



Eastern Connecticut Health Network
71 Haynes Street
Manchester, CT 06040
860.533.3414
www.echn.org

May 26, 2015

Janet Brancifort, Deputy Commissioner
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308



Re: Certificate of Need Application, Docket Number TBD
Northeast Regional Radiation Oncology Network, Inc. (NRRON)
Replacement of Existing Non-Hospital-Based Linear Accelerator in Enfield

Dear Deputy Commissioner Brancifort:

Enclosed are an original and four copies of the Certificate of Need Application filed on behalf of NRRON for the replacement of an existing non-hospital-based linear accelerator in Enfield, including an electronic copy of the application and all attachments.

If you have any questions regarding this Certificate of Need Application, please do not hesitate to give me a call at (860) 646-1222 x2748.

Sincerely,

Gina Kline
Director, Planning and System Development

cc: Dan Delgallo, Executive Director, NRRON
Dennis P. McConville, Chairman, NRRON

May 14, 2015

Janet Brancifort, Deputy Commissioner
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308

Dear Deputy Commissioner Brancifort:

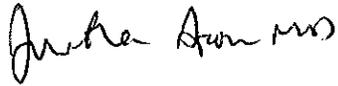
I am the Chief of Hematology-Oncology at St Francis Hospital and at Johnson Memorial Hospital, and the Medical Director for the Krzynowek Infusion Center in Enfield since its opening. I am writing in support of the Certificate of Need application filed by NRRON (Community Cancer Care) to replace the linear accelerator unit for the continuation of radiation therapy services in Enfield. I have practiced Hematology-Oncology in the greater Hartford area for almost 30 years, and at St Francis for 13 years, and I have had ample experience to see the expansion of services for cancer patients in northern CT.

Radiation therapy often involves extended courses of daily treatment, and often the time and energy spent on transportation contributes significantly to the burden on the patient. The catchment area of the Enfield facility includes many patients for whom the additional travel to Hartford, Springfield, or Manchester would have a significant adverse impact on their quality of life. While a small number of patients still need to come to Hartford for specialized radiation therapy treatments, the overwhelming majority of the radiation oncology needs for this area are served by the Enfield facility.

I have not had any concerns about the quality of radiation care being delivered by the physicians or other staff in the radiation oncology department. My medical oncology team has worked well with the radiation therapy department in Enfield, and collaborations for multidisciplinary planning at tumor boards and for routine care of mutual patients have been simple and well-received by patients who see their treatment being managed by a team that works well together. This team environment created by the medical and radiation oncology services has fostered an identity for a JMMC-St Francis cancer program serving the area, which has been a focal point for accreditation by the American College of Surgeons as a Community Cancer Center. The outgrowth of this program development has made available in this community services such as dietary services, rehab medicine, social work, and community outreach, which are held to national standards as part of the accreditation process. This collaboration between radiation and medical oncology is an element that contributed to St Francis partnering with JMMC for co-management of oncology services, that allows facilitated access to specialized cancer services not otherwise available in northern CT such as genetic counseling, clinical trials, and specialized cancer surgeries. Since the opening of the infusion center and the establishment of a St Francis-based medical oncology practice the volume of patients treated in the Cancer Center has continued to grow. As the integration of the two hospitals proceeds, our vision is to provide the most complete package of cancer services possible, beyond what could be offered in a private office setting, and having radiation and medical oncology services adjacent to each other in the cancer center building is vital to providing

optimal support to all the patients receiving care in this community. Replacement of the linear accelerator is a recognition of the successes of this program, and a commitment to continuing the current growth and expansion of services to cancer patients in this area. I encourage you to approve this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan Sporn M.D.", written in a cursive style.

Jonathan Sporn, M.D.

Chief of Hematology-Oncology at St Francis Regional Cancer Center and Johnson Memorial Hospital
Professor of Medicine, University of Connecticut School of Medicine.



Johnson Memorial Medical Center

Health care. The way it should be.

May 13, 2015

Janet Brancifort, Deputy Commissioner
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308



Dear Deputy Commissioner Brancifort:

I would like to express my support for the Certificate of Need Application filed by Northeast Regional Radiation Oncology Network, Inc. ("NRRON") to replace its existing linear accelerator so that they may continue to provide radiation therapy services at the Johnson Memorial Cancer Center in Enfield, CT.

As a practicing Medical Oncologist located in the same building, I currently refer patients for services, particularly because many patients express a preference for receiving such services close to home. Because oncology patients in need of radiation treatments often require frequent visits over a period of weeks or months, it is important that they have the option to receive those treatments closer to where they live, and avoid logistical challenges that going into Hartford can pose for some in this vulnerable group of patients. I feel that their compliance with treatment regimens is enhanced when we can remove logistical barriers. For my patients, especially those receiving both chemotherapy and radiation treatment, it is greatly beneficial to be able to access both in Enfield.

I am very satisfied with the quality of services delivered at the Johnson Memorial Cancer Center and believe that the creation of NRRON has significantly improved patient access to quality radiation therapy services in the area. Failure to authorize the replacement of the linear accelerator would be greatly detrimental for patient access in this community.

I understand that CON authorization is required for NRRON to replace its existing linear accelerator and believe it is imperative that this authorization be given. As the only community-based facility in the Enfield area, I believe it offers my patients the same high quality radiation therapy services offered by the hospitals in Hartford, but in a more convenient and accessible setting for my patients.

I encourage you to approve this proposal and allow NRRON to continue providing the care and access to radiation therapy services that my patients have come to expect in their local community.

Sincerely,

Jaykumar Thumar, MD.

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Checklist

Instructions:

1. Please check each box below, as appropriate; and
 2. The completed checklist *must* be submitted as the first page of the CON application.
- Attached is a paginated hard copy of the CON application including a completed affidavit, signed and notarized by the appropriate individuals.
 - (*New*). A completed supplemental application specific to the proposal type, available on OHCA's website under "[OHCA Forms](#)." A list of supplemental forms can be found on page 2.
 - Attached is the CON application filing fee in the form of a certified, cashier or business check made out to the "Treasurer State of Connecticut" in the amount of \$500.
 - Attached is evidence demonstrating that public notice has been published in a suitable newspaper that relates to the location of the proposal, 3 days in a row, at least 20 days prior to the submission of the CON application to OHCA. (*OHCA requests that the Applicant fax a courtesy copy to OHCA (860) 418-7053, at the time of the publication*)
 - Attached is a completed Financial Attachment
 - Submission includes one (1) original and four (4) hard copies with each set placed in 3-ring binders.
 - The following have been submitted on a CD
 1. A scanned copy of each submission in its entirety, including all attachments in Adobe (.pdf) format.
 2. An electronic copy of the applicant's responses in MS Word (the applications) and MS Excel (the financial attachment).

For OHCA Use Only:

Docket No.: _____ Check No.: _____
OHCA Verified by: _____ Date: _____

PUBLIC NOTICE

PUBLIC NOTICE

Statute Reference: 19a-638 et seq. of the Connecticut General Statutes
Applicant: Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community CancerCare
Addresses: 142 Hazard Avenue, Enfield, CT 06082-4520
Town: Enfield
Proposal: Northeast Regional Radiation Oncology Network, Inc. d/b/a Community CancerCare plans to file an application for a Certificate of Need with the Office of Health Care Access to replace the existing linear accelerator at its radiation oncology facility in Enfield, Connecticut.
Capital Expenditure: \$1,800,000

Journal Inquirer
April 29, 2015
April 30, 2015
May 1, 2015

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Journal Inquirer
April 29, 2015
April 30, 2015

unitedbank

1645 Ellington Road
South Windsor, CT 06074

TREASURERS CHECK

455821

Date: 5/22/15

Branch: 0015

REMITTER NORTHEAST REGIONAL RADIATION ONC NET INC

**PAY
TO THE
ORDER OF**

EXACTLY **500 AND 00/100 DOLLARS

\$500.00

TREASURER STATE OF CONNECTICUT



AUTHORIZED SIGNER

⑈0000455821⑈ ⑆211170318⑆ 14010012145⑈

unitedbank

1645 Ellington Road
South Windsor, CT 06074

TREASURERS CHECK

455821

DATE: 5/22/15

REMITTER: NORTHEAST REGIONAL RADIATION ONC NET INC
100 HAYNES ST FL 1
MANCHESTER, CT 06040

BRANCH: 0015
ORIGINATOR: B55RDOSTER
TIME: 1:46:35
CK AMT: \$500.00
FEE AMT: \$.00

TO: TREASURER STATE OF CONNECTICUT

TOTAL: \$500.00

**NON-NEGOTIABLE
CUSTOMER COPY**

Security features included. Details on back.

General Information

Main Site	MAIN SITE	MEDICAID PROVIDER ID	TYPE OF FACILITY	MAIN SITE NAME
	Manchester	004214293	Outpatient Clinic	Community CancerCare John A DeQuattro Cancer Center
	STREET & NUMBER			
	100 Haynes Street			
	TOWN	ZIP CODE		
	Manchester	06040-4113		

Project Site	PROJECT SITE	MEDICAID PROVIDER ID	TYPE OF FACILITY	PROJECT SITE NAME
	Enfield	004214293	Outpatient Clinic	Community CancerCare Johnson Memorial Cancer Center
	STREET & NUMBER			
	142 Hazard Avenue			
	TOWN	ZIP CODE		
	Enfield	06082-4520		

Operator	OPERATING CERTIFICATE NUMBER	TYPE OF FACILITY	LEGAL ENTITY THAT WILL OPERATE OF THE FACILITY (or proposed operator)
	License No. 0306 (Enfield) License No. 0317 (Manchester)	Outpatient Clinic	Northeast Regional Radiation Oncology Network, Inc. (NRRON)
	STREET & NUMBER		
	100 Haynes Street		
	TOWN	ZIP CODE	
	Manchester	06040	

Chief Executive	NAME		TITLE
	Dennis P. McConville		Chairman
	STREET & NUMBER		
	ECHN, 71 Haynes Street		
	TOWN	STATE	ZIP CODE
	Manchester	CT	06040
	TELEPHONE	FAX	E-MAIL ADDRESS
	(860) 533-3429	(860) 647-6860	dmconville@echn.org

Version 04/01/2015

Title of Attachment:

Is the applicant an existing facility? If yes, attach a copy of the resolution of partners, corporate directors, or LLC managers, as the case may be, authorizing the project.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Attachment 1 Member Meeting Minutes
Does the Applicant have non-profit status? If yes, attach documentation.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Attachment 2 Documentation of Tax Exempt Status
Identify the Applicant's ownership type.	PC <input type="checkbox"/> LLC <input type="checkbox"/> Corporation <input checked="" type="checkbox"/>	Other: _____
Applicant's Fiscal Year (mm/dd)	Start: <u>October 1</u> End: <u>September 30</u>	

Contact:

Identify a single person that will act as the contact between OHCA and the Applicant.

Contact Information	NAME		TITLE
	Dennis P. McConville		Chairman
	STREET & NUMBER		
	ECHN, 71 Haynes Street		
	TOWN	STATE	ZIP CODE
	Manchester	CT	06040
	TELEPHONE	FAX	E-MAIL ADDRESS
	(860) 533-3429	(860) 647-6860	dmconville@echn.org
	RELATIONSHIP TO APPLICANT		NRRON Board Chair

Identify the person primarily responsible for preparation of the application (optional):

Prepared by	NAME		TITLE
	Gina Kline		Director, Planning & System Development
	STREET & NUMBER		
	ECHN, 71 Haynes Street		
	TOWN	STATE	ZIP CODE
	Manchester	CT	06040
	TELEPHONE	FAX	E-MAIL ADDRESS
	(860) 646-1222 x2748	(860) 647-6860	gkline@echn.org
	RELATIONSHIP TO APPLICANT		NRRON member representative

Version 04/01/2015

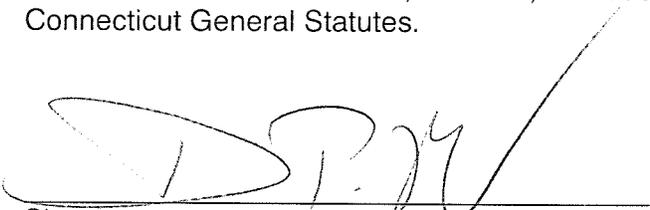
Affidavit

Applicant: Northeast Regional Radiation Oncology Network, Inc. (NRRON)

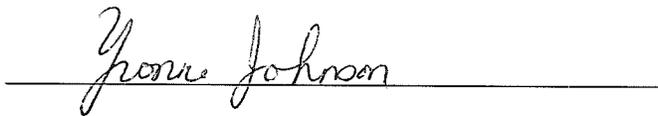
Project Title: Replacement of an Existing Non-Hospital-Based Linear Accelerator in Enfield

I, Dennis P. McConville, Chairman
(Name) (Position – CEO or CFO)

of Northeast Regional Radiation Oncology Network, Inc. being duly sworn, depose and state that the (Facility Name) said facility complies with the appropriate and applicable criteria as set forth in the Sections 19a-630, 19a-637, 19a-638, 19a-639, 19a-486 and/or 4-181 of the Connecticut General Statutes.


Signature 5/26/15
Date

Subscribed and sworn to before me on 5-26-15



Notary Public/Commissioner of Superior Court

Yvonne Johnson, Notary Public
My Commission Expires Jan. 31, 2017

My commission expires: 1-31-17



**State of Connecticut
Department of Public Health
Office of Health Care Access**

**Certificate of Need Application
Main Form**
Required for all CON applications

Executive Summary

The purpose of the Executive Summary is to give the reviewer a conceptual understanding of the proposal. In the space below, provide a succinct overview of your proposal (this may be done in bullet format). Summarize the key elements of the proposed project. Details should be provided in the appropriate sections of the application that follow.

Northeast Regional Radiation Oncology Network, Inc. ("NRRON") is requesting CON authorization to acquire a non-hospital-based linear accelerator to replace its existing linear accelerator located at 142 Hazard Avenue in Enfield.

Key Elements of the Proposal:

- Based on the National Cancer Institute statistics for all cancer types, there are approximately 700 patients diagnosed with cancer each year and approximately 6,800 patients living with cancer in the Enfield site's service area.
- NRRON currently provides 4,000 radiation therapy treatments each year at its Enfield location on a linear accelerator that was installed in 1998.
- Acquisition of the existing linear accelerator was originally approved under Docket Number 95-534.
- The existing linear accelerator is past its useful life expectancy of eight to ten years and has been experiencing on-going age-related problems.
- Replacement of the linear accelerator will enable NRRON to maintain patient access to this critical service.
- A denial of this proposal will prohibit NRRON from replacing the linear accelerator and will result in the eventual closure of the Enfield location when the existing linear accelerator cannot be used, significantly decreasing patient access to radiation therapy services.
- The proposal maintains the existing patient access to radiation therapy services in Enfield and improves their access to specific treatments that cannot currently be performed on the existing linear accelerator due to its advanced age.
- There will be no impact on referral patterns as a result of replacing the existing linear accelerator, and it will not result in unnecessary duplication of services as the old unit will be decommissioned prior to the installation of the replacement linear accelerator.
- NRRON will experience an incremental loss from operations due to the new depreciation and interest expenses that are incurred through the replacement of the existing linear accelerator, but the overall margin with the CON is positive starting in Year 1, making the proposal financially feasible for the Applicant.
- The Applicant anticipates that the new (replacement) linear accelerator will be operational by December 31, 2015.

Pursuant to Section 19a-639 of the Connecticut General Statutes, the Office of Health Care Access is required to consider specific criteria and principles when reviewing a Certificate of Need application. Text marked with a “§” indicates it is actual text from the statute and may be helpful when responding to prompts.

Project Description

1. Provide a detailed narrative describing the proposal. Explain how the Applicant(s) determined the necessity for the proposal and discuss the benefits for each Applicant separately (if multiple Applicants). Include all key elements, including the parties involved, what the proposal will entail, the equipment/service location(s), the geographic area the proposal will serve, the implementation timeline and why the proposal is needed in the community.

Response:

Northeast Regional Radiation Oncology Network, Inc. ("NRRON") provides accessible, community-based radiation therapy services for cancer patients from north-central and eastern Connecticut at its free-standing centers, the John A. DeQuattro Community Cancer Center in Manchester ("the Manchester site" or "the Manchester location") and the Johnson Memorial Cancer Center in Enfield ("the Enfield site" or "the Enfield location"). NRRON's centers are individually licensed as outpatient clinics by the Department of Public Health. In addition, NRRON is accredited by the American College of Radiology and licensed by the Nuclear Regulatory Commission.

NRRON was originally formed as a joint enterprise among Hartford Hospital, Johnson Memorial Hospital, Rockville General Hospital, and Manchester Memorial Hospital.⁽¹⁾ NRRON was formed as a nonprofit, non-stock corporation with each of the four hospitals as members. NRRON's four-member Board has general authority over the affairs of NRRON, except where a member vote is required by Connecticut law.

NRRON has provided radiation therapy services at the Johnson Memorial Cancer Center at 142 Hazard Avenue in Enfield since 1998. The need for community-based radiation therapy services and the acquisition of a linear accelerator to provide those services was clearly demonstrated in 1997 (Docket Number 95-534) and remains true today. Today, NRRON's Enfield location provides more than 4,000 radiation therapy visits each year (based on FY2015 projections) and serves a patient population of over 150,000 people in Enfield and the surrounding towns.

The linear accelerator currently used to perform radiation therapy at the Enfield site was installed in 1998 and is now past its useful life expectancy of eight to ten years. There have been on-going age-related problems including increased frequency of downtime, lack of precision measurement, technological limitations and a high cost for repairs and replacement parts. The inconsistency of its functionality has created a negative effect on patient care through the rescheduling of exams, delays in cancer treatment, and in certain circumstances, unnecessary duplication of radiation exposure to update patient treatment plans. Availability of a linear accelerator is essential for NRRON to continue to provide radiation therapy services in Enfield.

(1) Rockville General Hospital and Manchester Memorial Hospital are affiliated under the common control of the Eastern Connecticut Health Network (ECHN).

Based on the National Cancer Institute statistics for all cancer types, there are approximately 700 patients diagnosed with cancer each year and approximately 6,800 patients living with cancer in the Enfield site's service area.⁽²⁾ The ongoing patient demand for radiation therapy services in the area coupled with the advanced age of the existing linear accelerator were the key drivers necessitating the replacement of the linear accelerator. If NRRON does not replace the existing linear accelerator, it will be necessary to terminate radiation therapy services at this location. Patient access to radiation therapy in Enfield and the surrounding communities would be substantially diminished following a closure of NRRON's Enfield location as radiation therapy facilities in Manchester and Hartford are approximately 25 to 30 minutes from the current Enfield site. This distance can be challenging to a patient population that requires multiple treatments over weeks and months. Further, with over 50% of NRRON's patients on Medicare and age 65 years old or more, this distance represents an even larger obstacle often requiring coordination of travel and family interruption. The intent of this proposal is to maintain the existing access to care that is available to this community, and this can only be accomplished through the replacement of the existing, aged linear accelerator that makes radiation therapy in Enfield possible.

When the decision to replace the linear accelerator in Enfield was made, NRRON already had plans under way to acquire and install a dedicated CT simulator to provide radiation therapy treatment planning capabilities on site (see *Docket Number 12-31778-CON* and *Docket Number 14-31778-MDF*). Initial efforts to start renovations for the CT simulator installation were delayed for several unforeseen circumstances. When the decision to replace the aging linear accelerator was made in January, 2014, the Applicants developed a plan that would allow them to perform the necessary renovations for both the linear accelerator and the CT simulator concurrently. NRRON had planned to begin construction in the early months of 2015 until they learned that replacement of the previously authorized linear accelerator would require additional CON approval.

NRRON has continued with preliminary design and permitting activities and expects those to be complete by the end of July. Renovations to the CT simulator suite are tentatively scheduled to begin in August, pending CON approval for this proposal to replace the linear accelerator.⁽³⁾ The existing linear accelerator will remain operational during the initial phase of renovations, but will be taken off-line and removed from service beginning October 1, 2015. At this time, the second phase of renovations will begin, followed by the installation and commissioning of the new linear accelerator. The Applicant expects both the CT simulator and the new (replacement) linear accelerator to be operational by December 31, 2015.

-
- (2) Please see the Applicant's response for information on the National Cancer Institute's incidence and prevalence rates and the methodology used to estimate the incidence and prevalence of cancer in the Enfield site's service area.
 - (3) If the authorization to acquire the replacement linear accelerator is not granted, NRRON will be unable to provide radiation therapy services on the existing linear accelerator long-term. In the event that this proposal is denied, the Applicant intends to close the Enfield site the end of the calendar year before a critical and permanent failure of the existing linear accelerator occurs.

2. Provide the history and timeline of the proposal (i.e., When did discussions begin internally or between Applicant(s)? What have the Applicant(s) accomplished so far?).

Response:

The linear accelerator currently operating at the Enfield site was installed in 1998. Initial discussions regarding its replacement began in 2010, shortly after the relocation of NRRON's Manchester site was completed. When discussions began, the Enfield linear accelerator was already being utilized beyond its useful life expectancy of eight to ten years. At that time, the linear accelerator was still operating reliably, so the decision to replace the unit was delayed.

In 2013, the Applicants received CON authorization to acquire a dedicated CT simulator for the Enfield location (see *Docket Number 12-31778-CON and Docket Number 14-31778-MDF*). As renovation plans were developed for the CT simulator, the linear accelerator began to experience an increasing frequency of downtimes associated with its advancing age. The decision to pursue its replacement was made in January, 2014. Since the replacement of the linear accelerator would also require renovations, the Applicants planned to schedule the linear accelerator replacement to coincide with the CT simulator installation. Due to a number of unforeseen circumstances, including turnover in management, plans to initiate renovations were delayed until late 2014.

On December 11, 2014, the Applicant submitted a CON Equipment Replacement Notification form informing OHCA of its intent to replace the linear accelerator in Enfield. The Applicant had planned to begin construction in the early months of 2015 until they learned that replacement of the previously authorized linear accelerator would require additional CON approval. While preliminary design and permitting activities are currently underway, efforts to physically start renovations to accommodate the CT simulator and the replacement linear accelerator are now on hold until CON authorization for the linear accelerator replacement has been received.

3. Provide the following information:
 - a. utilizing [OHCA Table 1](#), list all services to be added, terminated or modified, their physical location (street address, town and zip code), the population to be served and the existing/proposed days/hours of operation;

Response:

Please see [OHCA Table 1](#) for the Applicant's services and service locations. The population to be served represents the geographic population of the service area for each of the Applicant's locations.

- b. identify in [OHCA Table 2](#) the service area towns and the reason for their inclusion (e.g., provider availability, increased/decreased patient demand for service, market share);

Response:

Please see [OHCA Table 2](#) for the service area towns for the Enfield site. The towns included in Enfield's service area were determined by identifying the towns where 85% of patients treated at this site originate.

4. List the health care facility license(s) that will be needed to implement the proposal;

Response:

The Applicant's facility in Enfield is currently licensed as an Outpatient Clinic. No additional facility license(s) are required to replace the linear accelerator in Enfield.

5. Submit the following information as attachments to the application:
 - a. a copy of all State of Connecticut, Department of Public Health license(s) currently held by the Applicant(s);
 - b. a list of all key professional, administrative, clinical and direct service personnel related to the proposal and attach a copy of their Curriculum Vitae;
 - c. copies of any scholarly articles, studies or reports that support the need to establish the proposed service, along with a brief explanation regarding the relevance of the selected articles;
 - d. letters of support for the proposal;
 - e. the protocols or the Standard of Practice Guidelines that will be utilized in relation to the proposal. Attach copies of relevant sections and briefly describe how the Applicant proposes to meet the protocols or guidelines.
 - f. copies of agreements (e.g., memorandum of understanding, transfer agreement, operating agreement) related to the proposal. If a final signed version is not available, provide a draft with an estimated date by which the final agreement will be available.

Response:

Please refer to the following exhibits as noted below:

Exhibit 1 – State of Connecticut, Department of Public Health Licenses

Exhibit 2 – List of Personnel and Copies of the Curriculum Vitae

Exhibit 3 – Articles and Studies

Exhibit 4 – Letters of Support

Exhibit 5 – Quality Management Plan

NOTE: NRRON currently provides radiation therapy services and follows protocols or guidelines as outlined in Section III of the attached Quality Management Plan. The Quality Management Plan describes in detail how the Applicant monitors and ensures compliance with the established guidelines and protocols.

