancer that has metastasized to the adrenal glands.

Many platforms can also deliver non-adaptive radiation therapy when needed, and thus additional cancer types may also receive effective treatment using this same machine.





Adaptive Radiation Therapy Varian Ethos™

We believe that the Varian Ethos™ adaptive radiation platform is the optimal mechanism of bringing this technology to our Delaware community.

- Enables efficient adaptation and highly sophisticated non-adaptive treatments.
- We anticipate serving nearly 1,000 patients over the next three years with this technology.

This treatment will be the first adaptive radiation treatment option for patients in the State of Delaware



Conformity with Health Resources Management Plan

Objectives of Adaptive Radiation Therapy with Varian Ethos™

Improve Health Outcomes

- Increased accuracy of radiation delivery:
 - Fewer side effects.
 - More effective treatments.

Personalized Care

- Highly personalized treatments with daily adaptation based on:
 - Changes in normal anatomy.
 - Changes in tumor volume and position.

Access/Close to Home

- Shorter treatment courses:
 - Improve access.
 - Decrease patient and health care burden.

Effect on Health Care Costs and Charges

- Patients will experience reduced out-of-pocket expenses from fewer visits, less travel time and less time away from work.
- Making this treatment locally available will improve population health, especially for elderly and low-income individuals who often face challenges accessing care.
- This technology will enable physicians in Delaware and throughout the region to refer patients to ChristianaCare for Adaptive Radiation Therapy.

Improving Access for Delawareans

Distance/Access

- ✓ Will be the only Adaptive Radiation Therapy site in Delaware. Currently Fox Chase (50 miles from Newark) and Penn Medicine (28 miles) are the only regional centers offering this treatment.

Improved efficiency

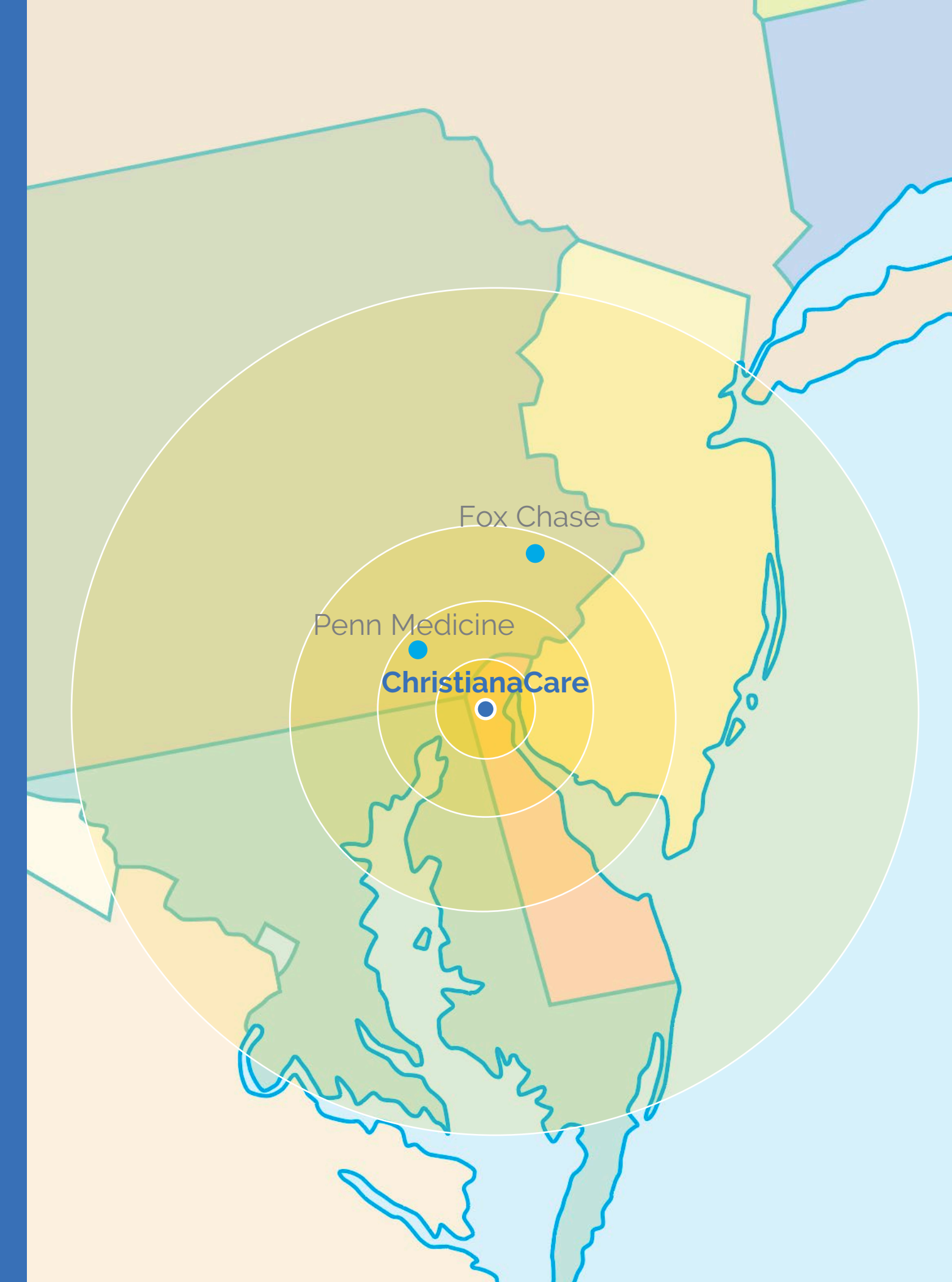
- ✓ Real-time adaptive planning eliminating the need for additional procedures and shortening treatment courses.