Exhibit 6 – Agreements Related to the Proposal

Version 04/01/2015

Public Need and Access to Care

§ “Whether the proposed project is consistent with any applicable policies and standards adopted in regulations by the Department of Public Health;” (Conn.Gen.Stat. § 19a-639(a)(1))

6. Describe how the proposed project is consistent with any applicable policies and standards in regulations adopted by the Connecticut Department of Public Health.

Response:

NRRON currently provides radiation therapy services in Enfield. The need for radiation therapy services and the acquisition of the linear accelerator was clearly demonstrated in 1997 (Docket Number 95-534) and remains true today. Conn. Gen. Stat. §19a-637 states that OHCA “shall promote the provision of quality health care in a manner that ensures access for all state residents to cost-effective services so as to avoid duplication of health services and improve the availability and financial stability of health care services throughout the state.” The replacement of the linear accelerator in Enfield enables OHCA to comply with the provisions outlined in this statute. The proposed acquisition avoids any unnecessary duplication of services because the linear accelerator to be acquired will replace an existing linear accelerator that is currently utilized to meet the need for radiation therapy services in the Enfield area. As a community-based service, the cost of care is generally lower than radiation therapy services provided at hospital-based facilities. Replacement of the linear accelerator in Enfield ensures that patients will continue to have access to high-quality radiation therapy services, in a convenient, low cost setting.

§ “The relationship of the proposed project to the statewide health care facilities and services plan;” (Conn.Gen.Stat. § 19a-639(a)(2))

7. Describe how the proposed project aligns with the Connecticut Department of Public Health Statewide Health Care Facilities and Services Plan, available on [OHCA's website](#).

Response:

As stated in the Connecticut Department of Public Health Statewide Health Care Facilities and Service Plan (“Plan”), the Plan is “intended to provide improved patient access to services by: providing better access to services through planned geographic distribution, enhancing primary care access and availability by identifying gaps in services and unmet need, and lowering overall cost to the health care system by limiting duplication of services.” The proposal to replace the existing linear accelerator in Enfield aligns with the Plan by continuing to provide access to radiation therapy services to a potentially at-risk or vulnerable population. Additionally, authorization of the proposal does not result in any duplication of services as the proposed linear accelerator acquisition would replace an existing linear accelerator.

The 2014 Supplement to the Plan identifies Enfield’s socioeconomic grouping as “Urban Periphery” based on population density, median family income and percent of population

living below the poverty level.⁽⁴⁾ Enfield's socioeconomic designation, while not the most vulnerable (i.e. Urban Core), does reflect a population with below average income, average poverty and high population density as compared to other towns in Connecticut.⁽⁵⁾ As stated in the 2014 Supplement, a strong relationship among socioeconomic status, geographic location, health outcomes, access to health care services and unmet health need has been established. Given Enfield's socioeconomic categorization, access to care and the availability of services is a concern for this population. Potential barriers to accessing care tend to be more prevalent in vulnerable communities, and access to health care services can be further exacerbated as this population tends to have a greater prevalence of chronic diseases (such as cancer) than the overall population.⁽⁶⁾ Replacement of the existing linear accelerator in Enfield maintains the community's local access to radiation therapy services and minimizes the barriers to accessing care that could be experienced if these at-risk and vulnerable patients were required to travel into Hartford to obtain radiation therapy services.

§ "Whether there is a clear public need for the health care facility or services proposed by the applicant;" (Conn.Gen.Stat. § 19a-639(a)(3))

8. With respect to the proposal, provide evidence and documentation to support clear public need:
 - a. identify the target patient population to be served;
 - b. discuss how the target patient population is currently being served;
 - c. document the need for the equipment and/or service in the community;
 - d. explain why the location of the facility or service was chosen;
 - e. provide incidence, prevalence or other demographic data that demonstrates community need;
 - f. discuss how low income persons, racial and ethnic minorities, disabled persons and other underserved groups will benefit from this proposal;
 - g. list any changes to the clinical services offered by the Applicant(s) and explain why the change was necessary;
 - h. explain how access to care will be affected;
 - i. discuss any alternative proposals that were considered.

(4) Connecticut Department of Public Health. 2014. Statewide Health Care Facilities and Services Plan – 2014 Supplement. Hartford, CT: Connecticut Department of Public Health. (Page 52).

(5) http://web2.uconn.edu/ctsdc/Reports/CtSDC_CT_Part02_OP2004-01.pdf

(6) Connecticut Department of Public Health. 2014. Statewide Health Care Facilities and Services Plan – 2014 Supplement. Hartford, CT: Connecticut Department of Public Health. (Page 57).

Response:

Population to be Served

The target population to be served by this proposal includes individuals from Enfield and the surrounding communities that have been diagnosed with cancer. According to the National Cancer Institute (NCI), there are approximately 455 cases of cancer diagnosed per 100,000 people each year.⁽⁷⁾ NRRON is currently providing radiation therapy services to the target population and has provided these services at its present location in Enfield since 1998. Based on the NCI statistics for all cancer types, there are approximately 700 patients diagnosed with cancer each year and approximately 6,800 patients living with cancer in the Enfield site's service area.

National Cancer Institute SEER Program Stats:

- Annual incidence rate of cancer cases all sites: 455 per 100,000 people
- Prevalence of Cancer in the United States (2012): 13,776,251
- United States Population (2012): 309,138,711⁽⁸⁾
- National prevalence rate of cancer all sites (calculated): 4,456 per 100,000 people

Incidence and Prevalence of Cancer in the Enfield Site's Service Area:

- Service Area Population: 153,166
- Annual incidence of cancer all cases (based on national incidence rate): 697
- Prevalence of people living with cancer (based on national prevalence rate): 6,826

Need for the Linear Accelerator Replacement

The need to provide greater accessibility to patients requiring radiation therapy services in the Enfield (and Manchester) area(s) was clearly established in the CON application filed in 1996 and subsequently approved by OHCA on January 17, 1997 (Docket Number 95-534). As noted on page 7 of the Agreed Settlement, OHCA identified the following findings:

- "The Co-Applicants indicate that some patients may refuse radiation therapy treatment due to the travel distance to existing providers, even when such treatment is recommended by their medical oncologists; and"
- "The Co-Applicants have indicated that more convenient and accessible local cancer services, including radiation therapy, will decrease the necessity for daily travel when the patients are in a potentially debilitated condition or may have difficulty finding rides for daily treatments for the four to eight week treatment period and will substantially lessen the stress on the patient and their family, as well as prevent unnecessary alternative therapy."

(7) National Cancer Institute (NCI): Surveillance, Epidemiology, and End Results (SEER) Program. SEER Stat Fact Sheets: All Cancer Sites. <http://seer.cancer.gov/statfacts/html/all.html>

(8) 2012 population estimate for the United States.

Source: U.S. Census Bureau, 2008-2012 American Community Survey.

http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_B010_03&prodType=table

- Additionally, on page 9 of the Agreed Settlement, OHCA states “the modified CON proposal demonstrates a clear public need for the oncology related services that the Co-Applicants intend to provide to the communities served...”

NRRON currently provides radiation therapy services to approximately 120 to 150 cancer patients each year at its Enfield site utilizing the same linear accelerator since it became operational in 1998. The linear accelerator is now past its useful life expectancy and there have been on-going age-related problems including increased frequency of downtime, lack of precision measurement, technological limitations and a high cost for repairs and replacement parts. The findings supporting the need for radiation therapy services and the acquisition of a linear accelerator in Enfield was clearly demonstrated in 1997 and remains true today.

Rationale for Proposal Location

The Applicant is planning to replace the existing linear accelerator currently located at the Enfield site. Patients have had the ability to receive their radiation oncology services in Enfield since 1998. As stated above, the existing linear accelerator is now past its useful life expectancy, and there have been on-going age-related problems including increased frequency of downtime, lack of precision measurement, technological limitations and a high cost for repairs and replacement parts. Without OHCA’s approval to replace the existing linear accelerator, NRRON will be forced to terminate radiation oncology services when the existing linear accelerator can no longer be repaired. Authorization for NRRON to replace the existing linear accelerator in Enfield will ensure that the oncology patients in the Enfield area will continue to have access to high quality radiation therapy services.

Impact on Patient Access

There will be no change to the clinical services offered by the Applicant as a result of this proposal. NRRON currently provides radiation therapy services at the Enfield location with an existing linear accelerator. Authorization of this proposal will allow NRRON to replace the aged unit with a new linear accelerator enabling it to maintain patient access to radiation therapy services in the Enfield area. Without OHCA’s approval to replace the existing linear accelerator, NRRON will have to close the Enfield location when the existing linear accelerator can no longer be repaired. Patients would no longer have a convenient, community-based alternative for radiation therapy services creating a potential geographic barrier to for them to access this critical service.

The availability of community-based radiation therapy services in Enfield is a benefit to the underserved groups in Enfield and the surrounding communities, including low income individuals, racial and ethnic minorities and disabled persons. Easy access to care in a low-cost setting can help this vulnerable population to better comply with the requirements of lengthy radiation therapy treatment plans. NRRON provides an alternative to the more costly hospital-based radiation therapy options in Hartford right in the local Enfield community. Potential financial and geographic barriers to accessing needed radiation therapy services are avoided for this population if NRRON is able to replace the linear accelerator so that it may continue to provide local access to radiation therapy services.

Alternative Proposals

While several linear accelerator vendors were evaluated for the replacement of the linear accelerator, no other service delivery alternatives, such as relocation of the service to another town, were explored. This proposal reflects the Applicants intention to maintain and preserve the existing patient access to radiation therapy services in Enfield and the surrounding communities.

§ “Whether the applicant has satisfactorily demonstrated how the proposal will improve quality, accessibility and cost effectiveness of health care delivery in the region, including, but not limited to, (A) provision of or any change in the access to services for Medicaid recipients and indigent persons, and (B) the impact upon the cost effectiveness of providing access to services provided under the Medicaid program;”
(Conn.Gen.Stat. § 19a-639(a)(5))

9. Describe how the proposal will:
 - a. improve the quality of health care in the region;
 - b. improve accessibility of health care in the region; and
 - c. improve the cost effectiveness of health care delivery in the region.

Response:

The existing linear accelerator in Enfield was installed in 1998 and is now past its useful life expectancy. There have been on-going age-related problems including increased frequency of downtime, lack of precision measurement, technological limitations and a high cost for repairs and replacement parts. Replacement of the linear accelerator will enable NRRON to provide more precise and targeted treatments, which will improve the quality of care delivered at the Enfield location. It also eliminates the technological limitations that exist with the current linear accelerator, preventing NRRON from providing a number of radiation therapy treatments in Enfield, including electron beam radiation for skin cancer, high-energy radiation for deep seeded tumors, stereotactic body radiation therapy and rapid arc intensity modulated radiation therapy. In addition to the more advanced treatments that could be provided in Enfield with replacement of the existing linear accelerator, the overall accessibility of radiation therapy services is improved through a reduction of downtime occurrences that have been experienced due to the age of the current linear accelerator. The ability to perform more treatment types and the reduction of equipment downtime will also improve the overall cost of health care delivery in the region by improving patient access to a low-cost community-based provider of radiation therapy services.

10. How will this proposal help improve the coordination of patient care (explain in detail regardless of whether your answer is in the negative or affirmative)?

Response:

The coordination of patient care between NRRON and physicians located within close proximity of the Enfield facility is already well established. The availability of a linear accelerator in Enfield currently enables patients to more easily access care from their physician and receive radiation therapy treatments on the same day. Occasionally, patients have to be referred to Manchester or to Hartford to receive treatments that cannot be provided on the existing linear accelerator in Enfield due to its advanced age. As discussed above, electron beam radiation for skin cancer, high-energy radiation for deep seeded tumors, stereotactic body radiation therapy and rapid arc intensity modulated radiation therapy are four treatments that can be performed on the newer linear accelerators in Manchester but cannot be performed on the aged linear accelerator in Enfield. Replacement of the linear accelerator with a more technologically advanced unit will enable NRRON to provide these services directly to patients at the Enfield site and improve the coordination of care by eliminating unnecessary referrals to providers outside the patient's local community.

11. Describe how this proposal will impact access to care for Medicaid recipients and indigent persons.

Response:

Replacement of the existing linear accelerator in Enfield will maintain the current access to care available to Medicaid recipients and indigent persons in Enfield and the surrounding communities. NRRON provides radiation therapy services to all patients regardless of their ability to pay in a low-cost, convenient community setting. Approximately 5% of the patients treated at the Enfield site are Medicaid recipients. If the existing linear accelerator cannot be replaced, NRRON will be unable to provide radiation therapy services at the Enfield location when the unit can no longer be repaired. The termination of services resulting from a denial of this proposal will reduce access to radiation therapy services to this patient population.

§ "Whether an applicant, who has failed to provide or reduced access to services by Medicaid recipients or indigent persons, has demonstrated good cause for doing so, which shall not be demonstrated solely on the basis of differences in reimbursement rates between Medicaid and other health care payers;" (Conn.Gen.Stat. § 19a-639(a)(10))

12. If the proposal fails to provide or reduces access to services by Medicaid recipients or indigent persons, provide explanation of good cause for doing so.

Response:

Not applicable. The Applicant's proposal to replace the existing linear accelerator will preserve the existing access to radiation therapy services in Enfield for Medicaid recipients and indigent persons.

§ “Whether the applicant has satisfactorily demonstrated that any consolidation resulting from the proposal will not adversely affect health care costs or accessibility to care.” (Conn.Gen.Stat. § 19a-639(a)(12))

13. Will the proposal adversely affect patient health care costs in any way? Quantify and provide the rationale for any changes in price structure that will result from this proposal, including, but not limited to, the addition of any imposed facility fees.

Response:

The proposal to replace the existing linear accelerator does not adversely affect patient health care costs in any way. As a community-based provider of radiation therapy services, the cost of care is typically less than the cost of equivalent hospital-based services. Replacement of the linear accelerator will not require any changes to the existing price structure. No additional facility fees will be imposed as a result of replacing the linear accelerator.

Financial Information

§ “Whether the applicant has satisfactorily demonstrated how the proposal will impact the financial strength of the health care system in the state or that the proposal is financially feasible for the application,”
(Conn.Gen.Stat. § 19a-639(a)(4))

14. Describe the impact of this proposal on the financial strength of the state’s health care system or demonstrate that the proposal is financially feasible for the applicant.

Response:

Replacement of Enfield’s existing linear accelerator improves the financial strength of the healthcare system by preserving one of the few low-cost, community-based options for radiation therapy services that exists in the State. According the Connecticut Department of Public Health Statewide Health Care Facilities and Service Plan, there are seventeen hospitals that have linear accelerators across the state.⁽⁹⁾ In comparison, there are only three outpatient clinics licensed in the state that provide cancer services, including radiation therapy.⁽¹⁰⁾ NRRON operates two of the three facilities, including the Enfield location involved in this proposal.

The continued availability of a linear accelerator in Enfield is essential for NRRON to provide radiation therapy services at this location. NRRON meets an existing need for radiation therapy in the community and will continue to meet that need with the new linear accelerator. This proposal does not introduce any unnecessary or duplicative costs to the health care system because the acquisition will replace an existing linear accelerator that has aged beyond its useful life. While there is some incremental cost to NRRON as a result of acquiring the new linear accelerator along with a CT simulator (see Exhibit 11 for Financial Worksheet A), the Applicant projects a positive margin beginning in Year 1 if the CON is approved. Based on this projected performance, the acquisition of a replacement linear accelerator not only helps the financial strength of the state’s health system, but is financially feasible for the applicant to implement.

(9) Connecticut Department of Public Health. 2014. Statewide Health Care Facilities and Services Plan – October 2012. Hartford, CT: Connecticut Department of Public Health. (Table 3, Page 204).

(10) Connecticut Department of Public Health. 2014. Statewide Health Care Facilities and Services Plan – October 2012. Hartford, CT: Connecticut Department of Public Health. (Table 28, Page 316).

Note: The Harold Regional Cancer Center in Waterbury, CT is the third cancer facility licensed as an outpatient clinic.

15. Provide a final version of all capital expenditure/costs for the proposal using [OHCA Table 3](#).

Response:

Please see [OHCA Table 3](#) for the capital expenditures/costs associated with the proposal.

Additionally, please refer to the following exhibits as listed below:

Exhibit 7

- 7a – Description of Proposed Building Work
- 7b – Existing and Proposed Floor Plans
- 7c – Renovation Schedule

Exhibit 8

- 8a – Vendor Quote
- 8b – Depreciation Schedule
- 8c – Amortization Schedule (including Useful Life and Anticipated Residual Value)

16. List all funding or financing sources for the proposal and the dollar amount of each. Provide applicable details such as interest rate; term; monthly payment; pledges and funds received to date; letter of interest or approval from a lending institution.

Response:

Funding for the proposal will be provided through a capital lease with the equipment vendor's financing agency, Elekta Capital.

Amount: \$2,135,627*

Interest Rate: 4.249%

Term: 84 months

Monthly Payment: \$30,832**

* *The lease amount includes the expense associated with the linear accelerator (minus a \$450,000 deposit that has already been submitted towards the \$1.5 million total cost), CT simulator and tenant improvements.*

** *Monthly rate except months one to three (\$0) and months four to six (\$20,000).*

Please see **Exhibit 9** for a copy of the Lease Proposal from Elekta Capital.

17. Include as an attachment:

- a. audited financial statements for the most recently completed fiscal year. If audited financial statements do not exist, provide other financial documentation (e.g., unaudited balance sheet, statement of operations, tax return, or other set of books.). Connecticut hospitals required to submit annual audited financial statements may reference that filing, if current;

- b. a complete **Financial Worksheet A (not-for-profit entity) or B (for-profit entity)**, available on OHCA's website under "[OHCA Forms](#)," providing a summary of revenue, expense, and volume statistics, "without the CON project," "incremental to the CON project," and "with the CON project." Note: the actual results reported in the Financial Worksheet must match the audited financial statement that was submitted or referenced.

Response:

Please refer to the following exhibits as listed below:

Exhibit 10 – Audited Financial Statements (FY2014)

Exhibit 11 – Financial Worksheet A

18. Complete [OHCA Table 4](#) utilizing the information reported in the attached Financial Worksheet.

Response:

Please see [OHCA Table 4](#) for the projected incremental revenues and expenses as reported in Financial Worksheet A (Exhibit 11).

19. Explain all assumptions used in developing the financial projections reported in the Financial Worksheet.

Response:

The assumptions used in developing the financial projections reported in Financial Worksheet A are listed below:

Project Commencement

- NRRON is currently providing radiation therapy services in Enfield and will continue to provide these services through the end of FY2015 pending a decision from OHCA, or until the linear accelerator malfunctions to a point it cannot be repaired.
- If the CON to replace the existing linear accelerator is denied the Applicant will make preparations to transition scheduled patients to its Manchester facility on a permanent basis and plan to close the Enfield facility by the end of the current calendar year (by December 31, 2015).
- All assumptions related to this application will utilize December 31, 2015 as the operational date of the new linear accelerator with the CON and December 31, 2015 as the termination of radiation therapy services in Enfield without the CON.

Volume Statistics

- FY2015 volumes were annualized using the average visit volume per month based on actual visits by location from October 1, 2014 through April 30, 2015.
- If the CON is approved, patients that would have been scheduled in Enfield in the first quarter of FY2016 will be accommodated in Manchester while the linear accelerator in Enfield is replaced and the new CT simulator is installed.
- If the CON is denied, the Enfield site will continue to provide radiation therapy services through the end of calendar year 2015 before transitioning patients to other area providers, including the Manchester site.
- If the CON is denied, the Manchester site will accommodate one third of the patients that would have previously been treated at the Enfield location. In FY2016, Manchester will accommodate one third of the anticipated Enfield visits for nine months and one third of the anticipated Enfield visits for the full year for the remaining projection years.
- Visit volume for FY2016, FY2017, FY2018 and FY2019 will remain constant at the FY2015 annualized levels if the CON is approved.
- Radiation therapy volumes at NRRON's Enfield site will be equal to zero beginning in FY2016 if the CON is denied.
- CT simulation volume for both sites was projected based on the rate of CT simulations per radiation therapy visit experienced at the Manchester site in FY2015.
- CT simulation volume for NRRON's Enfield site will be equal to zero without the CON.

Full-Time Equivalents (FTEs)

- The number of FTEs at the Enfield and Manchester locations will remain constant at the FY2014 and FY2015 levels if the CON is approved.
- If the CON is denied, the total FTEs for NRRON will decrease by the number of FTEs assigned to the Enfield site.
- The existing staff at the Manchester site can accommodate the projected increase in volume without the addition of more FTEs.

Expenses

- The average salary expense per FTE experienced in FY2015 was used to project the salary expense in FY2016, FY2017, FY2018 and FY2019.
- Fringe benefit expense will remain constant at 5% of the salaries and wages expense as experienced in FY2015, with or without the CON.

- The average expense per visit experienced in FY2015 was used to project expenses associated with supplies, drugs and other operating expenses in FY2016, FY2017, FY2018 and FY2019.
- Other operating expense includes service contracts, utilities, marketing and equipment repairs.
- Despite the U.S. Department of Labor's current Consumer Price Index for the current twelve month period, operating expenses were projected to increase 1.5% each year with or without the CON.⁽¹¹⁾
- Expenses specific to the Enfield site will be zero beginning in January of FY2016 if the CON to replace the existing linear accelerator is denied.

Revenues

- The average charge per visit experienced in FY2015 was used to project the charges associated with visits in FY2016, FY2017, FY2018 and FY2019.
- Reimbursement per visit will increase 3% each year through FY2019 as a result of improved managed care contracting.
- The provision for bad debt for FY2014 was 2.4% and it was assumed that this would remain constant through FY2019.

20. Explain any projected incremental losses from operations resulting from the implementation of the CON proposal.

Response:

The proposal results in an incremental loss from operations due to the new depreciation and interest expenses that are incurred through the replacement of the existing linear accelerator and acquisition of the new CT simulator. Since NRRON is currently providing radiation therapy services at the Enfield location, there are no incremental gains in radiation therapy visits or associated revenue to balance out the additional expense to be incurred. The only new volume will be for CT simulations, and without authorization of this proposal to replace the existing linear accelerator, the Applicant will not proceed with its plans to provide CT simulation services in Enfield.

The cost associated with replacement of the linear accelerator is a necessary expense to ensure that NRRON is able to continue providing radiation therapy services in Enfield. Despite the incremental loss that would result from implementing the proposal, NRRON is still able to achieve a positive margin each year with approval of the CON, making this proposal financial feasible for the Applicant.

(11) The United States Department of Labor Bureau of Labor Statistics has reported a 0.2% increase in the Consumer Price Index for the last 12 months ending in March, 2015.

Source: <http://www.bls.gov/news.release/cpi.nr0.htm>

21. Indicate the minimum number of units required to show an incremental gain from operations for each projected fiscal year.

Response:

The minimum number of units required to show an incremental gain from operations for each fiscal year is summarized below:

Service Type	FY 2016	FY 2017	FY 2018	FY 2019
Radiation Therapy – Enfield	3,034	4,198	4,136	4,073
Radiation Therapy – Manchester	8,849	8,131	8,013	7,891
CT Simulation – Enfield	100	207	204	200
CT Simulation - Manchester	436	400	394	388
Total Visit Volume	12,419	12,936	12,747	12,552

Please see Exhibit 12 for the Break Even Model used to determine the minimum visit volume required to show an incremental gain from operations based on the statistics presented in Financial Worksheet A.

Utilization

§ “The applicant's past and proposed provision of health care services to relevant patient populations and payer mix, including, but not limited to, access to services by Medicaid recipients and indigent persons;”
(Conn.Gen.Stat. § 19a-639(a)(6))

22. Complete [OHCA Table 5](#) and [OHCA Table 6](#) for the past three fiscal years (“FY”), current fiscal year (“CFY”) and first three projected FYs of the proposal, for each of the Applicant’s existing and/or proposed services. Report the units by service, service type or service level.

Response:

Please see [OHCA Table 5](#) for the historical utilization of services at NRRON’s Manchester and Enfield locations and [OHCA Table 6](#) for the projected utilization of services.

23. Provide a detailed explanation of all assumptions used in the derivation/ calculation of the projected service volume; explain any increases and/or decreases in volume reported in OHCA Tables 5 and 6.

Response:

Derivation of Projected Volume:

The average monthly volume of radiation therapy visits experienced at each site for the first seven months of FY 2015 was used to project the visit volume expected for the full fiscal year. Assuming the same average monthly visit volume is experienced for twelve months, the projected visit volume for the Enfield site for FY 2015 would be 4,226 and the projected visit volume for the Manchester site for FY2015 would be 8,187.

This visit volume specific to each site is contingent upon the availability of a linear accelerator at the Enfield location. The Applicant plans to replace the existing linear accelerator at this location beginning October 1, 2015 (pending OHCA approval) and will be unable to provide radiation therapy services for approximately three months while the new linear accelerator is installed. Therefore, the projection for Enfield presented in **Table 6** represents the projected volume expected for only nine months of fiscal year 2016 (January through September). The volume at Enfield for the three months the linear accelerator is out-of-service, would be zero. The patients that would have received radiation therapy services at the Enfield location will be accommodated at the Manchester location during the three-month installation period.

The Applicant expects the installation of the replacement linear accelerator at the Enfield site to take approximately three months. The new linear accelerator will be operational by December 31, 2015. The total visit volume projections for FY2016, FY2017, FY2018 and FY2019 assume that the visit volume that would have been experienced at each site during the full twelve months of FY2015 will remain constant.

Explanation for Volume Increases and/or Decreases:

An overall decrease in radiation therapy visit volume appears in **Table 5** beginning in FY2013. This decrease was related to a change in the standard of care for breast cancer that resulted in a transition from whole breast radiation therapy delivered over six weeks, to hypofractionated whole breast radiation therapy delivered over three and a half weeks. With radiation therapy delivered over six weeks, a smaller amount of radiation is given each visit for approximately thirty visits. With hypofractionated radiation therapy, a larger, more targeted dose of radiation can be given which reduces the average number of treatment visits to approximately sixteen per patient. The impact of this care delivery change has been declining each year and is expected to stabilize by the end of FY2015.

	Actual Volume			Annualized	Projected			
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2018
Total Radiation Therapy Visits	14,242	12,895	12,541	12,413	12,413	12,413	12,413	12,413
Year Over Year Percent Change		-9%	-3%	-1%	0%	0%	0%	0%

The decrease at the Enfield site and the increase at the Manchester site projected for FY2016 reflect the three month time period when the Applicant expects the linear accelerator in Enfield to be out-of-service for replacement so patients normally seen at the Enfield site for radiation therapy services will be accommodated at the Manchester site.

24. Provide the current and projected patient population mix (number and percentage of patients by payer) for the proposal using [OHCA Table 7](#) and provide all assumptions. **Note: payer mix should be calculated from patient volumes, not patient revenues.**

Response:

The Applicant does not anticipate any changes in the patient population mix at its Enfield site as result of replacing the existing linear accelerator. Please see [OHCA Table 7](#) for the current patient population mix observed in FY2015 (through April 30th) and the projected patient population mix for the first three years of the proposal, assuming that the population mix remains at the FY2015 distribution.

§ "Whether the applicant has satisfactorily identified the population to be served by the proposed project and satisfactorily demonstrated that the identified population has a need for the proposed services;"
(Conn.Gen.Stat. § 19a-639(a)(7))

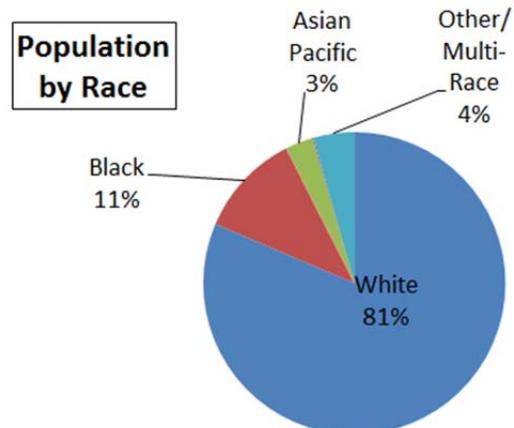
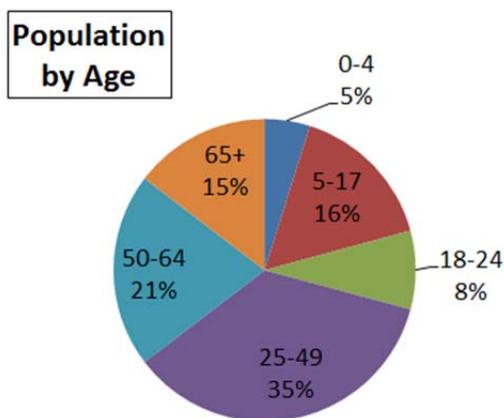
25. Describe the population (as identified in question 8(a)) by gender, age groups or persons with a specific condition or disorder and provide evidence (i.e., incidence, prevalence or other demographic data) that demonstrates a need for the proposed service or proposal. **Please note: if population estimates or other demographic data are submitted, provide only publicly available and verifiable information (e.g., U.S. Census Bureau, Department of Public Health, CT State Data Center) and document the source.**

Response:

As described in the response to Question 8, the population to be served by this proposal includes individuals from Enfield and the surrounding communities that have been diagnosed with cancer. According to the Connecticut Economic Resource Center, Inc. (CERC) there are 153,166 people living in the towns predominately served by NRRON's Enfield location.¹² Enfield is the most populated of these towns followed by Windsor. Enfield is also one of the most densely populated of the service area towns (only Windsor Locks is more densely populated). There are slightly more males (51%) than females that live in the service area and 15% of the service area population is age 65 or older.

The following summarizes the key demographics for the population served by NRRON at its Enfield location:

Town	Total Population			Pop per Sq. Mile	% Female
	2012	2020	% Change		
East Windsor	11,196	12,543	12%	426	54%
Ellington	15,549	18,020	16%	457	50%
Enfield	44,699	42,304	-5%	1,337	48%
Somers	11,451	10,400	-9%	404	42%
Stafford	12,058	12,581	4%	208	52%
Suffield	15,692	15,767	0%	372	44%
Union	954	958	0%	33	53%
Windsor	29,067	29,701	2%	981	52%
Windsor Locks	12,500	12,997	4%	1,384	53%
Service Area Total:	153,166	155,271	1%		49%



(12) 2012 and 2020 population estimates from Connecticut Economic Resource Center, Inc. (CERC) - <http://www.cerc.com/townprofiles/default.asp>

According to the National Cancer Institute (NCI), there are approximately 455 cases of cancer diagnosed per 100,000 people each year.⁽¹³⁾ NRRON is currently providing radiation therapy services to this population and has provided these services at its present location in Enfield since 1998. Based on the NCI statistics for all cancer types, there are approximately 700 patients diagnosed with cancer each year and approximately 6,800 patients living with cancer in the Enfield site's service area.

National Cancer Institute SEER Program Stats:

- Annual incidence rate of cancer cases all sites: 455 per 100,000 people
- Prevalence of Cancer in the United States (2012): 13,776,251
- United States Population (2012): 309,138,711⁽¹⁴⁾
- National prevalence rate of cancer all sites (calculated): 4,456 per 100,000 people

Incidence and Prevalence of Cancer in the Enfield Site's Service Area:

- Service Area Population: 153,166
- Annual incidence of cancer all cases (based on national incidence rate): 697
- Prevalence of people living with cancer (based on national prevalence rate): 6,826

The existing linear accelerator is beyond its useful life and the continued provision of services at this location is dependent upon NRRON's ability to replace the existing unit. Given the demographic characteristics of the population served by NRRON's Enfield location and the number of new cancer cases diagnosed each year in the service area, the continued availability of radiation therapy services in Enfield will be critical to maintaining timely, appropriate and convenient access to care for this patient population.

26. Using [OHCA Table 8](#), provide a breakdown of utilization by town for the most recently completed FY. Utilization may be reported as number of persons, visits, scans or other unit appropriate for the information being reported.

Response:

Please see [OHCA Table 8](#) for the distribution of visit utilization by patient town of origin for FY2014.

Note: NRRON began using a new billing company in January 2014 and is unable to access discrete statistics related to patient accounts prior to this date. The number of distinct patients by town and site of service was pulled for January 2014 through April 2015, and the site-specific percent distribution of patients by town was determined. Visit utilization by town for FY2014 was then calculated by applying the percent distribution by town to the known FY2014 visit volume statistic for each site.

(13) National Cancer Institute (NCI): Surveillance, Epidemiology, and End Results (SEER) Program. SEER Stat Fact Sheets: All Cancer Sites. <http://seer.cancer.gov/statfacts/html/all.html>

(14) 2012 population estimate for the United States.
Source: U.S. Census Bureau, 2008-2012 American Community Survey.
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_B01003&prodType=table

§ "The utilization of existing health care facilities and health care services in the service area of the applicant;" (Conn.Gen.Stat. § 19a-639(a)(8))

27. Using [OHCA Table 9](#), identify all existing providers in the service area and, as available, list the services provided, population served, facility ID (see table footnote), address, hours/days of operation and current utilization of the facility. Include providers in the towns served or proposed to be served by the Applicant, as well as providers in towns contiguous to the service area.

Response:

Please see [OHCA Table 9](#) for the existing providers of radiation oncology service in the Enfield site's service area and in the towns contiguous to the service area.

Please note there are no existing providers of radiation therapy services within the Enfield site's defined service area. Hartford Hospital and Saint Francis Hospital provide radiation therapy services on their hospital campuses in Hartford which is immediately adjacent to the Enfield site's service area. NRRON's Manchester site is also located outside the Enfield site's service area.

28. Describe the effect of the proposal on these existing providers.

Response:

Once the new linear accelerator is operational, the Applicant does not expect any impact on the existing providers located in towns adjacent to the Enfield site's service area. NRRON currently provides radiation therapy services to a defined patient population in Enfield and replacement of the existing linear accelerator at that location will allow the continuation of those services to the same patient population.

NRRON's Manchester site will experience a temporary increase in radiation therapy treatments to accommodate Enfield's patients during the renovation period and will return to expected levels once the accommodated patients can receive their treatments on the new linear accelerator in Enfield.

29. Describe the existing referral patterns in the area served by the proposal.

Response:

Medical and surgical oncologists from Enfield and Hartford are responsible for the majority of patient referrals for radiation therapy services at NRRON's Enfield site. More than half of the patients receiving radiation therapy services utilizing the existing linear accelerator in Enfield were referred by physicians located in Enfield.

The following is a summary of the existing referral pattern for radiation therapy services at NRRON's Enfield site by physician specialty and location (*Source: Internal report showing number of unique patient referrals for March 2014 through February 2015*):

<u>Specialty</u>		<u>Physician Location</u>	
Oncology – Medical	43%	Enfield	54%
Oncology – Surgical	18%	Hartford *	24%
Urology	13%	South Windsor	4%
General Surgery	11%	Manchester	4%
Other	15%	Other	14%

* This statistic may include Hartford HealthCare Medical Group or Saint Francis Medical Group physicians that rotate through offices located in Enfield but whose primary office location was identified on the affiliated entity's website as Hartford.

30. Explain how current referral patterns will be affected by the proposal.

Response:

The Applicant does not expect there to be any impact on the current referral patterns as a result of replacing the existing linear accelerator at its Enfield location. In what has become a standard of care, patients requiring radiation therapy services often receive these services on the same day that they are scheduled to see their physician. The close proximity of NRRON's Enfield site to the physicians in the area has helped to develop the referral patterns for radiation therapy at this location. These referral patterns are only impacted if the linear accelerator cannot be replaced and NRRON is forced to terminate services at this location, requiring physicians to identify alternative sites for patients to receive their radiation therapy. Decreasing availability of radiation therapy services in the area could result in a delay in when patients are able to start treatments or even impact the patients' decision to pursue radiation treatments.

§ "Whether the applicant has satisfactorily demonstrated that the proposed project shall not result in an unnecessary duplication of existing or approved health care services or facilities;" (Conn.Gen.Stat. § 19a-639(a)(9))

31. If applicable, explain why approval of the proposal will not result in an unnecessary duplication of services.

Response:

Approval of the proposal will not result in an unnecessary duplication of services. The linear accelerator to be acquired will replace an existing linear accelerator that is currently being utilized for radiation therapy services in Enfield. All of the radiation therapy treatment volume currently supported by the existing linear accelerator will be transitioned to the replacement unit and the existing unit will be decommissioned.

§ “Whether the applicant has satisfactorily demonstrated that the proposal will not negatively impact the diversity of health care providers and patient choice in the geographic region. . .” (Conn.Gen.Stat. § 19a-639(a)(11))

32. How will the proposal impact the diversity of health care providers and patient choice or reduce competition in the geographic region?

Response:

Authorization of the proposal preserves the diversity of health care providers and patient choice for radiation therapy services in the geographic region. Currently, patients can choose to receive radiation therapy treatments from a community-based provider with two convenient locations or a hospital-based provider outside of the service area. Without OHCA’s approval to replace the existing linear accelerator, NRRON will be forced to terminate radiation oncology services at the Enfield location when the existing linear accelerator can no longer be repaired, leaving the Manchester site as the only provider of community-based radiation therapy services in the region. The termination of radiation therapy services in Enfield would result in a reduction of competition and patient choice for radiation therapy services in the overall geographic region, creating a potential barrier for patients to access critical oncology services in a timely manner and at a cost effective rate.

Tables

**TABLE 1
APPLICANT'S SERVICES AND SERVICE LOCATIONS**

Service	Street Address, Town	Population Served*	Days/Hours of Operation	New Service or Proposed Termination
Radiation Therapy CT Simulations	100 Haynes Street Manchester, CT 06040	326,182	Monday – Friday 7:00am – 3:30pm	No changes proposed
Radiation Therapy	142 Hazard Avenue Enfield, CT 06082	153,166	Monday – Friday 7:00am – 3:30pm	Replacement of existing linear accelerator to continue radiation therapy services

* Based on the geographic population of the site-specific service area towns. Population statistics from Connecticut Economic Resource Center, Inc. 2012 Town Profiles (<http://www.cerc.com/TownProfiles/default.asp>)

[\[back to question\]](#)

**TABLE 2
SERVICE AREA TOWNS**

List the official name of town* and provide the reason for inclusion.

Town	Reason for Inclusion*
East Windsor	Town of origin for 6% of patients at Enfield location
Ellington	Town of origin for 3% of patients at Enfield location
Enfield	Town of origin for 37% of patients at Enfield location
Somers	Town of origin for 8% of patients at Enfield location
Stafford/Union	Town of origin for 9% of patients at Enfield location
Suffield	Town of origin for 6% of patients at Enfield location
Windsor	Town of origin for 6% of patients at Enfield location
Windsor Locks	Town of origin for 9% of patients at Enfield location

* Service area definition based on patient origin data from January 2014 through April 2015.

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**TABLE 3
TOTAL PROPOSAL CAPITAL EXPENDITURE**

Purchase/Lease	Cost
Equipment (Medical, Non-medical Imaging)	\$0
Land/Building Purchase*	\$0
Construction/Renovation**	\$220,000
Other (specify)	\$0
Total Capital Expenditure (TCE)	\$220,000
Lease (Medical, Non-medical Imaging)***	\$1,500,000
Total Capital Cost (TCO)	\$1,720,000
Total Project Cost (TCE+TCO)	\$1,720,000

* If the proposal involves a land/building purchase, attach a real estate property appraisal including the amount; the useful life of the building; and a schedule of depreciation.

** If the proposal involves construction/renovations, attach a description of the proposed building work, including the gross square feet; existing and proposed floor plans; commencement date for the construction/ renovation; completion date of the construction/renovation; and commencement of operations date.
(See Exhibit 7a, 7b and 7c for the requested information)

*** If the proposal involves a capital or operating equipment lease and/or purchase, attach a vendor quote or invoice; schedule of depreciation; useful life of the equipment; and anticipated residual value at the end of the lease or loan term.
(See Exhibit 8a and 8b for the requested information)

[\[back to question\]](#)

**TABLE 4
PROJECTED INCREMENTAL REVENUES AND EXPENSES**

	FY 2016	FY 2017	FY 2018	FY 2019
Revenue from Operations	\$1,116,790	\$1,512,673	\$1,537,373	\$1,562,815
Total Operating Expenses	\$1,208,514	\$1,581,191	\$1,588,470	\$1,595,499
Gain/Loss from Operations	(\$91,724)	(\$68,518)	(\$51,096)	(\$32,684)

* Fill in years using those reported in the Financial Worksheet attached.

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**TABLE 5
HISTORICAL UTILIZATION BY SERVICE**

Service	Actual Volume (Last 3 Completed FYs)			CFY Volume*
	FY 2012	FY 2013	FY 2014	FY 2015 (10/01 thru 04/30)
Radiation Therapy Visits				
Enfield Site	3,511	3,636	3,437	2,465
Manchester Site	10,731	9,259	9,104	4,776
Total Radiation Therapy Visits	14,242	12,895	12,541	7,241
CT Simulations				
Enfield Site	0	0	0	0
Manchester Site	490	477	439	235
Total CT Simulations	490	477	439	235

* Actual volume from 10/1/2014 through 04/30/2015 provided. See Table 6 for the annualized volume for FY2015.

[\[back to question\]](#)

**TABLE 6
PROJECTED UTILIZATION BY SERVICE**

Service	Projected Volume (with replacement of linear accelerator)				
	FY 2015*	FY 2016**	FY 2017	FY 2018	FY 2019
Radiation Therapy Visits					
Enfield Site	4,226	3,170	4,226	4,226	4,226
Manchester Site	8,187	9,244	8,187	8,187	8,187
Total Radiation Therapy Visits	12,413	12,413	12,413	12,413	12,413
CT Simulations					
Enfield Site***	0	156	208	208	208
Manchester Site	403	403	403	403	403
Total CT Simulations	403	559	611	611	611

* FY2015 Radiation Therapy Total Visit Volume was annualized based on the average monthly volume experienced from 10/1/2014 through 04/30/2015. Volume projections for Radiation Therapy visits during subsequent years will remain flat at the annualized projections for FY2015.

** FY2016 radiation therapy visits by site assume that the Enfield site will be unavailable for three months of the fiscal year while the replacement linear accelerator is installed. The patients that would have received treatments in Enfield will be accommodated in Manchester.

***CT simulation volume for Enfield was calculated using the CT Simulation to Radiation Therapy Visits ratio experienced at the Manchester site. FY2016 CT simulation volume at Enfield assumes the CT simulator will be operational by January 1, 2016 (operational nine months in the fiscal year).

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**TABLE 7
 APPLICANT'S CURRENT & PROJECTED PAYER MIX**

Payer	Current FY 2015**		Projected							
			FY 2015		FY 2016		FY 2017		FY 2018	
	Patients	%	Patients	%	Patients	%	Patients	%	Patients	%
Medicare*	42	53%	42	53%	42	53%	42	53%	42	53%
Medicaid*	4	5%	4	5%	4	5%	4	5%	4	5%
CHAMPUS & TriCare	1	1%	1	1%	1	1%	1	1%	1	1%
Total Government	47	59%	47	59%	47	59%	47	59%	47	59%
Commercial Insurers	33	41%	33	41%	33	41%	33	41%	33	41%
Uninsured	0	0%	0	0%	0	0%	0	0%	0	0%
Workers Compensation	0	0%	0	0%	0	0%	0	0%	0	0%
Total Non-Government	33	41%	33	41%	33	41%	33	41%	33	41%
Total Payer Mix	80	100%	80	100%	80	100%	80	100%	80	100%

* Includes managed care activity.

** Based on payer mix observed for Enfield site from October 2014 through April 2015.

[\[back to question\]](#)

**TABLE 8
UTILIZATION BY TOWN**

Enfield Site		Manchester Site	
Town	Utilization FY 2014	Town	Utilization FY 2014
Enfield, CT	1,274	Manchester, CT	1,785
Stafford/Union, CT	303	Vernon, CT	1,177
Windsor Locks, CT	303	South Windsor, CT	687
Somers, CT	283	East Hartford, CT	647
Suffield, CT	222	Coventry, CT	510
East Windsor, CT	202	Tolland, CT	471
Windsor, CT	202	Ellington, CT	471
Ellington, CT	101	Mansfield, CT	353
Vernon, CT	61	Windham, CT	334
South Windsor, CT	61	Glastonbury, CT	255
East Granby, CT	40	Hebron, CT	255
Tolland, CT	40	East Windsor, CT	235
Granville/Tolland, MA	40	Ashford, CT	196
Granby, CT	40	Columbia, CT	196
Thompson, CT	20	Bolton, CT	196
Willington, CT	20	Andover, CT	177
Springfield, MA	20	Willington, CT	177
Hartland, CT	20	Stafford/Union, CT	118
Chandler, AZ	20	Windsor, CT	98
Hampden, MA	20	Brooklyn, CT	59
Glastonbury, CT	20	Somers, CT	59
Southwick, MA	20	Lebanon, CT	59
Southampton, MA	20	Windsor Locks, CT	59
East Long Meadow, MA	20	Marlborough, CT	39
Bridgewater, CT	20	Enfield, CT	39
Longmeadow, MA	20	Rocky Hill, CT	39
Simsbury, CT	20	Hartford, CT	39
FY2014 Total Visits:	3,437	Suffield, CT	39
		Granby, CT	39
		Portland, CT	39
		Colchester, CT	20
		East Haddam, CT	20
		Hampton, CT	20
		New Canaan, CT	20
		Port Saint Lucie, FL	20
		Plainville, CT	20
		Canton, CT	20
		Pomfret, CT	20
		Chaplin, CT	20
		Middletown, CT	20
		Putnam, CT	20
		Millville, MA	20
		Naples, FL	20
		FY2014 Total Visits:	9,104

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Version 04/01/2015

**TABLE 9
SERVICES AND SERVICE LOCATIONS OF EXISTING PROVIDERS**

Service or Program Name	Population Served (2012)	Facility ID (Medicare)	Facility's Provider Name, Street Address and Town	Hours/Days of Operation	Current Utilization
Community CancerCare	326,182 ^(a)	470000001	Community CancerCare John A DeQuattro Cancer Center 100 Haynes Street Manchester, CT 06040	Monday – Friday 7:00am – 3:30pm	FY14 9,104
Hartford Hospital	1,416,334 ^(b)	070025	Hartford Hospital 80 Seymour Street Hartford, CT 06102	Monday – Friday 7:30am – 4:30pm	16,491 ^(d)
Saint Francis Mount Sinai Regional Cancer Center	1,256,575 ^(c)	070002	Saint Francis Care 114 Woodland Street Hartford, CT 06105	Monday – Friday 8:00am – 5:00pm	17,418 ^(e)

(a) Population statistics provided by CERC for the service area towns specific to NRRON's Manchester site.

(b) Population statistics provided by CERC for the service area towns identified by Hartford Hospitals in its request to acquire a new linear accelerator in 2005 (DN 05-30550).

(c) Population statistics provided by CERC for the service area towns identified by Saint Francis in its request to acquire a new MRI in 2012 (DN 12-31785).

(d) Radiation therapy visits at Hartford Hospital campus (does not include volume from Avon location) provided by Hartford Healthcare.

(e) FY2014 utilization statistics for Saint Francis not available. Table shows total linear accelerator procedures for Saint Francis for FY2013 as reported in Report 450 of OHCA's 12 Month Annual Filing for 2013.

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Supplemental CON Application Form
Acquisition of Equipment
Conn. Gen. Stat. § 19a-638(a)(10),(11)

Applicant: Northeast Regional Radiation Oncology Network, Inc.
(NRRON)

Project Name: Replacement of Existing Non-Hospital-Based Linear
Accelerator in Enfield

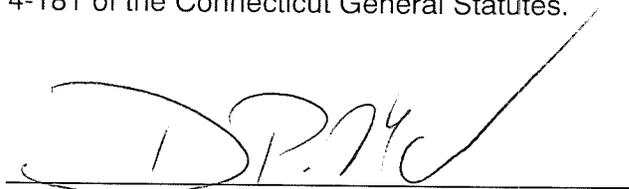
Affidavit

Applicant: Northeast Regional Radiation Oncology Network, Inc. (NRRON)

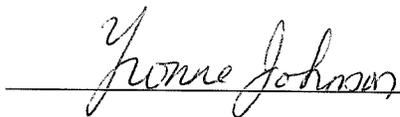
Project Title: Replacement of an Existing Non-Hospital-Based Linear Accelerator in Enfield

I, Dennis P. McConville, Chairman
(Name) (Position – CEO or CFO)

of Northeast Regional Radiation Oncology Network, Inc. being duly sworn, depose and state that the (Facility Name) said facility complies with the appropriate and applicable criteria as set forth in the Sections 19a-630, 19a-637, 19a-638, 19a-639, 19a-486 and/or 4-181 of the Connecticut General Statutes.


Signature 5/26/15
Date

Subscribed and sworn to before me on 5-26-15



Notary Public/Commissioner of Superior Court

Yvonne Johnson, Notary Public
My Commission Expires Jan. 31, 2017

My commission expires: 1-31-17

1. Project Description: Acquisition of Equipment

- a. Provide the manufacturer, model and number of slices/tesla strength of the proposed scanner (as appropriate to each piece of equipment).