Physician engagement

- ✓ Access point for community providers.

Approved service

- ✓ This treatment has been approved by the Food & Drug Administration (FDA) and is covered by the Centers for Medicare and Medicaid Services (CMS).



Nearby locations (Driving distance from ChristianaCare, Newark Campus)

Fox Chase Cancer Center, Phila., PA (50 miles)

Penn Medicine / Chester County Hospital, West Chester, PA (28 miles)

Adaptive Radiation Therapy Treatment

Primary consumers of this service are patients residing in Delaware

	Year 1	Year 2	Year 3
Number of Patients Treated with Adaptive Radiation Therapy Unit	225	340	357

Expected Costs

- **Capital investment of \$6.7M;** to be funded through cash reserves.
 - Varian Ethos™ equipment.
 - Minor renovations - vault already in place.
- Year 1 **projected revenue is \$6.2M,** and **projected operating expense is \$1.8M.**
- Health care cost savings due to shorter courses of treatment (i.e., fewer visits) have not been quantified.
- The volume of adaptive treatments is minimal in relation to overall Radiation Oncology services and will not materially impact the overall costs and charges of health care to the community.



Facility and Equipment Design

Varian Ethos™ will be located on the ChristianaCare Newark Campus in its existing Radiation Oncology suite at the Helen F. Graham Cancer Center & Research Institute.



Schedule of Implementation

Pending approval of Certificate of Public Review application

Finalize construction plan, equipment purchase.

Fall 2024

Start construction, recruit staff.

Winter 2025

Staff training.

Spring and summer 2025

Equipment installation, patient scheduling go-live.

Fall 2025

First patient treatment.

January 2026

Thank you.