Response:

The Applicant is proposing to purchase an Elekta Infinity Linear Accelerator (“Linear Accelerator”) to replace its existing Varion 600C Linear Accelerator which was acquired in 1998. The proposed Linear Accelerator will have the capability to operate at 6MeV or up to 18MeV.

- b. List each of the Applicant’s sites and the imaging modalities currently offered by location.

Response:

100 Haynes Street, Manchester, CT 06040

- Radiation oncology (through the use of two linear accelerators)
- CT simulation

142 Hazard Avenue, Enfield, CT 06082

- Radiation oncology (through the use of one linear accelerator)
- CT simulation (availability of service at this location pending)

On January 2, 2013 NRRON received CON authorization to acquire a CT simulator for its Enfield location (DN 12-31778-CON), and subsequently received authorization to extend the CON expiration date to January 2, 2016 (DN 14-31778-CON). Installation of the authorized CT simulator is planned to coincide with the installation of the replacement linear accelerator, pending OHCA’s authorization of this proposal.

2. Clear Public Need

- a. Complete **Table A** for each piece of equipment of the type proposed currently operated by the Applicant at each of the Applicant’s sites.

TABLE A
EXISTING EQUIPMENT OPERATED BY THE APPLICANT

Provider Name/Address	Service	Days/Hours of Operation	Utilization (TREATMENTS) <i>May 2014 – Apr 2015</i>
Community CancerCare 100 Haynes Street Manchester, CT 06040	Linear Accelerator (6MV-10MV photons)	Monday – Friday 7:00am – 3:30pm	8,181
	Linear Accelerator (6MV-10MV photons)	Monday – Friday 7:00am – 3:30pm	
Community CancerCare 142 Hazard Avenue Enfield, CT 06082	Linear Accelerator (6MV photons)	Monday – Friday 7:00am – 3:30pm	3,925

- b. Provide the rationale for locating the proposed equipment at the proposed site;

Response:

The Applicant is planning to replace an existing linear accelerator currently located at the proposed Enfield site. Patients have had the ability to receive their radiation therapy services in Enfield since 1998. The existing linear accelerator is now past its useful life expectancy, and there have been on-going age-related problems including increased frequency of downtime, lack of precision measurement, technological limitations and a high cost for repairs and replacement parts. Without OHCA’s approval to replace the existing linear accelerator, NRRON will be forced to terminate radiation therapy services when the existing linear accelerator can no longer be repaired. Authorization for NRRON to replace its existing linear accelerator in Enfield will ensure that the oncology patients in the Enfield area will continue to have access to high quality radiation therapy services.

3. Actual and Projected Volume

- a. Complete the following tables for the past three fiscal years (“FY”), current fiscal year (“CFY”), and first three projected FYs of the proposal, for each of the Applicant’s existing and proposed pieces of equipment (of the type proposed, at the proposed location only). In **Table B**, report the units of service by piece of equipment, and in **Table C**, report the units of service by type of exam (e.g. if specializing in orthopedic, neurosurgery, or if there are scans that can be performed on the proposed scanner that the Applicant is unable to perform on its existing scanners).

Response:

Please see **Table B** and **Table C** for the historic, current and projected volume by equipment and by treatment.

TABLE B
HISTORICAL, CURRENT, AND PROJECTED VOLUME, BY EQUIPMENT UNIT

Equipment	Actual Volume (Last 3 Completed FYs)			CFY Volume*	Projected Volume (Partial Year plus First 3 Full Operational FYs)				
	FY 2012	FY 2013	FY 2014	FY 2015 (10/01 – 04/30)	FY 2015	FY 2016	FY 2017	FY 2018	FY2019
Varion 600C	3,511	3,636	3,437	2,465	4,226	0	0	0	0
Elekta Infinity	0	0	0	0	0	3,170	4,226	4,226	4,226
Total	3,511	3,636	3,437	2,465	4,226	3,170	4,226	4,226	4,226

Note: The Applicant’s Fiscal Year runs from October 1 through September 30.

TABLE C
HISTORICAL, CURRENT, AND PROJECTED VOLUME, BY TYPE OF SCAN/EXAM

Scan/Exam	Actual Volume (Last 3 Completed FYs)			CFY Volume*	Projected Volume (Partial Year plus First 3 Full Operational FYs)				
	FY 2012	FY 2013	FY 2014	FY 2015 (10/01 – 04/30)	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Radiation Therapy	3,511	3,636	3,437	2,465	4,226	3,170	4,226	4,226	4,226

Note: The Applicant’s Fiscal Year runs from October 1 through September 30.

- b. Provide a detailed explanation of all assumptions used in the derivation/ calculation of the projected volume by scanner and scan type.

Response:

The average monthly volume of radiation therapy visits experienced at the Enfield site for the first seven months of FY 2015 was used to project the visit volume expected for the full fiscal year. 2,465 visits from October 1 to April 30 averages to approximately 352 visits per month. Assuming the same average monthly visit volume is experienced for twelve months, the projected visit volume for the Enfield site for FY 2015 would be 4,226.

This visit volume is contingent upon the availability of a linear accelerator at the Enfield location. The Applicant plans to replace the existing linear accelerator at this location beginning October 1 2015 (pending OHCA approval) and will be unable to provide radiation therapy services for approximately three months while new linear accelerator is installed and commissioned. The new linear accelerator will be operational by December 31, 2015.

Based on the planned operational date, the FY2016 projection presented in **Table B** and **Table C** represents the volume expected at Enfield for nine months (January through September). The patients that would have received radiation therapy services at the Enfield location from October through December (FY2016) will be accommodated at the Manchester location during the three-month renovation period.

As stated above, the Applicant expects the linear accelerator to be out-of-service for approximately three months while the old unit is removed and the new linear accelerator is put in its place. The visit volume projections for FY2017, FY2018 and FY2019 assume that the visit volume that would have been experienced during the full twelve months of FY2015 will remain constant.

- c. Explain any increases and/or decreases in the volume reported in the tables above.

Response:

A decrease in visit volume was observed beginning in FY2013. This decrease was related to a change in the standard of care for breast cancer that resulted in a transition from whole breast radiation therapy delivered over six weeks, to hypofractionated whole breast radiation therapy delivered over three and a half weeks. With radiation therapy delivered over six weeks, a smaller amount of radiation is given each visit for approximately thirty visits. With hypofractionated radiation therapy, a larger, more targeted dose of radiation can be given which reduces the average number of treatment visits to approximately sixteen per patient.

The decrease projected for FY2016 reflects the three month time period when the Applicant expects the linear accelerator will be out of service to accommodate replacement of the linear accelerator.

- d. Provide a breakdown, by town, of the volumes provided in **Table D** for the most recently completed FY.

Response:

As stated in the response to Question 26 of the Main Application, NRRON began using a new billing company in January 2014 and is unable to access discrete statistics related to patient accounts prior to this date. The number of distinct patients by town and site of service was pulled for January 2014 through April 2015, and the site-specific percent distribution of patients by town was determined. Visit utilization by town for FY2014 was then calculated by applying the percent distribution by town to the known FY2014 visit volume statistic for each site (See **Table D**).

TABLE D
UTILIZATION BY TOWN

Equipment	Town	Utilization FY 2014
Linear Accelerator	Enfield, CT	1,274
Linear Accelerator	Stafford/Union, CT	303
Linear Accelerator	Windsor Locks, CT	303
Linear Accelerator	Somers, CT	283
Linear Accelerator	Suffield, CT	222
Linear Accelerator	East Windsor, CT	202
Linear Accelerator	Windsor, CT	202
Linear Accelerator	Ellington, CT	101
Linear Accelerator	Vernon, CT	61
Linear Accelerator	South Windsor, CT	61
Linear Accelerator	East Granby, CT	40
Linear Accelerator	Tolland, CT	40
Linear Accelerator	Granville/Tolland, MA	40
Linear Accelerator	Granby, CT	40
Linear Accelerator	Thompson, CT	20
Linear Accelerator	Willington, CT	20
Linear Accelerator	Springfield, MA	20
Linear Accelerator	Hartland, CT	20
Linear Accelerator	Chandler, AZ	20
Linear Accelerator	Hampden, MA	20
Linear Accelerator	Glastonbury, CT	20
Linear Accelerator	Southwick, MA	20
Linear Accelerator	Southampton, MA	20
Linear Accelerator	East Long Meadow, MA	20
Linear Accelerator	Bridgewater, CT	20
Linear Accelerator	Longmeadow, MA	20
Linear Accelerator	Simsbury, CT	20
FY2014 Total Visits:		3,437

Appendix

<u>Attachments</u> <i>(See Main Form – General Information)</i>	
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Attachment 1

Attachment 1 – Member Meeting Minutes

Please find below the excerpt from the February 26, 2014 Special Members Meeting regarding the replacement of the linear accelerator in Enfield.

As referenced in the minutes below, the original discussion and Board approval took place at the January 14, 2014 Board Meeting. The discussion, however, took place during executive session and was therefore not recorded in the January meeting minutes.

It should also be noted that the current plan utilizes the existing vault for the replacement linear accelerator. A new room will be renovated to accommodate the new CT simulator.



SPECIAL MEMBERS MEETING MINUTES

Wednesday February 26, 2014

1:00 PM

Present: Jeffrey Flaks; Peter Karl; Stuart Rosenberg; Claudio Capone; Donna Handley, Stephen Hauser, MD; Michelle Kane; Dennis McConville; Mary Powers

Guests: Steven Cowherd; Andrew Salner, MD

Linear accelerator replacement in Enfield	<p>Donna Handley explained to the Members that at the January 2014 Board meeting, the Board approved the replacement of the Linear Accelerator in Enfield. The current machine has reached the end of its usable life and the vendor, Varian, is no longer making parts for this model. Therefore, the service agreement for this machine has terminated.</p> <p>The plan is to build a new vault for the replacement machine to be housed and commissioned. Then, the old machine in the current vault will be de-commissioned and will then house the new CT unit for planning purposes.</p> <p>Conclusion: The Members expressed their support of the Board's decision.</p>
--	---

Attachment 2

Internal Revenue Service

Department of the Treasury

Washington, DC 20224

▶ Northeast Regional Radiation Oncology
Network, Inc.
71 Hayes Street
Manchester, CT 06040

Person to Contact: Laverne Jones
Telephone Number: (202) 622-7491
Refer Reply to: CP:E:EO:T:1

Date: **MAR 28 1997**

Employer Identification Number: 06-1426856
Key District: Northeast (Brooklyn)
Accounting Period Ending: September 30
Foundation Status Classification: 509(a)(1) & 170(b)(1)(A)(iii)
Form 990 Required: Yes

Dear Applicant:

Based on the information supplied, and assuming your operations will be as stated in your application for recognition of exemption, we have determined you are exempt from federal income tax under section 501(a) of the Internal Revenue Code as an organization described in section 501(c)(3).

We have further determined that you are not a private foundation within the meaning of section 509(a) of the Code, because you are an organization described in the section(s) indicated above.

If your sources of support, or your purposes, character, or method of operation change, please let your key district know so that office can consider the effect of the change on your exempt status. In the case of an amendment to your organizational document or bylaws, please send a copy of the amended document or bylaws to your key district. Also, you should inform your key district office of all changes in your name or address.

As of January 1, 1984, you are liable for taxes under the Federal Insurance Contributions Act (social security taxes) on remuneration of \$100 or more you pay to each of your employees during a calendar year. You are not liable for the tax imposed under the Federal Unemployment Tax Act.

Because you are not a private foundation, you are not subject to the excise taxes under Chapter 42 of the Code. However, if you are involved in an excess benefit transaction, that transaction might be subject to the excise taxes of section 4958. Additionally, you are not automatically exempt from other federal excise taxes. If you have any questions about excise, employment, or other federal taxes, please contact your key district office.

Northeast Regional Radiation Oncology Network, Inc.

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for federal estate and gift tax purposes if they meet the applicable provisions of Code sections 2055, 2106, and 2522.

Donors (including private foundations) may rely on this ruling unless the Internal Revenue Service publishes notice to the contrary. However, if you lose your 509(a) status as indicated above, donors (other than private foundations) may not rely on the classification indicated above if they were in part responsible for, or were aware of, the act that resulted in your loss of such status, or they acquired knowledge that the Internal Revenue Service had given notice that you would be removed from that classification. Private foundations may rely on the classification as long as you were not directly or indirectly controlled by them or by disqualified persons with respect to them. However, private foundations may not rely on the classification indicated above if they acquired knowledge that the Internal Revenue Service had given notice that you would be removed from that classification.

Contribution deductions are allowable to donors only to the extent that their contributions are gifts, with no consideration received. Ticket purchases and similar payments in conjunction with fund-raising events may not necessarily qualify as fully deductible contributions, depending on the circumstances. If your organization conducts fund-raising events such as benefit dinners, shows, membership drives, etc., where something of value is received in return for payments, you are required to provide a written disclosure statement informing the donor of the fair market value of the specific items or services being provided. To do this you should, in advance of the event, determine the fair market value of the benefit received and state it in your fund-raising materials such as solicitations, tickets, and receipts in such a way that the donor can determine how much is deductible and how much is not. Your disclosure statement should be made, at the latest, at the time payment is received. Subject to certain exceptions, your disclosure responsibility applies to any fund-raising circumstance where each complete payment, including the contribution portion, exceeds \$75. In addition, donors must have written substantiation from the charity for any charitable contribution of \$250 or more. For further details regarding these substantiation and disclosure requirements, see the enclosed copy of Publication 1771. For additional guidance in this area, see Publication 1391, Deductibility of Payments Made to Organizations Conducting Fund-Raising Events, which is available at many IRS offices or by calling 1-800-TAX-FORM (1-800-829-3676).

Northeast Regional Radiation Oncology Network, Inc.

In the heading of this letter we have indicated whether you must file Form 990, Return of Organization Exempt from Income Tax. If "Yes" is indicated, you are required to file Form 990 only if your gross receipts each year are normally more than \$25,000. If your gross receipts each year are not normally more than \$25,000, we ask that you establish that you are not required to file Form 990 by completing Part I of that Form for your first year. Thereafter, you will not be required to file a return until your gross receipts exceed the \$25,000 minimum. For guidance in determining if your gross receipts are "normally" not more than the \$25,000 limit, see the instructions for the Form 990. If a return is required, it must be filed by the 15th day of the fifth month after the end of your annual accounting period. A penalty of \$20 a day is charged when a return is filed late, unless there is reasonable cause for the delay. The maximum penalty charged cannot exceed \$10,000 or 5 percent of your gross receipts for the year, whichever is less. For organizations with gross receipts exceeding \$1,000,000 in any year, the penalty is \$100 per day per return, unless there is reasonable cause for the delay. The maximum penalty for an organization with gross receipts exceeding \$1,000,000 shall not exceed \$50,000. This penalty may also be charged if a return is not complete, so please be sure your return is complete before you file it.

You are required to make your annual return available for public inspection for three years after the return is due. You are also required to make available a copy of your exemption application, any supporting documents, and this exemption letter. Failure to make these documents available for public inspection may subject you to a penalty of \$20 per day for each day there is a failure to comply (up to a maximum of \$10,000 in the case of an annual return). See Internal Revenue Service Notice 88-120, 1988-2 C.B. 454, as modified by P.L. 104-168, 110 Stat. 1452, for additional information.

You are not required to file federal income tax returns unless you are subject to the tax on unrelated business income under section 511 of the Code. If you are subject to this tax, you must file an income tax return on Form 990-T, Exempt Organization Business Income Tax Return. In this letter we are not determining whether any of your present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

In this letter, we have not determined the effect on your tax-exempt status of financing your activities with the proceeds of tax-exempt bonds, either because you have not indicated that you intend to use such financing method or because you are uncertain as to whether you will use tax-exempt bond financing.

Northeast Regional Radiation Oncology Network, Inc.

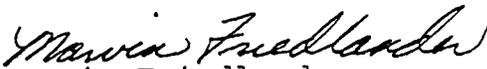
Bond authorities should be aware that you may obtain a confirmation ruling from the Internal Revenue Service concerning the effect of any tax-exempt bond financing on your exempt status.

You need an employer identification number even if you have no employees. Please use that number on all returns you file and in all correspondence with the Internal Revenue Service.

We are informing your key district office of this ruling. Because this letter could help resolve any questions about your exempt status and foundation status, you should keep it in your permanent records.

If you have any immediate questions about this ruling, please contact the person whose name and telephone number are shown in the heading of this letter. For other matters, including questions concerning reporting requirements, please contact your key district office.

Sincerely,


Marvin Friedlander
Chief, Exempt Organizations
Technical Branch 1

Enclosure:
Pub. 1771

Exhibit 1

STATE OF CONNECTICUT

Department of Public Health

LICENSE

LICENSE NO. 0306

Outpatient Clinic

In accordance with the provisions of the General Statutes of Connecticut Section 19a-493:

Northeast Regional Radiation Oncology Network, Inc. of Manchester, CT, d/b/a Community Cancer Care is hereby licensed to maintain and operate an Outpatient Clinic.

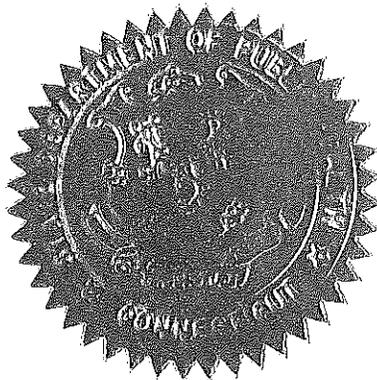
Community Cancer Care is located at 142 Hazard Avenue, Enfield, CT 06082.

This license expires **September 30, 2016** and may be revoked for cause at any time.

Dated at Hartford, Connecticut, October 1, 2012. RENEWAL

Services:

Primary Care Services



Jewel Mullen MD

Jewel Mullen, MD, MPH, MPA
Commissioner

STATE OF CONNECTICUT

Department of Public Health

LICENSE

License No. 0317

Outpatient Clinic

In accordance with the provisions of the General Statutes of Connecticut Section 19a-493:

Northeast Regional Radiation Oncology Network, Inc. of Manchester, CT, d/b/a Community Cancercare is hereby licensed to maintain and operate an Outpatient Clinic.

Community Cancercare is located at 100 Haynes Street, Manchester, CT 06040.

This license expires **March 31, 2017** and may be revoked for cause at any time.

Dated at Hartford, Connecticut, April 1, 2013. RENEWAL

Services:
Primary Care Services



A handwritten signature in cursive script that reads "Jewel Mullen MD".

Jewel Mullen, MD, MPH, MPA
Commissioner

Exhibit 2

Exhibit 2 – List of Key Personnel

The following is a list of key professional, administrative, clinical and direct service personnel related to the proposal.

- Dennis McConville, Chairman
- Daniel Delgallo, Executive Director
- Arleen Carrasquillo, Office Manager
- Stephen Hauser, M.D., Radiation Oncologist and Medical Director
- Timothy Boyd, M.D., Radiation Oncologist
- Susan Kim, M.D., Radiation Oncologist
- Guo-Xin Qian, Ph.D., Chief Physicist
- Margaret Lane B.A., R.T., Chief Radiation Therapist
- Roberta Friscia, Radiation Nurse

A copy of the Curriculum Vitae for each of the above listed individuals can be found immediately following this page.

DENNIS P. MCCONVILLE

80 CHILSTONE LANE
MANCHESTER, CT, 06040

(860) 646-1225

denpmcc@gmail.com

PROFESSIONAL EXPERIENCE

EASTERN CONNECTICUT HEALTH NETWORK, INC., MANCHESTER, CT

Senior Vice President Chief Strategy Officer, January 2014 - Present

Senior Vice President for Strategic Planning, Marketing & Communications, April 2007 – January 2014

Vice President for Strategic and Operational Planning, March 2000 – April 2007

- **RESPONSIBILITIES:** Strategic planning, business development, marketing, communications, public relations, government affairs, physician relations, property management, community health education and benefit reporting for a non-profit health care system with net revenues of \$330 million created in 1995 with the merger of two acute care community hospitals having a total of 351 licensed beds, Manchester Memorial Hospital and Rockville General Hospital, and subsidiary corporations including a sub-acute and skilled nursing facility, women's wellness center, a medical foundation, and multiple community-based outpatient services facilities and multiple joint venture companies.
- **STRATEGIC PLANNING:** Staffing the Board of Trustees initiative to affiliate with a larger regional healthcare system including the evaluation, planning, due diligence, communication plans and regulatory approvals. Developed and oversaw the implementation of three network strategic plans. Created service line plans for women's health, cancer care, surgical services and musculoskeletal services. Collaborated with the Chief Information Officer and produced an information technology strategic plan. Oversaw three community health needs assessments of the network service area. Produced facility master plans and campus plans for two hospitals that included a cancer center. Working closely with the Senior Vice President for Medical Affairs, implemented medical staff development plans including a network primary care strategy. Developed and implemented a network medical access center strategy. Planning for system-wide response to address healthcare payment reform and population health management working closely with Senior Vice President & Chief Medical Officer to further develop ECHN's continuum of care aligning acute, post-acute and community-based care.
- **BUSINESS DEVELOPMENT:** Established two startup imaging joint venture companies with physicians and other hospital partners. Negotiated the purchase of five physician practices. Formed four real estate joint ventures to develop and build five medical facilities. Obtained regulatory approvals, including certificates of need, for multiple health care services and facilities.
- **MARKETING:** Managed the development and implementation of a corporate branding campaign and strategic marketing campaigns including a digital media strategy for ECHN and its subsidiary corporations.
- **COMMUNICATIONS:** Corporate spokesperson for ECHN including crisis communications for union efforts to organize employees and the closure of a hospital maternity service. Lead sponsor of a multidisciplinary team

for internal communication strategy.

- **PROJECT MANAGEMENT:** Planned, managed and completed multiple facility projects totaling over \$100 million including: a major hospital upgrade project, emergency departments, operating rooms, a cancer center, an intensive care unit, hospital-based and ambulatory gastroenterology centers, off-site sterile processing center, ambulatory dialysis center, imaging centers, a behavioral health building, women's health center, and multiple community medical access centers. Worked with the Chief Information Officer to expand the system fiber optic network to all offsite facilities.
- **PHYSICIAN RECRUITMENT:** Managed the recruitment of 28 physicians for independent physician practices and the ECHN employed physician group practice. Spearheaded a new physician relations program that increased physician retention.

Director, Operational & Strategic Planning, February 1998 - March 2000

- **RESPONSIBILITIES:** Responsible for business planning, project management, facilities planning, and program development.
- **ACHIEVEMENTS:** Conducted market share analyses and an extensive community health needs assessment, strategic planning initiatives, maternal and neonatal services and dialysis services studies. Presented community health assessment findings to trustees, medical staff, management staff, staff of nineteen towns, and community and state legislative leaders.

Director of Cardiology, Pulmonary, and Rehabilitation Services, June 1995 - February 1998

- **RESPONSIBILITIES:** Responsible for leadership and operations management for multiple departments including: physical therapy, occupational therapy, speech therapy, respiratory services, pulmonary laboratory, cardiac stress testing laboratory, cardiac and pulmonary rehabilitation programs, EKG, holter monitor scanning and EEG services.
- **ACHIEVEMENTS:** Established a sleep study program, designed and implemented a cardiac event monitoring service, established an outreach respiratory and pulmonary rehabilitation program contracted to area skilled nursing facilities, obtained professional service agreements with oxygen/durable medical equipment companies for respiratory equipment teaching in the home, completed a conversion to a CPT-based coding system for rehabilitation services charging, and established a satellite rehabilitation facility with aquatic therapy services at the Glastonbury Wellness Center, Glastonbury, CT.

MANCHESTER MEMORIAL HOSPITAL, MANCHESTER, CT

Evening Administrator, Nursing Services, June 1987 - June 1995

- **RESPONSIBILITIES:** Responsible as the on-site administrator for the hospital and for clinical nursing services.
- **ACHIEVEMENTS:** Led a team that developed and implemented a nursing patient care delivery system for nursing.

SAINT FRANCIS HOSPITAL AND MEDICAL CENTER, HARTFORD, CT

Supervisor, Nursing Services, August 1980 - June 1987

- Responsible for clinical supervision of nursing services for critical care and step-down patient care units.

Nurse Clinician, Cardiac Rehabilitation Services, February 1980 - August 1980

- Coordinated and supervised a multidisciplinary cardiac rehabilitation program for patients following myocardial infarction, coronary artery bypass graft surgery and heart valve replacement surgery.

Assistant Nurse Manager, Medical Surgical Intensive Care Unit, February 1979 - February 1980

- Supervised and cared for patients with acute multi-system illnesses, trauma injuries and major surgery.

Staff Registered Nurse, Coronary Intensive Care Unit, July 1977 - February 1979

- Cared for patients with acute cardiovascular disorders.

EDUCATION

RENSELAER AT HARTFORD, HARTFORD, CT

Master of Science in Health Care Management, June 1995

EASTERN CONNECTICUT STATE UNIVERSITY, WILLIMANTIC, CT

Bachelor of Science Degree, Business Administration, June 1984

SAINT FRANCIS HOSPITAL SCHOOL OF NURSING, HARTFORD, CT

Diploma, Nursing, June 1977

GOVERNANCE AND COMMUNITY ACTIVITIES

Chairman of ECHN Enterprises Board of Trustees (ECHN's for-profit subsidiary) (2000-Present)

Chairman, Board of Directors, Northeast Regional Radiation Oncology Network, Inc. (2013-Present)

President, Tolland Imaging Center, LLC, Tolland, CT (2008–2010), (2013-Present)

Managing Director, Evergreen Imaging Center, LLC, South Windsor, CT (2005-2010)

Board of Directors, Chamber of Commerce, South Windsor, CT (2006–2009)

Board of Directors, Visiting Nurse and Health Services of Connecticut, Vernon, CT (2000-2008)

Vice President and Director, The Rockville Downtown Association, (2001-2005)

LICENSURE

State of Connecticut Registered Nursing License

PROFESSIONAL ASSOCIATIONS

Society for Healthcare Strategy and Market Development of the American Hospital Association

New England Society for Healthcare Strategy

New England Society for Healthcare Communications

Daniel Joseph DelGallo RT (R)(CT)(MRI)
3 Strawberry Fields
Granby, CT 06035
(860) 930-9107

CAREER OBJECTIVE To obtain a leadership position in the health care industry that capitalizes on my extensive technological background, customer service experience, and strong managerial skills.

EDUCATION M.B.A. *Entrepreneurial Thinking and Innovative Practices*, Oct 2013, Bay Path College, Longmeadow, MA.
B.S. *Diagnostic Imaging*, 1999, Quinnipiac College, Hamden, CT.

PROFESSIONAL CREDITS MRI board certified (August 2002)
ARRT board certified in Computed Tomography (July 1999)
ARRT board certified Radiographer (July 1998)

AWARDS Vision Award Nominee for Outstanding Leadership at ECHN (April 2013)
MBA Innovative Business Plan Award All Around Winner, Fiduciary Investment Advisors (December 2013)

WORK EXPERIENCE *2/12-Present: Eastern Connecticut Health Network, Inc., Manchester, CT*
Administrative Director of Medical Imaging directly responsible for operations of two hospitals, a women's wellness center, three outpatient imaging centers, and a multidiscipline department titled the Breast Care Collaborative. Provide leadership and oversight of quality, budgets, policy and procedures, contract negotiation, and physician relations.

- Implemented a vascular ultrasound lab with Navix, Inc.
- Successfully operationalized a new women's wellness center
- Converted an IDTF outpatient imaging center into an HOPD

2/09-Present: Tolland Imaging Center, LLC, Tolland, CT

Contracted Executive Director of facility owned by three hospital systems. Responsible for all operations including, but not limited to: hiring, employee discipline, budgets, business plans, marketing, physician relations, contract negotiation, and quality assurance.

- Assisted ECHN in start-up of entity in 2008 which included staffing, State and Federal filings, and workflow implementation
- Perform accrual-based accounting for entity

3/06-1/12: Evergreen Imaging Center, LLC, South Windsor, CT

Executive Director of a for-profit joint venture entity responsible for all operations including its development and start-up in early 2006. Performed contract and equipment negotiation, workflow assessment and implementation, quality assurance monitoring, and accrual-based accounting management.

- Developed policy & procedure manual for the center
- Designed, negotiated, and implemented all benefit packages for employees
- Obtained 3% profit margin in first full year and 9% in second year

11/02-2/06: Alliance Imaging, Inc., Hartford, CT.

Manager of Operations for Greater Hartford County. Responsibilities included, but not limited to: hiring, employee discipline, staff scheduling, scanning, marketing, unit and staff budgeting, development of business plans, and building customer relationships.

- Implemented patient care initiatives in the Northeast through a series of staff training sessions involving power point presentations

7/00-11/02: Alliance Imaging, Inc., West Springfield, MA.

MRI lead technologist in mobile environment, responsible for scheduling and site protocols. Performed numerous scans including musculoskeletal, neurological, soft tissue, and all types of MRA exams.

5/99-7/00: Saint Francis Hospital, Hartford, CT.

Worked in all areas of general X-ray at a trauma one hospital, including the E.R., O.R., fluoroscopic department, and clinical department. Supervised other technologists, as well as student interns.

MAGNET EXPERIENCE

Philips Gyroscan 1.5T
Philips Intera 1.5T
Siemens Symphony (Syngo software) 1.5T
Siemens Impact 1.0T
GE Excite LX (software 9.0-11.0)

COMPUTER SKILLS

Proficient in Microsoft Word, Excel, PowerPoint, and Outlook.

REFERENCES

Available upon request.

Arleen Carrasquillo
165 Autumn Street
Manchester, CT 06040
(860) 372-9141
Arleenc21@att.net

Qualifications Summary:

A highly motivated, results driven professional with **versatile** experience. Highly focused **team player** who is able to work at all levels of an organization. Prefers to work in a fast-paced, **autonomous** environment. Excellent **written and verbal communication skills**, attentive to details, and highly organized. Experience in **customer facing** environments and effective at working under time constraints.

Technical skills: Microsoft Word, Excel, Access, Microsoft Publisher, PowerPoint, Outlook; QuickBooks

Professional Experience

Eastern Connecticut Health Network Manchester CT

Office Manager April 2014 to present

- Prioritize and distribute work to the office team
- Meet with staff weekly to communicate organizational safety habits and procedures
- Manage monthly bills/ office spending, staying within budgetary perimeters
- Perform Accounts Payable functions using QuickBooks
- Coordinate and facilitate committee meetings including preparing agenda, power point presentation and meeting minutes
- Handle department contract renewal process
- Act as liaison between Cancer Program and outside vendors
- Provide administrative support to Medical Directors
- Provide administrative support to Administrative Director
- Oversee support groups
- Chair Patient and Family Advisory Council

Administrative Assistant December 2007 to April 2014

- Manage Director's calendar and meeting schedules
- Manage monthly bills/ office spending staying within budgetary perimeters
- Order department supplies
- Provide administrative support to department staff
- Greet and check in Physical Therapy patients
- Create promotional/ marketing materials for distribution to the community
- Attend Community events to provide education of oncology services
- Co-Chair a committee which hosts a large annual community banquet

First Student Inc Manchester, CT

School Bus Dispatcher September 2004 to December 2007

- Oversee the daily operation of fifty eight bus routes for the Town of Manchester
- Resolve coordination of student transportation
- Act as liaison between Board of Education, school administrators and Manchester community
- Coordinate schedule of over sixty employees
- Create and implement safe driving procedures
- Maintain daily and weekly financial reports

- Weekly payroll computation
- Provided orientation and training for new drivers

Bus Driver September 1995 to September 2005

- Assisted in the daily operation of school bus transportation
- Provided transportation of students to and from school
- Assisted in safe driver program implementation

Crossroads Community Cathedral
East Hartford, CT

Office Assistant-Volunteer 2003-2006

- Create and produce promotional booklets
- Oversee, monitor, and maintain financial records
- Maintain personal information records
- Organize and facilitate orientation meetings
- Coordinate all aspects of organization/company annual retreats
- Assist with enrollment process
- Record personal information as needed
- Oversee and order training/office materials as needed
- Maintain filing system

Society for Savings
West Hartford, CT

Assistant Manager/Bank Teller September 1983 to January 1989

- Assisted Bank Manager with daily operation of local branch to include employee performance evaluations
- Oversaw the end of the day balancing of tellers and branch
- Screened, interviewed, recommended and trained new tellers
- Supervised teller staff
- Held weekly staff meeting with assigned team

Awards and Recognition

2000/2001	Employee of the Year	First Student Manchester, CT
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Education

Bloomfield High School	Bloomfield, CT	Degree Received: Diploma
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Becker Jr. College	Worcester, Massachusetts	Degree Received: Pending (Social Work)
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CURRICULUM VITAE
STEPHEN H. HAUSER, MD

April 30, 2015

Address / Phone Numbers / Email

Professional Hartford Radiation Oncology Associates, P.C.
80 Seymour Street, P.O. Box 5037
Hartford, CT 06102-5037
Telephone: (860) 972-2803
FAX: (860) 972-1500
E-mail: stephen.hauser@hhchealth.org

Home 70 Goodwin Circle
Hartford, CT 06105
Telephone: (860) 236-3098

Personal

Date / Place of Birth: March 2, 1963 / New Haven, CT
Citizenship: United States Citizen
Marital Status: married, two children

Education

Undergraduate: Fairfield University / Fairfield, CT
Sep. 1981 - Jun. 1985 B.S. Biology, Summa Cum Laude

Medical School: Tufts University School of Medicine / Boston, MA
Sep. 1985 - Jun. 1989 M.D.

Post-Graduate Training

Internship: Carney Hospital / Boston, MA
Jul. 1989 - Jun. 1990 Transitional Medicine

Residency: New England Medical Center / Boston, MA
Jul. 1990 - Jun. 1994 Radiation Oncology

Board Certification

July 1, 1990 Diplomate, National Board of Medical Examiners
Certificate # 366873

June 9, 1994 Board Certified in Radiation Oncology
American Board of Radiology

Medical License

Oct. 18, 1994 – present Pennsylvania
Mar. 29, 1995 – present Massachusetts
June 6, 1995 – present Texas
Jan. 12, 1998 – present Rhode Island
Apr. 16, 2001 – present Connecticut

CURRICULUM VITAE
STEPHEN H. HAUSER, MD

April 30, 2015

Professional Appointments

Jul 1993 - Jun 1994 Chief Resident, Radiation Oncology
New England Medical Center, Boston, MA

Jul 1994 - Sep 1997 Staff, Department of Radiation Oncology
Wilford Hall USAF Medical Center, Lackland AFB, TX

Jul 1997 - Sep 1997 Assistant Chief, Radiation Oncology
Wilford Hall USAF Medical Center, Lackland AFB, TX

Oct 1997 - Jun 2001 Staff, Department of Radiation Oncology
New England Medical Center and VA Boston Healthcare, Boston, MA

Oct 1997 - Jun 2001 Chief, Radiation Oncology
VA Boston Healthcare System, Boston, MA

Jul 1999 - Sep 2000 Chair, Cancer Committee
VA Boston Healthcare System, Boston, MA

Apr 2000 - Jun 2001 Clinical Director, Radiation Oncology
New England Medical Center, Boston, MA

July 2001 - present Staff, Department of Radiation Oncology
Hartford Hospital, University of Connecticut Health Center and
ECHN Manchester Memorial Hospital, Manchester / Hartford, CT
-with 7 board certified radiation oncologists
-with 8 high energy linear accelerators; Helical Tomotherapy;
Intensity Modulated Radiation Therapy; Image Guided
Radiation Therapy; Cranial and Extracranial Stereotactic
Radiosurgery; and High Dose Rate Brachytherapy

Feb 2009 - present Medical Director, Radiation Oncology
Northeast Regional Radiation Onc. Network, Manchester CT

Mar 2011 - present Co-Chair, Cancer Committee
ECHN Manchester Memorial Hospital, Manchester CT

Oct 2013 - present Co-Medical Director Cancer Services
ECHN Manchester Memorial Hospital, Manchester CT

Academic Appointments

June 1997 - Sept. 1997 Director of Education, Radiation Oncology
Wilford Hall Medical Center, Lackland AFB, TX

Oct. 1997 - June 2001 Assistant Professor, Radiation Oncology
Tufts Univ. School of Medicine, Boston, MA

Nov. 1998 - June 2001 Adjunct Assistant Professor, Radiation Medicine
Brown Univ. School of Medicine, Providence, RI

July 2001 - present Assistant Clinical Professor of Radiation Oncology
Univ. of Connecticut School of Medicine, Farmington, CT

Aug. 2012 - present Clinical Associate Professor, Internal Medicine
Univ. of New England Col. of Osteopathic Med., Biddeford ME

CURRICULUM VITAE
STEPHEN H. HAUSER, MD

April 30, 2015

Teaching Experience

July 1991 – Present Radiologic Technician, Therapist School
LaBoure College Radiation Therapy Program, Boston MA
Hartford Hospital Radiation Therapy Program, Hartford CT

July 1991 – Present Medical Student Clinical Clerkships
Tufts University School of Medicine, Boston MA
Univ. of Conn School of Medicine, Farmington CT
Univ. Of New England Col. Osteopathy Med., Manchester CT

Oct. 1997 – June 2001 Residency Program, Radiation Oncology
New England Med. Ctr., Tufts Univ. School of Med., Boston MA

Oct. 1997 – Present Faculty Development and Continuing Medical Education
Education sessions and Tumor Boards

Oct. 1997 – Present Community / Lay Public
Education at Cancer Support Groups

Professional Societies

American Society for Therapeutic Radiology and Oncology
American College of Radiology
American Society of Clinical Oncology
Gilbert H. Fletcher Society
Massachusetts Medical Society
Connecticut State Medical Society / Hartford County
Medial Review Committee Member 2004 - 2007
Radiation Therapy Oncology Group, 1999
Principal Investigator, Boston VA Medical Center
National Surgical Adjuvant Breast and Bowel Project, 2006

Honors / Awards / Specialized Training

Undergraduate Alpha Epsilon Delta Honor Society, 1983 - 1985

Medical School U.S. Air Force Health Professions Scholarship, 1984
Alpha Omega Alpha Honor Society, 1988
Medical Class of 1929 Award for Outstanding Work in Anatomy, 1989

Residency Radiological Society of North America Research Resident Grant, 1993
Fletcher Society Resident Presentation Award, 1994

Staff Radionics Radiosurgery Xknife Training Course, Burlington, MA, 1995
Air Force Outstanding Unit Award, 1996
Uniformed Services Rad Onc Group, Research Coordinator, 1996 - 1997
Texas Prostate Brachytherapy Services Practical Course in
Transperineal Prostate Brachytherapy, Boston, MA, 1998
MammoSite for Accel. Partial Breast Irradiation, New York, NY, 2004
Excellence in Medical Care, ECHN Manchester Hospital, 2013

CURRICULUM VITAE
STEPHEN H. HAUSER, MD

April 30, 2015

Grant Support

Radiological Society of North America Research Resident Grant,
\$25,000 in salary support, 1993 - 1994.
USPG Pfizer, Inc. Unrestricted Educational Grant,
\$50,000 to the National Kidney Foundation 1997 - 1998.

Publications

Hauser SH, Calorini L, Wazer DE, Borek C, Gattoni-Celli S: Radiation-Enhanced Expression of Major Histocompatibility Complex (MHC) Class I Antigens in B16 Melanoma Cells. *Cancer Res.* 53:1952-1955, 1993.

Calorini L, Simile MM, **Hauser SH**, Gattoni-Celli S: Re-Expression of the Major Histocompatibility Complex (MHC) Class I Antigen H-2Kb by M1 (B16-F10) Murine Melanoma Cells. *Intern. J. Oncology.* 5:741-748, 1994.

Gao Q, **Hauser SH**, Liu XL, Wazer DE, Madoc-Jones H, Band V: Mutant p53-induced Immortalization of Primary Human Mammary Epithelial Cells. *Cancer Res.* 56:3129-3133, 1996.

Curran WJ Jr., Paulus R, Langer CJ, Komaki R, Lee JS, **Hauser S**, Movsas B, Wasserman T, Rosenthal SA, Gore E, Machtay M, Sause W, Cox JD: Sequential vs Concurrent Chemoradiation for Stage III Non-Small Cell Lung Cancer: Randomized Phase III Trial RTOG 9410. *J Natl Cancer Inst.*, 103(19):1452-1460, 2011.

Presentations (National Conferences)

Radiation-Enhanced Expression of Major Histocompatibility Complex (MHC) Class I Antigens in B16 Melanoma Cells. 34th Annual American Society for Therapeutic Radiology and Oncology Meeting, San Diego, CA Oct. 1992.

The Role of p53 Mutations in Radiation Transformed Human Mammary Epithelial Cells. 19th Annual Gilbert H. Fletcher Society Scientific Meeting, Houston, TX Apr. 1994.

Prevention of Radiation Induced Mucositis Using Daily Fluconazole. First Annual Meeting of the Uniformed Services Radiation Oncology Group. Tempe, AZ. May 1995.

A Unique p53 Mutant that Induces Dominant Immortalization of Human Mammary Epithelial Cells. 38th Annual Air Force Regional Meeting of the American College of Physicians, San Antonio, TX Mar. 1996.

Lung Cancer: Team Approach to Therapy Satellite Videoconference. The Federal Forum Oncology Educational Series: Second of Five Programs, The VA Learning University EES, Birmingham, AL Feb 2000.

Curriculum Vitae

Timothy S. Boyd, M.D.

ADDRESS: Hartford Hospital
The Gray Cancer Center
80 Seymour St.-P.O. Box 5037
Hartford, CT 06102-5037
Tel: (860)-545-2803; Fax: (860)-545-1500
E-Mail: tboyd@harthosp.org

PERSONAL: Birth date: October 15, 1968
Marital Status: Married; wife: Kathryn E. Boyd, PhD

LICENSURE: Connecticut, Wisconsin

BOARD CERTIFICATION: American Board of Radiology (Therapeutic), 1999
Re-certification 2009

ACADEMIC EDUCATION:

1986-90 B.A., Phi Beta Kappa, Summa Cum Laude, Biology, Hamilton College,
Clinton, New York

1990-94 M.D., State University of New York Health Science Center at Syracuse,
Syracuse, New York

POSTGRADUATE TRAINING:

1994-95 Transitional Residency Program, Mary Imogene Bassett Hospital,
Cooperstown, New York

1995-98 Residency, Radiation Oncology, University of Wisconsin-Madison,
Madison, Wisconsin

1998-99 Clinical Instructor, Radiation Oncology, University of Wisconsin-
Madison, Madison, Wisconsin

PROFESSIONAL SOCIETIES:

American Medical Association

Hartford County Medical Society

Connecticut State Medical Society

American Society for Therapeutic Radiology and Oncology

HOSPITAL APPOINTMENTS:

1999-Present Staff Physician, Hartford Hospital, Hartford, Connecticut

1999-Present Staff Physician, Connecticut Children's Medical Center, Hartford, Connecticut

1999-Present Staff Physician, Manchester Memorial Hospital, Manchester, Connecticut

1999-Present Staff Physician, Johnson Memorial Hospital, Stafford Springs, Connecticut

1999-Present Staff Physician, University of Connecticut Health Center, John Dempsey Hospital, Farmington, Connecticut

2014-Present Staff Physician, The William W. Backus Hospital, Norwich, Connecticut

TEACHING EXPERIENCE:

2000-Present Instructor, Radiotherapy Technology School, Hartford Hospital

1995-99 Instructor, Radiotherapy Technology School, University of Wisconsin-Madison

PUBLICATIONS

1. Boyd T, Mehta M: A comprehensive review of the role radiosurgery in patients with intracranial metastases; Kondziolka D (ed): Radiosurgery 1997. Radiosurgery. Basel, Karger, 1998, vol 2, pp 31-50.
2. Mehta M, Boyd T, Sinha P: The status of stereotactic radiosurgery for cerebral metastases in 1997: *J Radiosurg* 1998; 1:17-30.
3. Mehta M, Boyd T, Loeffler J: Linear accelerator stereotactic radiosurgery and fractionated stereotactic radiotherapy for cerebral metastases. In Maciunas RJ (ed): **Advanced Techniques in Central Nervous System Metastases**, pp 135-154. Park Ridge, IL, AANS, 1998.

PUBLICATIONS (cont.)

4. Boyd TS, Harari PM, Tannehill SP et al: Planned post-radiotherapy neck dissection in patients with advanced head and neck cancer. *Head and Neck* 1998; 20:132-137.
5. Boyd TS, Mehta M: Stereotactic radiosurgery for brain metastases. *Oncology* 13:1397-1407, 1999.
6. Boyd T, Mehta MP: Radiosurgery for brain metastases; Kondziolka D (ed): *Neurosurgery Clinics of North America* 10(2):337-350, 1999.

CURRICULUM VITAE

SUSAN Y. KIM, M.D.
Dept of Radiation Oncology
The Gray Cancer Center
Hartford Hospital
80 Seymour St. po Box 5037
Hartford , CT 06102

email: sue.kim@hhchealth.org

EDUCATION

- 7/90-6/91 CHIEF RESIDENT, Department of Radiation Oncology Rush Presbyterian-St. Luke's Medical Center, 1653 W. Congress Parkway Chicago, IL 60612
Chairman: Frank Hendrickson, M.D.
- 7/87-6/90 RESIDENT, Department of Radiation Oncology Rush Presbyterian St. Luke's Medical Center, Chicago, IL
- 1983-1987 UNIVERSITY OF VERMONT SCHOOL OF MEDICINE
89 Beaumont Ave. Burlington, VT. 05405
Degree in Doctor of Medicine, June 1987
- 7/80-6/82 DARTMOUTH COLLEGE/GRADUATE SCHOOL Hanover, NH
Master's Degree in Pharmacology and Toxicology
- 9/75-6/79 BROWN UNIVERSITY Providence, RI
Bachelor of Science Degree in Biochemistry

EMPLOYMENT

- 8/2002 –current Radiation Oncologist
Hartford Radiation Oncology Associates, P.C. Hartford, CT
Specialty: stereotactic radiosurgery
- 7/1999- 7/2002 Attending Radiation Oncologist
Associate Professor, State University of New York at Buffalo
Department of Radiation Medicine
Co-director of Gamma Knife Center
Roswell Park Cancer Institute, Carleton and Elm sts. Buffalo, NY 14263
SUBSPECIALTIES: CNS, Gamma Knife, Breast, Pediatrics, IMRT
- 8/96-6/99 RADIATION ONCOLOGIST
Department of Radiation Oncology
Head of Stereotactic Radiosurgery Program
Head of Pediatric Radiation Oncology
Roosevelt Hospital/Beth Israel Med Ctr.
1000 10th Avenue
Continuum Health Care, New York, NY 10019
- 7/91-7/96 ASSISTANT PROFESSOR
Department of Radiation Medicine
Roswell Park Cancer Institute, Buffalo, NY
SUBSPECIALTIES: GI, Pediatrics, High Dose Rate
Brachytherapy, Soft Tissue Sarcoma, Breast

**BOARD
CERTIFICATION**

Certified American Board of Radiology (Radiation Oncology)
June 4, 1992

LICENSURE

Connecticut Physician's license 040358, current
New York Medical License 187998, expired

**PROFESSIONAL MEMBERSHIP
AND ACTIVITIES:**

American Society of Therapeutic Radiation Oncology (ASTRO) full member from 1992.

Pediatric Oncology Group(POG): 1992 to 1996

Children's Cancer Group (CCG) :1996 to 1999

Children's Oncology Group(COG): 1999 to 2002

Society for Neuro-Oncology: 1998 to 2002

Radiological Society of North America: 1993 to 2002

CALGB: 1991 to1996, 1999 to 2002

Radiation Therapy Oncology Group (RTOG) 1996 to 2002

ECOG: 1996 to 1999

Executive Committee member for Gamma Knife Radiosurgery at Roswell Park.1999-2002

Member of NCCN(National Comprehensive Cancer Network) Central Nervous
System panel. 1999.

Member of Roswell Park Community Cancer Network(RPCCN) 1999.

UNIVERSITY/FACULTY SERVICE

7/99 to 7/02 One to one teaching of residents in Radiation Oncology as well as medical and
surgical fellows at Roswell Park Cancer institute.

9/98 to 6/99 Fellowship program at Beth Israel Medical center in Brachytherapy and Stereotactic
Radiosurgery. Individualized instruction of stereotactic radiosurgery and radiotherapy.

8/96 to 8/98 Teaching of residents in Radiation Oncology at Beth Israel Medical Center in New York,
through an organized lecture series, one to one individualized instruction and teaching
At bedside.

7/91 to 7/96 Lectures and small group instruction of Residents in Radiation Oncology and 4th year
Medical students from the University of Buffalo.

Seminars and individual instruction of fellows from Medical Oncology and Surgical
Oncology at Roswell Park Cancer Institute

DEPARTMENTAL SERVICE

- 7/99 –7/02 Co-director of Gamma Knife Radiosurgery program at Roswell Park.

Director of the Neuro-oncology tumor board held at Roswell Park.