Appendix

16 Del. Code §9306 – Review Considerations

Summary

(1) The relationship of the proposal to the Health Resources Management Plan

1. *Narrative and rationale for the proposed project is sound.*
 2. *Relevant certifications and accreditation status are in good standing.*
 3. *Letters in support of the proposal, as well as administrative, clinical and leadership positions have been provided.*
- *Signed participation agreement with DHIN, and is submitting records / accessing data from DHIN for care coordination purposes.*
 - *Appropriate balance in consideration of access, cost, and quality of care issues are seriously embraced in the application.*
 - *the proposal supports access and continuity of care, chronic disease management, use of health information technology and affiliation with the Delaware Health Information Network (DHIN), care coordination and other strategies to facilitate Delaware’s transition to value-based payment models to improve overall health outcomes.*
 - *The proposal, where possible, contributes to the care of the medically indigent.*

Relationship to HRMP
Sound narrative.
Certifications included.
Letters included.

Active with DHIN.
Included.
Supports value-based care.
Indigent services as needed.

(2) The need of the population for the proposed project;

1. *The proposal demonstrates a clear public need for the service(s) proposed, as well as identifying the population to be served, as well as data-oriented evidence.*
2. *The proposal specifies its plan for care of patients without private insurance coverage, as well as its plan for care of medically underserved populations with the proposed service area.*

Population Need
Population need included.
Indigent services as needed.

16 Del. Code §9306 – Review Considerations

Summary (cont.)

(3) The availability of less costly and/or more effective alternatives to the proposal, including alternatives involving the use of resources located outside the State;

- 1. The proposal provides information about alternative providers of the proposed service, referencing the specific providers that now offer the proposed service and the impact of those parties, including financial information indicating whether these alternative providers are more or less costly in the provision of the service.*
- The applicant has taken into account the availability of out-of-state, yet geographically close, health care service resources.*

(4) The relationship of the proposal to the existing health-care delivery system;

- 1. The applicant has described in detail how and where the proposed patient population is currently being served. The applicant has described existing referral patterns in the proposed service area and demonstrated that the proposed project shall not result in an unnecessary duplication of existing or approved health care facilities or services.*
- 2. To ensure appropriate continuity of care, accessibility, and related quality-enhancing considerations, the applicant has provided information regarding the applicant's established referral arrangements with other providers in the service area. The applicant has described how their past and proposed provision of health services promote a continuum of care in Delaware's health care system.*
- 3. The applicant has also demonstrated that the proposed project will not negatively impact employment, the diversity of health care providers or patient choice in the defined service area.*

Alternative Options

Alternate options and providers are discussed.

Out-of-state providers are illustrated.

Existing Health-Care Delivery System

Population described and opportunities for other provider referrals discussed.

Continuum of care is described in the application.

No negative impacts to employment are expected.

16 Del. Code §9306 – Review Considerations

Summary (cont.)

(5) The immediate and long-term viability of the proposal in terms of the applicant's access to financial, management and other necessary resources;

- 1. The application has demonstrated the financial feasibility of the proposed project.*
- 2. The applicant has provided proof of all funding or financing sources for the proposal and the dollar amount of each.*

Long-term Viability

The project is financially feasible.

The project is self-funded.

(6) The anticipated effect of the proposal on the costs of and charges for health care; and

- 1. The applicant has demonstrated how the proposal will impact the financial strength of the health care system in the state. Specifically, the applicant has demonstrated how the proposed project will improve cost-effectiveness of health care services within the service area.*
- 2. The applicant has also demonstrated how the proposal will impact cost and charges to the individual(s) for health services (where applicable).*

Effect on Costs and Health Care Charges

Will create access to a new type of treatment and alleviate patient travel time to alternate providers.

The project will have no aggregate effect on costs for health services.

(7) The anticipated effect of the proposal on the quality of health care.

- 1. The applicant has demonstrated how the proposed project will improve quality and accessibility of health care services within the service area, including but not limited to, the provision of or any change in the access to services for Medicaid recipients and indigent persons as well as the impact of providing services to these populations.*

Effect on the Quality of Health Care

This project will provide a new, personalized treatment option with shorter treatment time and improved quality of life.

- Note that there is no increase in beds, footprint, or aggregate overhead capital infrastructure.**
- Headcount will increase by 6.5 FTEs in Year 1.**