Active member of the Breast Tumor board held weekly at Roswell Park.
- 8/96 to 6/99 Chairman of the Quality Assurance program in Radiation Oncology at Beth Israel Medical center and at Roosevelt Hospital Radiation Oncology.

Chairman of the Chart Committee at Beth Israel Medical Center Radiation Oncology.

Member of the Radiation Safety Committee at St. Luke's/Roosevelt Hospital New York, NY

Active member of the Neuro-oncology tumor board at Beth Israel North held Weekly.

Active member of Vascular conference at Beth Israel North, New York.
- 7/91 to 7/96 In charge of clinical service in breast, pediatrics, sarcoma and GI radiation oncology at Roswell Park Cancer institute. Participated in multi-disciplinary tumor boards in Pediatric Oncology, Upper GI, Lower GI cancers and sarcomas.

RESEARCH EXPERIENCE

- 1999 LEKSELL GAMMA KNIFE TRAINING PROGRAM
Pittsburgh, PA. 7/99, Review of radiosurgery protocols

Under development of a Gamma Knife radiosurgery protocol for patients With less than or equal to 4 brain metastases with or without whole brain radiotherapy A phase III protocol.

Ongoing clinical research on POG, CALGB and RTOG protocols.
- 8/96-7/02 COMMITTEE MEMBER for CCG/POG-A9961
A national protocol for Standard Risk Medulloblastoma.
Comparison of two chemotherapy regimens.
Review of radiation therapy records from CCG and POG institutions at QARC in Providence, RI July 22 to 24, 1999.

"Pre and Post –Radiation Chemotherapy for newly diagnosed primary intracranial GERMINOMA germ cell tumors with dose intensified chemotherapy and peripheral blood stem cell support for initial refractory disease". A multi-institution IRB approved protocol developed at Beth Israel Medical Center along with Drs. J Siffert and J. Allen

"Pre and Post –Radiation Chemotherapy for newly diagnosed primary intracranial NON-GERMINOMA germ cell tumors with dose intensified chemotherapy and peripheral blood stem cell support for initial refractory disease". A multi-institution IRB approved protocol developed at Beth Israel Medical Center along with Drs. J Siffert and J. Allen

Developed LINAC based Stereotactic Radiotherapy/Radiosurgery program for Adult and Pediatric Brain Tumors at Beth Israel Medical Center in New York.

- Quality of Life Study on Pediatric Patients Undergoing Radiotherapy
- 7/91-7/96 Low Dose Radiation for Benign Parotid Cystic Disease in HIV Positive Patients. An IRB approved in house protocol.
- Developed an IRB approved protocol for esophageal cancers using neoadjuvant Chemotherapy followed by radiotherapy in locally advanced stages with Drs. Derek Raghaven, Harold Douglass, and Hector Nava.
- Actively accrued and treated patients on Pediatric Oncology Group(POG) and CALGB protocols.
- 1987-1991 Trans-Perineal I-25 Implantation of Prostate Without Lymphadenectomy in Early Stage Prostate Cancer, Rush Series.
Abstract accepted for Presentation Cancer Conference, Toronto, Canada. October 1990.
- Biochemical Markers of vascular Endothelial Cell Injury in Patients Undergoing Radiation Therapy. Angiotensin Converting Enzyme Activity. Presented at Illinois Cancer Council.
- 1984 Summer CHILDREN'S HOSPITAL OF LOS ANGELES,
NIH Fellow in Pediatric Oncology Research in Phototherapy of Retinoblastoma in Ophthalmology Division of Pediatric Oncology.
- 7/82-7/83 ST. ELIZABETH'S HOSPITAL MEDICAL SCHOOL
Boston, MA. Senior Research Assistant in Hematology
Oncology Research on Erythrocyte's Membrane Proteins in Spherocytosis by protein electrophoresis and Electron Microscopy.
- 8/81-6/82 DARMOUTH GRADUATE SCHOOL Hanover, NH
Master's Thesis on the Effect of Unsaturated Fatty Acids on Pancreatic cancer Following Induction in Rats.
Research on the Antiemetic effects of Delta-9-THC on Cis-platin Induced Emesis in cats. NIH fellowship for 2 years.
- 7/77-8/78 BROWN UNIVERISTY Providence, RI. Summer research assistant in Biochemical pharmacology. Research on Inhibition of Platelet Aggregation by Adenosine Analogs, published and presented at the New England Pharmacology Meeting 1979.

PUBLICATIONS

S. CHA, S. KIM, ET. AL; TIGHT BINDING INHIBITORS-IX
Biochemical Pharmacology VOL 30.No. 8, 1981

D. RAGHAVEN, S. KIM, D. SKINNER, E.C. SKINNER. Management of Bladder Cancer in the Elderly. Principles and Practice of Genitourinary Oncology., pp. 307-314. 1997

H. DOUGLAS, Jr., S. KIM, N. MEROPOL; Neoplasms of Gallbladder. Cancer Medicine, 4th Edition. pp. 1895-1966. 1996

H. DOUGLAS, Jr., S. KIM, N. MEROPOL; Neoplasms of Extra Hepatic Bile Duct". Cancer Medicine, 4th edition. pp. 1967-1980. 1996

H. DOUGLAS, Jr., S. KIM, N. MEROPOL; Neoplasms of the Exocrine Pancreas. Cancer Medicine, 4th edition. pp. 1989-2018. 1996

NON TRADITIONAL PUBLICATIONS:

- 1994 Pamphlet for patients undergoing breast radiotherapy at Roswell Park.
- 1998 Videotape for patients undergoing LINAC radiosurgery at Roosevelt Hospital
Funded by Continuum Health Care, NY and BrainLAB company, Munich
- 1998 Videotape on clinical uses and demonstration of BrainLAB mMLC equipment
Funded by BrainLAB company, Munich, Germany.

ABSTRACTS

Benign Cystic Parotid Disease in HIV positive patients, the Role of Radiotherapy.
Kim S. International Journal Radiation Oncology Biology Physics., October, 1994.

A Dosimetric comparison of stereotactic radiosurgery using static beams with a
Micro-multileaf collimator versus arcs for treatment of arterio-venous
Malformations Boccuzzi DE, **Kim S**, Pryor J, Berenstein A. Shih A,
Accepted for presentation at the 41st ASTRO meeting in San Antonio Nov. 1999.

LECTURES

- June 11-12, 1999 Stereotactic radiosurgery symposium at Beth Israel Medical Center, New York.
Presented “ Clinical experience using BRAINLAB mMLC at Beth Israel Medical
center”.
- April, 1999 “Stereotactic Radiosurgery and radiotherapy in pediatric patients” presented at the
CNS tumor board at Beth Israel North Hospital in New York, NY.
- Feb, 1999 “Role of radiotherapy in Mycosis Fungoides” presented at Medical grand rounds
At Roosevelt Hospital in New York, NY
- Dec, 1998 “Clinical application of BRAINLAB mMLC for adult and pediatric patients”
Presented at LINAC Radiosurgery meeting in Orlando, FL.
- Mar, 98 “Craniospinal axis radiation in medulloblastoma” presented to pediatric neuro-
Oncology members at Beth Israel Medical Center North.
- June, 96 “Early stage rectal cancer, role of contact therapy using Papillon technique”
Presented at surgical grand rounds at Roswell Park Cancer Institute.

Revised 4/30/2015

Guo-Xin Qian, Ph.D.

Curriculum Vitae

71 Steele Farm Drive,
Manchester, CT 06042
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Email: Guo-Xin.Qian@hhchealth.org; guoxinqian@yahoo.com

Education:

Ph.D. – Physics, University of California, Santa Barbara, 1985
M.S. – Physics, University of California, San Diego, 1980

Certification:

American Board of Radiology (ABR) – Therapeutic Radiological Physics, 1997

License:

State of New York Professional Medical Physics – Therapeutic Radiological

Professional Experience:

- ❖ Chief Physicist: Department of Radiation Oncology, Hartford Hospital, 80 Seymour Street, CT 06102, Service Site: Northeast Regional Radiation Oncology Network, Inc. (NRRON), 100 Haynes Street, Manchester, CT 06040, 2009-present
Supervisor of physics group of 4. Eclipse TPS for external beam radiation therapy for Varian iX Linacs with 120 MLC and IGRT, IMRT QA with MathResolution system. Nucletron HDR with Oncentra Brachytherapy TPS for APBI and VagCyl. Prostate seed implantations using I-125 seeds. Machine QA. Two Varian iX Linacs commissioning.
- ❖ Chief Physicist and RSO: Department of Radiation Oncology, Cabrini Medical Center, 227 East 19th Street, New York, NY 10003, 2004-2009
Supervisor of physics group of 6. ADAC TPS for external beam radiation therapy for Varian Linac with 120 mlc, IMRT QA with Mapcheck. Stereotactic Brain and Body Radiosurgery. Prostate seed implantations using I-125 and Pd-103 seeds. Machine QA.
- ❖ Director of Physics: Department of Radiation Oncology, Staten Island University Hospital, Staten Island, NY 10305, 1998-2004
Supervisor of 3 physicists, 8 dosimetrists and one physics technician. Varian Eclipse TPS for external beam radiation therapy for 5 Varian Linacs (two 21EX with 120 mls, one 600C/D with 80 mls, two 2100C), Over 500 IMRT cases with NOMOS Corvus and Varian Eclipse system. IMRT QA with RIT. Stereotactic Brain Radiosurgery with Radionics Xknife-RT system and GTC relocatable headframe. Image fusion. Nucletron HDR system with Plato Brachytherapy system. Prostate implants using I-125 and Pd-103 seeds. IVB with Galileo P-32 system. Mammosite Brachytherapy. Machine QA. Eclipse beam data.
- ❖ Medical Physicist: Department of Radiation Oncology, Staten Island University Hospital, Staten Island, NY 10305, 1993-1998
- ❖ Medical Physics Postdoc: Department of Radiation Oncology, Staten Island University Hospital, Staten Island, NY 10305, 1991-1993
- ❖ Assistant and Associate Physicist: Brookhaven National Laboratory, New York, 1987-1991
- ❖ Research Associate: Xerox Corporation, Palo Alto Research Center, Palo Alto, CA, 1985-1987

- ❖ Research Assistant and Teaching Assistant at Department of Physics, University of California (UCSD, UCSB), 1979-1985.

Locum Experience:

- ❖ Feb. 2004-Mrarch 2005: off and on assignment at Cooper Health System at One Cooper Plaza, Camden, NJ
- ❖ Aug. 2008-Dec. 2008: four and half months assignment at Hemotology and Oncology Association of Central New York, East Syracuse, NY 13057
- ❖ Dec. 2008-March 2009: three months assignment at Dickstein Cancer Center at White Plains Hospital Center, White Plains, NY 10601

Continuing Education on Medical Physics:

- ❖ Training on Nucletron Oncentra Brachytherapy System at Nucletron Corporation, Columbia, MD, Feb. 7-10, 2011.
- ❖ Training on On Board Imager Physics, Las Vegas, NV, April 5-9, 2010.
- ❖ Training on D3 IMRT Training, Hartford, CT, June. 16-19, 2009.
- ❖ Training on Varian Eclipse TPS "Physics and Administration", Las Vegas, NV, Oct. 3-7, 2003.
- ❖ Attend AAPM Summer School on IMRT at Colorado College, Colorado Springs, CO, June 22-26, 2003.
- ❖ Training on MammoSite RTS by Proxima Therapeutics, Inc, Orlando, FL, Jan. 25, 2003.
- ❖ Training on Galileo IVB system at the Cardiac Catheterization Lab, SIUH, Nov. 18, 2002.
- ❖ Attend the 5th Cardiovascular Radiation Therapy Courses at Washington DC, Feb. 5-7,2001.
- ❖ Training on Nucletron Plato Brachytherapy System at Nucletron Corporation, Columbia, MD, Oct. 2-4, 2000.
- ❖ Attend AAPM Summer School on "General Practice of Rad. Oncology in the 21st Century" at the Northern Illinois University, De Kalb, July 29-Aug. 1, 2000.
- ❖ IMRT training course at Stanford University, Palo Alto, CA, July 5-8,
- ❖ IMRT training course at NOMOS Corporation, Pittsburg, PA, June 9-11, 1999.
- ❖ X-plan training course for SRS at RSA, Boston, MA, Sept. 24, 1997.
- ❖ Elekta Render 3D-TPS training, Ft. Lauderdale, FL, Jan. 27-31, 1997.
- ❖ Training on Stereotactic Body Frame at Karolinska Hospital, Stockholm, Sweden, Jan. 7-10, 1997.
- ❖ Attend the 14th annual "Anatomy for Radiotherapy Treatment Planning" course at the University of Texas, San Antonio, TX, March 4-8, 1996.
- ❖ Attend AAPM Summer School on "Modern Clinical Brachytherapy Physics" at the University of California, San Diego, La Jolla, CA, July 18-22, 1994.
- ❖ X-knife training course for SRS at RSA, Boston, MA; May 2-4, 1994.

Publication:

19 papers on refereed journals, numerous abstracts and conference presentations in Medical Physics and Radiation Oncology.

Membership:

AAPM

References:

Furnished upon request.

Margaret V. Lane B.A., R.T.(T)

144 O'Connell Drive
East Hartford, CT 06118
860-543-4774

Career Objective

To obtain a leadership role as a Radiation Therapist utilizing my years of clinical experience in Radiation Therapy, managerial knowledge and interpersonal skills.

Education

1991 R.T.T. Certificate, Hartford Hospital School of Allied Health

1984 B.A.; Biology, St. Leo College (Presently St. Leo University)
St. Leo, Florida

Work Experience

2009- Present Chief Therapist Northeast Regional Radiation Oncology Network, Manchester & Enfield, CT.

2004 - 2009 Clinical Supervisor @ NRRON for Hartford Hospital Allied Health Radiation Therapy Program
Manchester, CT.

1999 - 2009 Staff Therapist Northeast Regional Radiation Oncology Network, Manchester & Enfield, CT.

1998- 1999 Staff Therapist, Hartford Hospital Radiation Oncology
Hartford CT.

1994 – 1997 Staff Radiation Therapist, University of Connecticut Health Care
Farmington, CT

1992-1994 Staff Therapist, Hartford Hospital Radiation Oncology
Hartford, CT

1991- 1992 Staff Radiation Therapist
Meridan/Wallingford Hospital (Presently Mid-State)
Radiation Oncology

1987 – 1989

McKenna Travel Agency, Group Travel Consultant

Equipment Experience

Simulators Odelft, GE, Siemens & Philips Brilliance Big Bore CT Simulator,

Linacs Varian Clinac 4, Clinac 18, Varian 600c, Varian iX Series

Brachytherapy Nucletron

Professional Memberships

ASRT
NESRT
ARRT Board Certified

References

Available upon request

Roberta Friscia
27 Spice Hill Drive
East Hampton Connecticut 06424
860-267-0599, 860-680-1837

OBJECTIVE

To obtain a Registered Nurse position commensurate with 29 years of diversified experience, clinical skills and education.

SUMMARY

Ability to:

- Interact effectively with patients, families, medical staff, and physicians
- Prioritize patient requirements to meet total care objectives
- Work efficiently in stressful situations
- Function independently and contribute to a team care effort
- Assume resource responsibilities-Precept new staff members and supervise ancillary staff

PROFESSIONAL EXPERIENCE

Northeast Radiation Oncology Network

2010- Present

Radiation Oncology Clinic part time caring for adult patients undergoing Radiation Therapy

VNA Independent Living Services Hartford CT

1997- 2013

Per Diem Community Flu, BP, Cholesterol, and wellness clinics

Home visits, dressing changes, pill fills, and private duty hospital cases

University of Connecticut Medical Center- Farmington, Connecticut

2005-Present

Radiation Oncology Clinic on as needed basis to supplement staffing needs

Care for adult patients undergoing radiation therapy

2002- Present

Inpatient Oncology unit

Clinical staff nurse caring for medical- surgical oncology pts., hospice, and inpatient chemotherapy patients

1995 -2002

Clinical staff nurse on Bone Marrow Transplant and Oncology Unit with mixed pediatric and adult populations

1992-1995

Clinical staff nurse on six bed exclusively Bone Marrow Transplant Unit

1987-1992

Clinical staff nurse on medical/surgical unit with mixed Gerontology population

Veterans Administration Medical Center, Newington, CT

1985-1987

Clinical staff nurse on medical/oncology Unit with mixed Gerontology population

EDUCATION

1990- Bachelor of Science, Gerontology

University of Connecticut—Storrs, CT

;

1985-Diploma of Nursing RN

St. Mary's Hospital School of Nursing—Waterbury,CT
Associates of Science-Mattatuck Community College Waterbury,CT

1985-Present-Continuing Education

ONS Chemotherapy Biotherapy Credentialing Course 2013

Oncology Nursing Certification 2013

Oncology Nursing Society Member Local and National Member

CPR Certified

Seattle, Washington Bone Marrow Transplant Nursing Consortium,
Ongoing Hospital Nursing Education In services and unit staff meetings
Multiple Community nursing seminars
Geriatric Nursing Symposium 2014 Prospect,Ct

References furnished upon request

Exhibit 3

Exhibit 3 – Articles and Studies

1. Effect of travel distance and time to radiotherapy on likelihood of receiving mastectomy. Goyal S, Chandwani S, Haffty BG, Demissie K. *Ann Surg Oncol*. 2015 Apr;22(4):1095-101. doi: 10.1245/s10434-014-4093-8.

Relevance to Proposal

This study looked at the relationship between a patient’s likelihood of receiving a mastectomy and the travel distance to a radiation treatment facility. The study found patients were 36% more likely to have had a mastectomy if the radiation therapy facility was more than a nineteen minute drive from their home. The authors concluded that “travel distance and time from a radiation therapy facility act as barriers to undergoing breast conserving surgery in women with early-stage breast cancer.”

NRRON currently provides radiation therapy in a convenient, community-based setting. Without the radiation therapy services provided in Enfield, cancer patients would have to travel twenty-five to thirty minutes to receive treatments in Manchester or Hartford. This article demonstrates the importance of having radiation therapy services within close proximity to a patient’s home and the impact that this access has on outcomes, including decisions to undergo breast conserving surgery or a mastectomy. This study supports the need to replace NRRON’s existing linear accelerator to ensure that radiation therapy services continue to be available for this patient population.

2. Effect of distance to radiation treatment facility on use of radiation therapy after mastectomy in elderly women. Punglia RS, Weeks JC, Neville BA, Earle CC. *Int J Radiat Oncol Biol Phys*. 2006 Sep 1;66(1):56-63.

Relevance to Proposal

The purpose of this study was to assess the effect of distance to the nearest radiation treatment facility on the use of post-mastectomy radiation therapy (PMRT) in elderly women. The study found that “increasing distance to the nearest radiation treatment facility was associated with a decreased likelihood of receiving PMRT.

This study further demonstrates the importance of having radiation therapy services within close proximity to a patient’s home, particularly for the elderly population. 15% of the geographic population of the Enfield site’s service area is age 65 or older (compared to 14% of the population statewide in Connecticut)¹ and more than half of the patients who actually receive radiation therapy services at the Enfield facility have Medicare. Replacement of the linear accelerator in Enfield maintains the existing access to radiation therapy services for this vulnerable patient population and will facilitate utilization of post-mastectomy radiation therapy in the elderly population served by NRRON in Enfield.

¹ Source: Connecticut Economic Resource Center, Inc. (CERC) - <http://www.cerc.com/townprofiles/default.asp>

Effect of Travel Distance and Time to Radiotherapy on Likelihood of Receiving Mastectomy

Sharad Goyal, MD^{1,2}, Sheenu Chandwani, MPH, PhD^{2,3,4}, Bruce G. Haffty, MD^{1,2}, and Kitaw Demissie, MD, PhD^{2,3,4}

¹Department of Radiation Oncology, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ; ²Rutgers Cancer Institute of New Jersey, New Brunswick, NJ; ³Department of Epidemiology, Rutgers School of Public Health, Piscataway, NJ; ⁴Institute for the Elimination of Health Disparities, Rutgers School of Public Health, Piscataway, NJ

ABSTRACT

Background. Breast-conserving surgery (BCS) followed by adjuvant radiation therapy (RT) is the standard of care for women with early-stage breast cancer as an alternative to mastectomy. The purpose of this study was to examine the relationship between receipt of mastectomy and travel distance and time to RT facility in New Jersey (NJ).

Methods. Data were collected from a cohort of 634 NJ women diagnosed with early-stage breast cancer. In patients receiving RT, the precise RT facility was used, whereas in patients not receiving RT, surgeons were contacted to determine the location of RT referral. Travel distance and time to RT facility from the patients' residential address were modeled separately using multiple binomial regression to examine their association with choice of surgery while adjusting for clinical and sociodemographic factors.

Results. Overall, 58.5 % patients underwent BCS with median travel distance to the radiation facility of 4.8 miles (vs. 6.6 miles for mastectomy) and median travel time of 12.0 min (vs. 15.0 min for mastectomy). Patients residing >9.2 miles compared with ≤9.2 miles from radiation facility were 44 % more likely to receive mastectomy. Additionally, patients requiring >19 min compared with ≤19 min of travel time were 36 % more likely to receive mastectomy.

Conclusions. These data found that travel distance and time from RT facility act as barriers to undergoing BCS in women with early-stage breast cancer. Despite being in an

urban region, a significant number of women in NJ with early-stage breast cancer did not receive BCS.

Breast conservation surgery followed by whole breast irradiation (BCS + RT) became the standard of care for women with early-stage breast cancer when the National Surgical Adjuvant Breast and Bowel Project (NSABP) B-06 trial, which compared mastectomy to lumpectomy with and without radiotherapy in women with invasive carcinoma, reported a threefold reduction in local recurrence at 20 years with the addition of RT after BCS.¹ Similarly, other randomized trials demonstrated equivalent survival and local control rates among women treated with either mastectomy or lumpectomy followed by whole breast RT.^{2–5} Despite the advantages of BCS + RT, up to 30 % of patients who have BCS do not receive adjuvant RT.^{6–9} Many patients choose mastectomy or BCS alone over BCS + RT to avoid the protracted course of daily treatment involved with RT, which consists of daily radiotherapy to the whole breast followed by a boost to the tumor bed, delivered over the course of 6–7.5 weeks. Physician referral patterns, patient's cultural background and beliefs, socioeconomic factors, personal preference, and distance to the nearest RT center are major factors that influence the treatment algorithm and may affect the utilization of RT.^{7,10,11}

Several studies have shown a relationship between rates of mastectomy and accessibility of a RT facility, defined as the closest facility to the patient's residential address.^{10,12–14} Nattinger et al. reported findings in 21,135 women with stage I or II unilateral breast cancer identified using the Surveillance Epidemiology and End Results (SEER) registry between 1991 and 1992. Patients living greater than 15 miles from the nearest RT facility were found to have a statistically significant lower probability of

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First Received: 24 July 2014;

Published Online: 23 September 2014

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undergoing BCS [odds ratio (OR) = 0.52; 95 % confidence interval (CI) 0.46–0.58].¹² Voti et al. reported on 26,423 primary breast cancer patients in Florida and found a negative association between the distance to the closest RT facility and BCS with 3 % decrease in odds of receiving BCS with a 5-mile increase in distance.¹⁴

These studies all share a similar conclusion but also are limited uniformly by their method of analysis between travel distance and receipt of RT; first and foremost, travel distances were calculated by the assumption of receipt of RT at the nearest facility, not the actual facility used. Therefore, the purpose of the present study was to assess the relationship between breast cancer surgery and geographic access to RT through two measures of accessibility: travel distance and travel time between patient's residential address and RT facility where treatment was delivered.

MATERIALS AND METHODS

Data Source and Study Population

Data collected in the Breast Cancer Treatment Disparity Study (BCTDS) was used for this analysis. BCTDS is a retrospective cohort study that includes 634 African American (AA) and white patients, diagnosed with early-stage breast cancer (stage I,II, T₃N₁M₀) between 2005 and 2011, 20–85 years of age at diagnosis, and residing in northern and central New Jersey (NJ). Patients with the following criteria were excluded from the BCTDS: neither AA nor white, nonresidents of NJ, diagnosed with inflammatory breast cancer or with histologic features other than adenocarcinoma, or diagnosed with any other cancer besides nonmelanoma skin cancer. Patients for the BCTDS were selected from the participants of Women Circle of Health Study who were identified and recruited using rapid case ascertainment conducted by the New Jersey State Cancer Registry staff at major hospitals in the Passaic, Bergen, Hudson, Essex, Union, Middlesex, and Mercer counties.¹⁵ Informed consents were obtained from all participants and the study was approved by the Institutional Review Board. Patients who agreed to participate in BCTDS provided names and addresses of all the healthcare providers involved in their breast cancer care. Medical records were obtained from the providers listed by the patient and were retrospectively reviewed to collect information for the study. Women whose RT facility could not be identified ($n = 1$), women who did not undergo BCS or mastectomy ($n = 3$), and women who travelled to RT facility from an address listed outside NJ ($n = 7$) were excluded. A total of 623 patients met these criteria and were included in this analysis.

Study Outcome

The outcome of this study was the definitive type of surgery patient received: mastectomy or BCS. Identification of BCS included partial mastectomy, lumpectomy, excisional biopsy, reexcision of the biopsy site to obtain negative margins, and quadrantectomy. Mastectomy included total (simple) mastectomy, modified radical mastectomy, radical mastectomy, skin-sparing mastectomy, and bilateral mastectomy. Patients who received BCS followed by a mastectomy were included as a part of the mastectomy group ($n = 85$), except for those who received RT in between BCS and mastectomy ($n = 2$) who were classified into the BCS group.

Travel Distance and Travel Time

The independent variables included travel distance and travel time required to reach the radiation facility from patients' home. Patient's residential address information at the time of diagnosis and information on the address of the radiation facility where patients received RT was provided by the patient at the time of participation and also was verified from the medical records ($n = 427$). For patients who did not receive radiation or whose RT facility was not available ($n = 207$), phone calls were made to the respective surgeon's offices and the referral to the specific radiation facility for each patient was obtained.

Two travel measures were then calculated for each patient. The first was the travel distance from patient's residential address to the actual RT facility for each patient. The second measure was the travel time from patient's residential address to the actual RT facility for each patient, as a measure of realized access to care. The shortest one-way travel distance and travel time required to reach the radiation facility from patient's residential address was calculated using Google maps (maps.google.com), which takes into account the latitude and longitude for the locations and calculates the driving distance and travel time between the two. If more than one route was suggested, the route with the shortest distance and time was chosen.

Covariates

The sociodemographic factors (age at diagnosis, race, marital status, education level, annual household income, and type of primary insurance), clinical characteristics [menopausal status, body mass index (BMI), and comorbidity count], tumor characteristics [histological grade, American Joint Committee on Cancer (AJCC) stage, estrogen receptor (ER)/progesterone receptor (PR) status, human epidermal growth factor receptor 2 (HER2) status,

TABLE 1 Sociodemographic characteristics by surgery type

Characteristics	Lumpectomy (N = 365) n (%)	Mastectomy (N = 258) n (%)	p value
Age at diagnosis (year)			<0.001
<45	49 (13.4)	73 (28.3)	
45–54	102 (27.9)	84 (32.6)	
55–64	134 (36.7)	70 (27.1)	
≥65	80 (21.9)	31 (12.0)	
Race			0.673
White	193 (52.9)	132 (51.2)	
AA	172 (47.1)	126 (48.8)	
Marital status			0.324
Married or living as married	153 (41.9)	118 (45.7)	
Separated/divorced/widowed	82 (22.5)	49 (19.0)	
Single/never married	46 (12.6)	41 (15.9)	
Unknown	84 (23.0)	50 (19.4)	
Highest education level			0.727
Less than high school	26 (7.1)	11 (4.3)	
High school/GED graduate	82 (22.5)	59 (22.9)	
Technical/vocational school/ some college	78 (21.4)	59 (22.9)	
College graduate	76 (20.8)	60 (23.3)	
Postgraduate	60 (16.4)	39 (15.1)	
Unknown	43 (11.8)	30 (11.6)	
Annual household income			0.514
<\$35,000	66 (18.1)	47 (18.2)	
\$35,000–\$69,999	63 (17.3)	42 (16.3)	
≥\$70,000	125 (34.2)	102 (39.5)	
Unknown	111 (30.4)	67 (26.0)	
Primary insurance			0.084
Government insurance	80 (21.9)	39 (15.1)	
Private insurance	244 (66.8)	186 (72.1)	
No insurance (charity or self- pay)	18 (4.9)	20 (7.8)	
Unknown	23 (6.3)	13 (5.0)	

p values are derived from Chi square tests

AA African American

triple-negative status], and receipt of adjuvant RT were examined as covariates in the study.

Statistical Analysis

Descriptive statistics for the sociodemographic, clinical, and tumor characteristics were evaluated for the BCS and mastectomy groups using Chi square tests. Distribution of travel distance and travel time was compared between the two groups using median with interquartile range (IQR) and quartiles computed from the distribution of all subjects. Association between type of surgery and the independent

TABLE 2 Clinical and tumor characteristics by surgery type

Characteristics	Lumpectomy (N = 365) n (%)	Mastectomy (N = 258) n (%)	p value
Menopausal status			<0.001
Pre	88 (24.1)	115 (44.6)	
Post	277 (75.9)	143 (55.4)	
BMI (kg/m ²)			0.001
<24.9	95 (26.0)	107 (41.5)	
25.0–29.9	117 (32.1)	61 (23.6)	
≥30.0	149 (40.8)	87 (33.7)	
Unknown	4 (1.1)	3 (1.2)	
Comorbidity count			0.006
0	66 (18.1)	75 (29.1)	
1	105 (28.8)	64 (24.8)	
≥2	194 (53.2)	119 (46.1)	
Tumor grade			0.064
Well differentiated	81 (22.2)	36 (14.0)	
Moderately differentiated	147 (40.3)	108 (41.9)	
Poorly differentiated	120 (32.9)	99 (38.4)	
Unknown	17 (4.7)	15 (5.8)	
Tumor size (cm)			<0.001
≤0.5	44 (12.1)	49 (19.0)	
>0.5 to ≤1.0	99 (27.1)	34 (13.2)	
>1.0 to ≤2.0	134 (36.7)	70 (27.1)	
>2.0	88 (24.1)	105 (40.7)	
Node status			<0.001
Negative	293 (80.3)	165 (64.0)	
Positive	68 (18.6)	91 (35.3)	
Unknown	4 (1.1)	2 (0.8)	
AJCC stage			<0.001
Stage I	237 (64.9)	109 (42.2)	
Stage II and above	124 (34.0)	145 (56.2)	
Unknown	4 (1.1)	4 (1.6)	
ER/PR status			0.388
One positive	45 (12.3)	30 (11.6)	
Both positive	245 (67.1)	170 (65.9)	
Both negative	75 (20.5)	56 (21.7)	
Unknown	0 (0.0)	2 (0.8)	
HER2 status			0.019
Positive	52 (14.2)	53 (20.5)	
Negative	304 (83.3)	192 (74.4)	
Unknown	9 (2.5)	13 (5.0)	
Triple-negative status			0.199
Yes	51 (14.0)	39 (15.1)	
No	305 (83.6)	206 (79.8)	
Unknown	9 (2.5)	13 (5.0)	
Radiation therapy			<0.001
Yes	356 (97.5)	53 (20.5)	
No	7 (1.9)	205 (79.5)	

TABLE 2 continued

Characteristics	Lumpectomy (<i>N</i> = 365) <i>n</i> (%)	Mastectomy (<i>N</i> = 258) <i>n</i> (%)	<i>p</i> value
Unknown	2 (0.5)	0 (0.0)	

p values are derived from Chi square test

BMI body mass index, *AJCC* American Joint Committee on Cancer, *ER* estrogen receptor, *PR* progesterone receptor, *HER2* human epidermal growth factor receptor 2

variables was examined using separate binomial regression models to estimate the relative risk (RR) of undergoing mastectomy with 95 % CI for each quartile of travel distance and travel time. We further examined the effect of clinical and sociodemographic covariates on the risk of undergoing mastectomy. Two separate adjusted models were established called the partially adjusted and fully adjusted models. The partially adjusted model included only clinical and tumor characteristics including BMI, tumor grade, AJCC stage, and triple-negative receptor status. The fully adjusted model also adjusted for sociodemographic characteristics (age at diagnosis and primary health insurance) in addition to the covariates included in partial adjustment. All statistical analysis was performed using SAS software version 9.3 (Cary, NC).

RESULTS

The study population consisted of 623 patients; of which, a total of 365 patients received BCS and 258 patients received mastectomy (Table 1). Overall, 47.8 % of patients were AA, 37.7 % had at least a college education, 36.4 % had a household income greater than \$70,000, and 69.0 % were privately insured. In addition, 55.5 % of patients were Stage I, 73.5 % were node-negative, 78.6 % ER- or PR-positive, 14.4 % triple-negative, 16.9 % HER2-positive, and 65.7 % of patients received RT.

Characteristics of the study subjects stratified by surgery type are shown in Tables 1 and 2. As expected, patient and tumor characteristics, such as younger age, premenopausal status, large tumor size, positive nodal status, and high AJCC stage, were each associated with receipt of mastectomy (all *p* < 0.05). Interestingly, low BMI, few comorbidities, and HER2 positivity also were significantly associated with receipt of mastectomy. Whereas distribution of race, marital status, education level, income, health insurance, ER/PR status, and triple negativity was not different between BCS and mastectomy groups.

As shown in Table 3, the median one-way distance to the RT facility was 4.8 miles [interquartile range (IQR): 2.9–7.9] for patients undergoing BCS and 6.6 miles (IQR: 3.5–10.2) for patients undergoing mastectomy (Kruskal–

TABLE 3 Travel distance and travel time by surgery type

	Lumpectomy (<i>N</i> = 365)	Mastectomy (<i>N</i> = 258)	RR (95 % CI)
Travel distance (miles)			
Median (IQR)	4.8 (2.9–7.9)	6.6 (3.5–10.2)	–
<i>p</i> < 0.001			
Quartiles, <i>n</i> (%)			
<3.2	106 (29.0)	52 (20.2)	Ref
3.2–5.6	101 (27.7)	60 (23.3)	1.13 (0.84–1.53)
5.7–9.2	86 (23.6)	63 (24.4)	1.28 (0.96–1.72)
>9.2	72 (19.7)	83 (32.2)	1.63 (1.25–2.12)
Travel time (min)			
Median (IQR)	12 (8–18)	15 (10–22)	–
<i>p</i> < 0.001			
Quartiles, <i>n</i> (%)			
<9	106 (29.0)	55 (21.3)	Ref
9–13	101 (27.7)	50 (19.4)	0.97 (0.71–1.32)
14–19	87 (23.8)	70 (27.1)	1.31 (0.99–1.72)
>19	71 (19.5)	83 (32.2)	1.58 (1.22–2.05)

p values are derived from Kruskal–Wallis test

RR relative risk, CI confidence interval, IQR interquartile range

Wallis *p* < 0.001). The median one-way travel time to the RT facility was 12 min (IQR: 8–18) for patients undergoing BCS and 15 min (IQR: 10–22) for those undergoing mastectomy (Kruskal–Wallis *p* < 0.001).

Results from the unadjusted binomial regression model (Table 3) demonstrated that travel distance in the highest quartile, i.e., >9.2 miles was associated with a significantly higher risk of receiving mastectomy compared with the lowest quartile, i.e., <3.2 miles (relative risk [RR]: 1.63; 95 % CI 1.25–2.12). The risk remained significantly elevated for travel distance >9.2 miles compared with <3.2 miles after adjusting (Table 4) for clinical characteristics (RR: 1.55; 95 % CI 1.18–2.04) and after adjusting for clinical and sociodemographic characteristics (RR: 1.42; 95 % CI 1.07–1.9).

Similar results were observed when unadjusted and adjusted association between surgery type and travel time was assessed (Tables 3 and 5). The univariate model revealed a significantly higher risk of receiving mastectomy for travel time >19 min compared with <9 min (RR: 1.58; 95 % CI 1.22–2.05). The partially and fully adjusted models also showed a significantly higher risk of undergoing mastectomy when highest quartile of travel time was compared with the lowest quartile (RR: 1.47; 95 % CI 1.12–1.93 and RR: 1.35; 95 % CI 1.02–1.79, respectively). In both the fully adjusted models, BMI < 24.5 versus > 30.0, AJCC stage II and above versus stage I, and age < 55 years versus ≥ 65 years also were significantly associated with the receipt mastectomy.

TABLE 4 Effect of travel distance (quartiles) on the risk of undergoing mastectomy

	Partially adjusted RR (95 % CI) N = 571	Fully adjusted RR (95 % CI) N = 539
Travel distance (miles)		
<3.2	Ref	Ref
3.2–5.6	1.28 (0.94–1.75)	1.24 (0.9–1.7)
5.7–9.2	1.28 (0.95–1.72)	1.37 (1.01–1.85)
>9.2	1.55 (1.18–2.04)	1.42 (1.07–1.9)
BMI (kg/m ²)		
<24.9	1.37 (1.1–1.71)	1.33 (1.07–1.65)
25.0–29.9	1.00 (0.76–1.31)	0.95 (0.72–1.25)
≥30.0	Ref	Ref
Tumor grade		
Well differentiated	Ref	Ref
Moderately differentiated	1.18 (0.86–1.62)	1.12 (0.82–1.53)
Poorly differentiated	1.17 (0.84–1.64)	1.18 (0.86–1.64)
AJCC stage		
Stage I	Ref	Ref
Stage II and above	1.7 (1.38–2.11)	1.47 (1.18–1.83)
Triple-negative status		
Yes	1.03 (0.8–1.32)	0.90 (0.69–1.17)
No	Ref	Ref
Age at diagnosis (year)		
<45	–	1.89 (1.29–2.76)
45–54	–	1.58 (1.06–2.35)
55–64	–	1.30 (0.87–1.94)
≥65	–	Ref
Primary insurance		
Non-private	–	Ref
Private	–	0.92 (0.77–1.1)

RR relative risk, CI confidence interval, BMI body mass index, AJCC American Joint Committee on Cancer

TABLE 5 Effect of travel time (quartiles) on the risk of undergoing mastectomy

	Partially adjusted RR (95 % CI) N = 571	Fully adjusted RR (95 % CI) N = 539
Travel time (min)		
<9	Ref	Ref
9–13	1.03 (0.75–1.41)	0.99 (0.72–1.37)
14–19	1.30 (0.98–1.72)	1.31 (0.98–1.76)
>19	1.47 (1.12–1.93)	1.35 (1.02–1.79)
BMI (kg/m ²)		
<24.9	1.34 (1.08–1.68)	1.30 (1.05–1.62)
25.0–29.9	0.99 (0.76–1.3)	0.94 (0.72–1.23)
≥30.0	Ref	Ref
Tumor grade		
Well differentiated	Ref	Ref
Moderately differentiated	1.15 (0.84–1.58)	1.09 (0.8–1.49)
Poorly differentiated	1.13 (0.81–1.58)	1.15 (0.83–1.6)
AJCC stage		
Stage I	Ref	Ref
Stage II and above	1.68 (1.36–2.08)	1.45 (1.16–1.8)
Triple-negative status		
Yes	1.04 (0.82–1.33)	0.89 (0.68–1.16)
No	Ref	Ref
Age at diagnosis (year)		
<45	–	1.89 (1.29–2.76)
45–54	–	1.58 (1.06–2.35)
55–64	–	1.27 (0.85–1.91)
≥65	–	Ref
Primary insurance		
Non-private	–	Ref
Private	–	0.93 (0.78–1.1)

RR relative risk, CI confidence interval, BMI body mass index, AJCC American Joint Committee on Cancer

DISCUSSION

According to the 2010 U.S. Census data, the state of NJ has the 11th highest population in the United States (8,791,894 in 2010) occupying only 7,354.2 square miles, making it the densest state in the country with 1,195.5 persons per square mile. In addition, NJ does not have a certificate of need for megavoltage linear accelerators allowing for an abundance of RT facilities. Our results indicate that travel distance and travel time to reach radiation facility plays an important role in determining the choice of breast cancer surgery; an increase in the adjusted risk of receiving mastectomy (≥35 %) occurred at distances >9.2 miles versus <3.2 miles or travel times >19 min versus <9 min between the patient's residential address and that of the treating RT facility. The association

between travel distance and time retained statistical significance in a model controlling for BMI, grade, AJCC stage, triple-negative receptor status, age at diagnosis, and insurance.

Several studies have examined the association of travel distance and receipt of RT; however, these studies used the nearest radiation facility to the patient while approximating the patient's residential location using the centroid of the zip code in which they lived.^{10,12–14} The present study estimated travel distances and times using the addresses of the radiation facilities where patients actually received radiation and their complete street address; this afforded a more accurate estimation of the accessibility of care while taking into account physician referral patterns. Our inclusion of travel time may give a more accurate representation of the geographic barriers to receipt of RT, such as quality

of the roads and traffic patterns, especially in a densely populated state as NJ. Moreover, we were able to assess the impact of private insurance, BMI, number of comorbidities, and receptor status in our cohort of patients, which revealed that only lower BMI was associated with higher rate of mastectomy in the multivariate analysis. To our knowledge, this is the first study to include a large array of sociodemographic data and tumor characteristics. It is notable that a difference in the receipt of mastectomy with such a small absolute difference in travel distance and time was observed. We believe that even in an urban state like NJ there is a paucity of public transportation for patients to use to access such medical facilities. We were unable to find a difference in receipt of mastectomy across varying income levels in our descriptive analysis, although data were missing for 178 patients. Inclusion of income in the fully adjusted model (data not shown) in 399 patients found that income (<\$70,000) did not affect the patients risk of mastectomy. In this model, the risk of mastectomy remained significantly elevated for travel distance >9.2 miles compared with <3.2 miles (RR: 1.42; 95 % CI 1.00–2.03), but not for travel time >19 min compared with <9 min (RR: 1.38; 95 % CI 0.97–1.96). The data included in this study were collected from patients and their medical records primarily for research purposes and has a high level of accuracy and completeness compared to other datasets (e.g., SEER, Medicare), which lends to the strength of this study. Recently, Jagsi et al. concluded that SEER registry data may not be an appropriate source for documentation or for investigating geographic variation of receipt of radiotherapy in breast cancer patients.¹⁶ In this analysis, the authors evaluated data from 2,290 survey respondents with nonmetastatic breast cancer in Detroit and Los Angeles and were merged with SEER data. They reported that underascertainment of radiotherapy was significantly associated in each registry with stage, income, mastectomy receipt, chemotherapy receipt, and diagnosis at a hospital that was not accredited by the American College of Surgeons.

Modified radical mastectomy is a standard of care alternative to BCS + RT and so the increase in mastectomy found among patients living >9.2 miles or >19 min away from the treating RT facility does not imply that these patients received an inferior treatment. Nonetheless, these women may not perceive access to a RT facility as a realistic treatment option. Our data suggest that the statistically significant effect of travel distance and time on receipt of mastectomy in NJ may be even more exaggerated in less urban areas.

It is interesting that women with a low BMI (<24.9) were more likely to receive a mastectomy; this may be explained by the receipt of reconstructive surgery or bilateral mastectomy, which we did not examine. Our data, however, did include 87 women who initially underwent BCS but eventually received a mastectomy; these women

were mostly included under mastectomy for the purposes of this study. This cohort of women were treated with a myriad of treatment regimens, and it can be inferred based on their treatment paradigm most likely included women with multiple positive margins after BCS, unacceptable cosmetic outcome after BCS, patient choice, poor response to neoadjuvant therapy, and tumor recurrence after BCS. One major limitation of all previously published studies is that they could not quantify the effect of these unique circumstances, which accounted for approximately 25 % of all BCS patients in our study.

Even given the unique strengths of our study, there are several limitations of the analysis that also are present in previously published reports. First, our method of calculating travel distance and travel time does not take into consideration the traffic conditions that may vary at different times of day. It also is possible that factors, such as collagen vascular diseases, cardiomyopathy, and previous radiation to the breast, affected the choice of surgery; these data were not available for analysis.

In conclusion, we found that despite being an urban region, a significant number of women in NJ with early-stage breast cancer did not receive BCS given the distance or time needed for the patient to travel to the treating RT facility. Oncologists and surgeons should consider the barrier to access the radiation facilities while making treatment recommendations to patients with early-stage breast cancer.

ACKNOWLEDGMENT The study team is grateful for medical, surgical and radiation oncologists and primary care physicians who understood the value of research and helped us obtain medical records of patients without which the conduct of the study would have been impossible. This work was supported by grants from the American Cancer Society (RSGT-07-291-01-CPHPS); the Susan G. Komen Breast Cancer Foundation (POP131006); the National Cancer Institute (R01CA133264, R01 CA100598, P01 CA151135, K22 CA138563, P30CA072720, P30 CA016056); US Army Medical Research and Material Command (DAMD-17-01-1-0334); the Breast Cancer Research Foundation; and a gift from the Philip L Hubbell family and the Buckingham Foundation.

DISCLOSURE None.

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ELSEVIER

CLINICAL INVESTIGATION

Breast

EFFECT OF DISTANCE TO RADIATION TREATMENT FACILITY ON USE OF RADIATION THERAPY AFTER MASTECTOMY IN ELDERLY WOMEN

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Purpose: We sought to study the effect of distance to the nearest radiation treatment facility on the use of postmastectomy radiation therapy (PMRT) in elderly women.

Methods and Materials: Using data from the linked Surveillance, Epidemiology, and End Results–Medicare (SEER–Medicare) database, we analyzed 19,787 women with Stage I or II breast cancer who received mastectomy as definitive surgery during 1991 to 1999. Multivariable logistic regression was used to investigate the association of distance with receipt of PMRT after adjusting for clinical and sociodemographic factors.

Results: Overall 2,075 patients (10.5%) treated with mastectomy received PMRT. In addition to cancer and patient characteristics, in our primary analysis, increasing distance to the nearest radiation treatment facility was independently associated with a decreased likelihood of receiving PMRT (OR = 0.996 per additional mile, $p = 0.01$). Secondary analyses revealed that the decline in PMRT use appeared at distances of more than 25 miles and was statistically significant for those patients living more than 75 miles from the nearest radiation facility (odds of receiving PMRT of 0.58 [95% CI = 0.34–0.99] vs. living within 25 miles of such a facility). The effect of distance on PMRT appeared to be more pronounced with increasing patient age (>75 years). Variation in the effect of distance on radiation use between regions of the country and nodal status was also identified.

Conclusions: Oncologists must be cognizant of the potential barrier to quality care that is posed by travel distance, especially for elderly patients; and policy makers should consider this fact in resource allocation decisions about radiation treatment centers. © 2006 Elsevier Inc.

Radiation therapy, Mastectomy, Elderly, Breast cancer, Barriers to care.

INTRODUCTION

Adjuvant external beam radiation therapy for breast cancer commonly requires daily treatment for up to 7 weeks. Presumably because of inconvenience, longer distances to the nearest radiation facility have been associated with omission of radiation after breast-conserving surgery (1–3). Randomized trials have demonstrated a large survival benefit for radiation use after mastectomy in specific patient subgroups (4–6). Although numbers of women receiving breast-conserving surgery have been increasing, data from national sources indicate that a large number of women with early-stage breast cancer still undergo mastectomy (7, 8). The influence of travel distance on receipt of radiation therapy has not been studied in the postmastectomy setting.

Studying the determinants of postmastectomy radiation therapy (PMRT) in older women may be especially informative. The proportion of women undergoing mastectomy for early-stage breast cancer increases with patient age (7–10), and locoregional recurrence after mastectomy remains a problem in older women (11). One randomized study

found that patients aged 59 years or less benefited similarly to those 60 years or more (5). However research has also demonstrated that older women are vulnerable to unwarranted variation in health care delivery (8, 10, 12, 13). Lack of access to adequate transportation may be a critical determinant of cancer care received among older patients (14, 15). The deterring effect of transportation issues may be even more pronounced when patients are faced with weeks of daily outpatient treatment, as is needed for radiation therapy.

We sought to study receipt of PMRT in elderly women diagnosed with early-stage breast cancer. Specifically, we were interested in defining the clinical and sociodemographic factors, including distance to the nearest radiation facility, that influence the receipt of PMRT.

METHODS AND MATERIALS

Data sources

Patients included in our study were taken from the linked Surveillance, Epidemiology, and End Results–Medicare (SEER–Medicare) database. The 11 tumor registries participating in the

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Received Jan 30, 2006, and in revised form March 21, 2006.
Accepted for publication March 23, 2006.

SEER program capture approximately 97% of incident cases (16) covering a representative sample of approximately 14% of the U.S. population (17). Registries collect data on each patient's age, sex, race/ethnicity, cancer site, stage, histology, date of diagnosis, and the date and cause of death. Medicare claims for inpatient and outpatient care, physician, durable medical equipment and laboratory billings, as well as bills for home health and hospice care, have been linked to SEER for patients aged 65 years and older (18). Census-tract level sociodemographic information is also included. The current SEER-Medicare database contains patients with SEER diagnosis dates and information from 1991 through the end of 1999 and Medicare claims through the end of 2001. Specifically for this study, we received patient zip code information.

Cohort selection

The cohort for this study consisted of early stage (SEER historic stage or American Joint Committee on Cancer [AJCC] Stage I or II) female patients with unilateral breast cancer diagnosed in a SEER region between January 1, 1991 and December 31, 1999. Histology of the breast cancers included were ductal, lobular, mixed ductal and lobular, tubular, medullary, mucinous, papillary, and other or unspecified adenocarcinomas. We excluded patients who were enrolled in Medicare for end-stage renal disease or disability, patients whose diagnoses were made from autopsy or death certificates, patients with previous cancers, patients with an unknown date of diagnosis, and those whose date of death differed by more than 3 months between SEER and Medicare. We also excluded patients if they did not have continuous Medicare enrollment (Part A and Part B) or if they were enrolled in a health maintenance organization (HMO) at any time from 13 months prediagnosis (to use for comorbidity assessment) to 1 year post mastectomy.

All patients underwent mastectomy as identified in SEER (site-specific surgery codes 30, 40, 50, 60, 70, 90) or Medicare. Mastectomy in Medicare was captured with American Medical Association Current Procedural Terminology (CPT) codes 19180, 19182, 19184 to 19187, 19200, 19211 to 19216, 19220, 19224 to 19229, 19240, 19250 to 19255; International Classification of Diseases 9th revision, Clinical Modification (ICD-9-CM) procedure codes 85.41, 85.43, 85.45, 85.47; and hospital Diagnosis-Related Groups (DRG) codes 257, 258. The first mastectomy to occur between date of diagnosis and 4 months after was used for analysis. For mastectomies that were identified only in SEER (~1% of total), a proxy mastectomy date of 4 months after diagnosis was used. Women were excluded if they had received chemotherapy or radiation therapy before their mastectomy date, as patients who receive neoadjuvant chemotherapy or radiation therapy are likely subject to different criteria regarding the use of radiation therapy. Similarly, patients were excluded if they had undergone radiation therapy for brain or central nervous system metastases. Patients with additional cancer diagnoses after this first breast cancer were excluded from the cohort if the subsequent cancer diagnosis was within 1 year of first mastectomy date. Accordingly, patients were also excluded if they did not survive at least 1 year after the date of mastectomy. Five patients with incomplete information regarding nodal evaluation were excluded. The Institutional Review Board of Dana-Farber/Partners Cancer Care approved this study.

Patient characteristics

Explanatory variables included the following: distance to nearest radiation treatment facility; diagnosis year; tumor characteris-

tics (size, number of involved lymph nodes, estrogen receptor status, progesterone receptor status, grade, histology, and laterality); other clinical characteristics (age at diagnosis, comorbidities); treatments received (nodal examination, breast reconstructive surgery); sociodemographic factors (race/ethnicity, estimated socioeconomic status [SES], region of the country, history of Medicaid enrollment, marital status at time of diagnosis, estimated education level); and type of treating institution (academic vs. community hospital).

Distance to the nearest radiation treatment facility was identified by the latitude and longitude of 1,197 hospitals offering radiation services from the 2000 American Hospital Association (AHA) Annual Survey of Hospitals (19). Fifteen hospitals did not have latitude and longitude available in the 2000 AHA dataset, where the US Census Bureau website (<http://www.census.gov/cgi-bin/gazetteer>) was used. The latitude and longitude of each patient's residence was derived from ZIPList5 (Geocode Z5LLDOC.TXT, © 1995 to 2002, www.zipinfo.com). The distance to the nearest radiation facility for each patient was determined by using an algorithm based on latitude and longitude that calculates the distance from the patient's residence to each radiation facility and then selects the minimum distance. The minimum distance was analyzed as a continuous variable. Five patients were identified as being more than 900 miles from the nearest facility and were excluded because their information likely had been incorrectly reported. Because of the noncontiguous nature of the Hawaiian landscape where direct ("as the crow flies") distances may not represent travel time to the facility, patients from Hawaii were excluded from analysis.

Year of diagnosis was categorized annually to identify nonlinear trends. Tumor size was categorized with >0 to 2 cm as the referent and the following categories: >2 cm to 5 cm, >5 cm, 0 cm, and size not stated. The variable for the number of involved (positive) axillary lymph nodes used zero as the referent and then the following categories: 1, 2, 3, 4 to 6, 7 to 9, 10 or more, involved but unknown number, and not examined. The total number of nodes examined was grouped in the following way: none (zero) examined, 1 to 6 examined (referent), 7+ examined, examined but number unknown. The estrogen and progesterone receptor status variables were both categorized as positive, negative, borderline, and not done, with positive being the referent group. Tumor grade was well differentiated (referent), moderately differentiated, poorly differentiated, and unknown. Histology was grouped as ductal carcinoma (referent), lobular carcinoma, mixed ductal and lobular carcinoma, tubular/medullary/mucinous/papillary carcinoma, or other/unspecified adenocarcinoma. Laterality was right, left, or unknown, with right as the referent. Patient age at diagnosis was estimated (because the exact day of diagnosis was not available, the 15th day of the month was used) and was studied as a continuous variable. Comorbidities were identified by looking for diagnostic billing codes for specific health conditions during the year before diagnosis of breast cancer using the Deyo implementation (20) of the Charlson score (21) and applied to both inpatient and outpatient claims, as suggested by Klabunde *et al.* (22). The Charlson score was then categorized as 0, 1, 2, or 3 or more, with 0 serving as the referent category.

Treatments were identified from Medicare billing claims. Adjuvant chemotherapy administration was identified up to 6 months from mastectomy. We considered reconstruction surgery within 4 weeks of mastectomy as early reconstruction. Reconstruction was identified using ICD-9-CM procedure codes 85.50 to 85.54 and

85.70 to 85.79; CPT codes 19324, 19325, 19342, 19357, 19361, 19364, and 19366 to 19369; and DRG code 356.

Socioeconomic quintiles were developed on the basis of information availability, according to the following hierarchy: race/ethnicity and age-specific median household income by census tract, unadjusted median household income by census tract, unadjusted median household income by zip code, unadjusted per capita income by census tract and unadjusted per capita income by zip code. If all of those listed were missing ($n = 145$, 0.7%), the patient was classified in the lowest SES quintile (23). Education was evaluated at the census tract level using quintiles representing the percentage of persons more than 25 years of age with some college education. Medicaid enrollment was identified from 1986 to 2002 and used to define a subset with a low-income history. The cancer registries were categorized into regions: West, Midwest, Northeast, and South. Race was evaluated as white, black, or other, whereas ethnicity was analyzed in a separate variable as Hispanic or non-Hispanic. Marital status was assessed at diagnosis and was categorized as married vs. other (single, separated, divorced, widowed, unknown). A patient was considered to have undergone mastectomy in a teaching hospital if there was an institutional payment for indirect medical education during that patient's hospitalization.

Outcome studied

Because of chemotherapy regimens that may be administered before initiation of radiation therapy, we defined our outcome as radiation therapy initiated within 1 year of mastectomy date. Therefore, patients who received radiation treatment more than 1 year after the mastectomy date were coded as not having received the outcome of interest. A sensitivity analysis was performed using 9 months from mastectomy, which did not change the results. Radiation administration was identified in Medicare using ICD-9-CM codes V58.0, 92.20 to 92.29; CPT codes 77000 to 77999; Revenue Center codes 0330, 0333, 0339; DRG code 409; inpatient (MEDPAR) radiology oncology indicator, inpatient radiology therapeutic indicator; and Berenson-Eggers Type of Service (BETOS) code P7A. SEER identifies radiation administered or planned within 4 months of diagnosis. Patients who had SEER-identified beam radiation, not administered before or during surgery, were also considered to have the outcome of interest.

Statistical analyses

Statistical analyses were conducted using SAS software, version 8.2, for Windows (SAS Institute, Cary, NC). First, the crude association of each potential explanatory variable with the outcome of radiation therapy receipt was examined using Chi-square tests and Fisher exact tests for categorical variables, and *t*-tests or nonparametric Wilcoxon rank-sum tests for continuous variables. The independent association of an explanatory variable (adjusting for other variables) was examined using a logistic regression model. A forward and backward elimination algorithm was also used to examine nonsignificant relationships in the model that might be caused by collinearity and confounding among the variables in the model. These analyses were not adjusted for the use of chemotherapy as receipt of chemotherapy is highly collinear with receipt of radiation, and the use of chemotherapy is not a factor in determining whether or not postmastectomy radiation should be given in treatment guidelines (24, 25). Results are presented as odds ratios (OR) with 95% confidence intervals (CI) and as *p*-values.

However, additional exploratory analyses to study the effect of distance after adjusting for chemotherapy use were conducted to determine whether distance serves as a more significant barrier for radiation administration than for chemotherapy administration. Chemotherapy use was identified using ICD-9-CM diagnosis codes V58.1, 99.25; CPT codes 96400 to 96599; Health Care Financing Administration Common Procedure Coding System (HCPCS) codes J7150, J8500-J8799, J8999, J9000-J9999, Q0083-Q0085; hospital DRG 410, Revenue Center codes 0331, 0332, 0335, BETOS code O1D; and National Drug Code (NDC) descriptions for Alkeran, Cytoxan, Methotrexate Sodium, Temodar, Vepesid, and Xeloda. Interaction terms to test *a priori* hypotheses regarding the effect of distance (e.g., distance and type of treatment facility, academic vs. community hospital) were studied in exploratory analyses.

RESULTS

Among 19,787 patients, the median distance to the nearest radiation treatment facility was 4.83 miles (interquartile range [IQR], 2.67 to 10.84). Median age was 75.3 years (IQR, 70.8–80.6) and median tumor size was 2.0 cm (IQR, 1.2–3.0). The median number of nodes sampled was 13 (IQR, 9–18); 62.2% of patients had no nodal involvement, and 18.2% had 1 to 3 involved lymph nodes.

Overall, 2,075 (10.5%) patients with Stage I or II breast cancer treated with mastectomy received PMRT. Shorter distance to the nearest radiation facility ($p < 0.0001$) was associated with increased use of PMRT on univariate analysis (Table 1). As expected, tumor characteristics such as larger size ($p < 0.0001$), higher grade ($p < 0.0001$), lobular histology ($p < 0.0001$), lack of hormone receptor expression ($p < 0.0001$), and increasing number of positive nodes ($p < 0.0001$) were each associated with PMRT on univariate analysis (Table 1). Patient characteristics such as lower number of comorbidities ($p < 0.0001$), and younger age ($p < 0.0001$), and treatment characteristics such as extent of nodal dissection ($p < 0.0001$) and more recent year of diagnosis ($p < 0.0001$), were also highly correlated with PMRT. Certain sociodemographic factors such as lack of personal history of low income ($p < 0.0001$), higher SES ($p = 0.01$), region of the country ($p < 0.0001$), and non-white race ($p = 0.0002$) were also associated with increased use of PMRT on univariate analysis (Table 1).

Increasing distance to the nearest radiation treatment facility was associated with a decreased likelihood of receiving PMRT on multivariable analysis (OR = 0.996 per additional mile, $p = 0.01$). Distance was modeled as a continuous variable, however for illustrative purposes was modeled as a categorical variable in Fig. 1. After adjusting for covariates, each 25 miles in additional travel to the nearest radiation facility was associated with declining odds of receiving radiation. This decline was statistically significant for those patients living more than 75 miles from the nearest radiation facility (for receipt of PMRT, OR = 0.58, 95% CI = 0.34–0.99) vs. living within 25 miles of such a facility. A distance of 25 miles was chosen as the category of analysis, as we found no consistent trend in PMRT

Table 1. Continuous and categorical univariate predictors of postmastectomy radiation therapy (PMRT) use

Variable	Median (25 th –75 th percentile)	No PMRT (n = 17712)	PMRT (n = 2075)	p-value
Distance to nearest radiation facility (miles)	4.83 (2.67–10.84)	4.86	4.70	<0.0001
Age at diagnosis (years)	75.3 (70.8–80.6)	75.6	73.7	<0.0001
Characteristic	Number of patients	No PMRT (%)	PMRT (%)	p-value
Demographics				
Ethnicity				0.0002
White	18258	89.8	10.2	
African American	1050	86.1	13.9	
Other	479	87.3	12.7	
Hispanic				0.29
No	19139	89.6	10.4	
Yes	648	88.3	11.7	
Region				<0.0001
Midwest	7307	91.4	8.6	
West	8757	88.4	11.6	
Northeast	2626	88.2	11.8	
South	1097	88.6	11.4	
Socioeconomic status				0.01
Lowest quintile	4111	90.5	9.5	
Second quintile	3926	90.0	10.0	
Third quintile	3928	89.7	10.3	
Fourth quintile	3933	89.1	10.9	
Highest quintile	3889	88.2	11.8	
Low-income history				<0.0001
No	16303	89.1	10.9	
Yes	3484	91.5	8.5	
Comorbidity score				<0.0001
0	14698	88.9	11.1	
1	3570	91.0	9.0	
2	897	91.9	8.1	
≥3	622	92.8	7.2	
Married at diagnosis				0.003
No	11638	90.1	10.0	
Yes	8149	88.8	11.3	
College educated in census tract				0.32
Lowest quintile	3985	89.1	10.9	
Second quintile	3985	90.4	9.6	
Third quintile	3968	89.5	10.5	
Fourth quintile	3381	89.4	10.6	
Highest quintile	4468	89.2	10.8	
Cancer characteristics				
Tumor size				<0.0001
>0–2 cm	11190	93.7	6.3	
>2–5 cm	6555	85.8	14.3	
>5 cm	1018	66.2	33.8	
0 cm	15	86.7	13.3	
Not stated	1009	91.6	8.4	
Number of involved nodes				<0.0001
0	12297	94.7	5.3	
1	1971	90.3	9.7	
2	1018	87.7	12.3	
3	614	81.4	18.6	
4–6	930	69.7	30.3	
7–9	463	63.9	36.1	
≥10	801	50.2	49.8	
Involved, but number not known	107	62.6	37.4	
Not examined	1480	93.3	6.7	
Estrogen receptor status				<0.0001
Positive	13080	89.5	10.5	
Borderline	145	87.6	12.4	
Negative	2638	85.5	14.5	
Not done	3924	92.3	7.7	

(Continued)

Table 1. Continuous and categorical univariate predictors of postmastectomy radiation therapy (PMRT) use (Continued)

Characteristic	Number of patients	No PMRT (%)	PMRT (%)	p-value
Progesterone receptor status				<0.0001
Positive	10660	89.8	10.2	
Borderline	200	87.5	12.5	
Negative	4654	86.6	13.4	
Not done	4273	92.1	7.9	
Tumor grade				<0.0001
Well-differentiated	2418	93.7	6.3	
Moderately differentiated	6759	90.5	9.5	
Poorly differentiated	5361	85.4	14.6	
Unknown	5249	90.5	9.5	
Histology				<0.0001
Ductal	14263	89.8	10.2	
Lobular	2250	85.5	14.5	
Mixed ductal/lobular	1214	87.3	12.7	
Tubular/medullary/mucinous/papillary	1164	94.7	5.3	
Other/unspecified adenocarcinoma	896	91.4	8.6	
Laterality				0.87
Left	10075	89.6	10.4	
Right	9699	89.4	10.6	
Unknown	13	92.3	7.7	
Treatment characteristics				<0.0001
Year of diagnosis				<0.0001
1991	2627	91.1	9.0	
1992	2842	89.9	10.1	
1993	2527	91.1	8.9	
1994	2401	90.9	9.1	
1995	2196	89.5	10.5	
1996	1956	89.8	10.2	
1997	1877	86.8	13.2	
1998	1701	87.9	12.1	
1999	1660	86.3	13.7	
Number of nodes examined				<0.0001
1-6	1752	90.2	9.8	
≥7	16162	89.2	10.8	
Unknown, but done	236	80.8	19.2	
Zero	1475	93.3	6.7	
Early reconstructive surgery				0.54
No	19330	89.5	10.5	
Yes	457	90.4	9.6	
Mastectomy at a teaching hospital				0.63
No	12883	89.4	10.6	
Yes	6904	89.7	10.3	
Chemotherapy within 6 months of surgery				<0.0001
No	17191	92.3	7.7	
Yes	2589	70.9	29.1	

Abbreviation: RT = radiation therapy.

p-values from rank sum test for continuous variables, and chi-squared test for categorical variables.

likelihood among patients who lived within 25 miles of a radiation treatment facility.

Multivariable analysis (Table 2) revealed the number of positive lymph nodes ($p < 0.0001$), tumor size ($p < 0.0001$), grade ($p = 0.01$), estrogen receptor status ($p < 0.0001$), and histology ($p = 0.01$) to be associated with PMRT. In addition, increasing patient age (OR = 0.94 per year, 95% CI = 0.93–0.95, $p < 0.0001$), personal history of low income ($p < 0.0001$), increasing comorbidity score ($p < 0.0001$), and early reconstructive surgery ($p = 0.03$) were associated with the omission of PMRT. Significant variation in radiation use between regions of the country

($p < 0.0001$) and diagnosis year ($p < 0.0001$) was also identified.

In exploratory analyses, we studied the influence of distance on PMRT after conducting separate analyses by age at diagnosis (Fig. 2). In these analyses, the effect of distance was only significant in women aged 75 to 80 years (OR = 0.992 per additional mile, $p = 0.03$), and those more than 80 years of age (OR = 0.989, $p = 0.02$). In a similar manner, when analyses were conducted separately by geographic region (Northeast, South, Midwest, and West), the effect of distance was only significant in the Midwest (OR = 0.992, $p = 0.014$). The analyses were also separated by patient

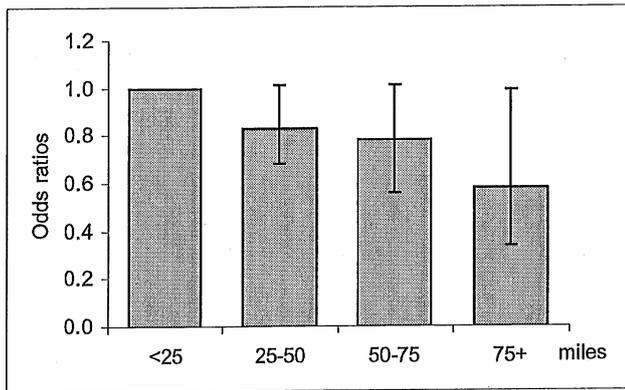


Fig. 1. Odds ratios and 95% confidence intervals for receiving radiation therapy postmastectomy for patients separated by distance (in miles) to the nearest radiation treatment facility, after controlling for age, comorbidity, region of country, history of low income, number of axillary nodes removed, presence of early reconstructive surgery, number of involved lymph nodes, tumor size, grade, histology, estrogen receptor status, and year of diagnosis. Dotted line marks an odds ratio of 1.0, or that of the referent category of patients who live within 25 miles of a radiation treatment facility.

nodal status. Among women with positive nodes, the effect of distance was not significant ($OR = 1.00$, $p = 0.87$). In women for whom no nodal evaluation was performed, the effect of distance approached significance and may have been limited by decreased power in this smaller group ($OR = 0.977$, $p = 0.052$). However the effect of distance was significant in women with no positive nodes ($OR = 0.992$, $p = 0.013$). Likewise the variable for distance from the nearest radiation therapy facility retained statistical significance ($OR = 0.996$ per additional mile, $p = 0.026$) in a model controlling for geographic region and chemotherapy use (data not shown).

DISCUSSION

Clinical practice guidelines (24, 25) regarding the use of radiation therapy after mastectomy were not published until after the publication of the randomized trials studying the use of PMRT, and after our period of analysis. Although we found that women with positive lymph nodes were more likely to receive PMRT, we included in our analysis all women who underwent mastectomy, regardless of nodal status, given the lack of treatment recommendations during this era; and we instead adjusted our analyses for clinical factors such as tumor size and number of positive lymph nodes.

Controlling for nodal status, tumor size, hormone receptor status, histology, tumor grade, age, and comorbidity score, use of PMRT was inversely associated with distance to the nearest radiation facility. Geographic region, year of diagnosis, and history of low income also affected radiation use rates. In addition, treatment factors such as number of lymph nodes surgically removed and lack of reconstructive surgery were correlated with increased use of PMRT, even after adjusting for clinical and patient factors.

The decline in receipt of PMRT occurred at distances greater than 25 miles between the centers of the zip codes encompassing the patient's residence and that of the nearest radiation facility (Fig. 2). Only 12.8% of the patients in our study lived more than 25 miles away from the nearest radiation facility. However, the SEER population is more heavily urban than the general population (26), suggesting that lack of access to radiation therapy may affect an even higher proportion of patients. The deterring effect of distance retained statistical significance in a model controlling for geographic region and chemotherapy use (data not shown). The indications for chemotherapy after mastectomy are highly correlated with the indications for radiation therapy, suggesting that travel distance serves as a larger impediment to radiation treatment (which is delivered daily) than it is to less frequent chemotherapy administration.

Exploratory analyses indicated that the deterring effect of distance was most pronounced in the Midwest where, unlike the other three regions studied, the effect of distance remained significant after separation of the analyses by geographic area. However the power to detect such a difference was smaller in the West and Northeast because of the fewer patients in our analysis from these two areas. The retention of significance of the distance variable among very elderly patients (75–80 years and >80 years of age), but not in younger women, is consistent with the hypothesis that transportation becomes increasingly more challenging with greater age. An additional explanation may be that physicians and/or patients are choosing to forego radiation in the subset of very elderly patients who may derive the smallest absolute benefits with such therapy because of competing causes of mortality, especially among those patients for whom receiving radiation therapy presents the greatest disruption from daily routines. Nevertheless it is reassuring to note that among node-positive patients—i.e., the subset most likely to benefit from radiation therapy—no deterring effect of distance on receipt of radiation therapy was found.

Our study has some limitations common to observational studies using administrative data. This data source only captures Medicare patients and has incomplete data on the roughly 15% of patients in managed care. There are data to suggest that the patient population and practice patterns in HMOs can differ significantly from those in a fee-for-service setting (13, 27, 28). For example, previous studies have indicated that HMO patients tend to have fewer comorbidities than patients in the general Medicare population (29). The SEER sample is not a national probability sample: the SEER data come from cancer registries from selected regions that have been shown to be representative of the national population in terms of education (percentage of high school graduates) and income (percentage of individuals in poverty), although the sample is more heavily urban and foreign-born than the rest of the population. Methods for comorbidity adjustment are still undergoing development and revision (22). In addition, data on margin status after mastectomy are not available. However only a small minority of mastectomies performed among women with

Table 2. Factors significantly associated with receipt of postmastectomy radiation therapy (PMRT) in multivariable analysis

Variable	OR	95% CI	p-Value
Distance to nearest radiation facility*	0.996	(0.992, 0.999)	0.015
Age at diagnosis*	0.942	(0.934, 0.950)	<0.0001
Region			<0.0001
Midwest	1.0		
West	1.39	(1.24, 1.56)	
Northeast	1.34	(1.14, 1.56)	
South	1.46	(1.16, 1.83)	
Low-income history			<0.0001
No	1.0		
Yes	0.73	(0.63, 0.84)	
Comorbidity score			<0.0001
0	1.0		
1	0.80	(0.70, 0.92)	
2	0.70	(0.54, 0.92)	
≥3	0.51	(0.36, 0.71)	
Cancer characteristics			<0.0001
Tumor size			<0.0001
>0-2 cm	1.0		
>2-5 cm	1.62	(1.44, 1.82)	
>5 cm	3.55	(2.97, 4.25)	
0 cm	0.67	(0.13, 3.39)	
Not stated	1.14	(0.89, 1.47)	
Number of involved nodes			<0.0001
0	1.0		
1	1.65	(1.39, 1.96)	
2	2.11	(1.71, 2.61)	
3	3.39	(2.70, 4.25)	
4-6	6.05	(5.09, 7.12)	
7-9	8.09	(6.49, 10.10)	
≥10	13.6	(11.4, 16.2)	
Involved, but number not known	6.36	(3.35, 12.07)	
Not examined	0.41	(0.01, 32.07)	
Estrogen receptor status			<0.0001
Positive	1.0		
Borderline	1.29	(0.74, 2.24)	
Negative	1.27	(1.10, 1.46)	
Not done	0.81	(0.70, 0.94)	
Tumor grade			0.01
Well differentiated	1.0		
Moderately differentiated	1.12	(0.92, 1.36)	
Poorly differentiated	1.33	(1.10, 1.63)	
Unknown	1.18	(0.96, 1.45)	
Histology			0.01
Ductal	1.0		
Lobular	1.25	(1.07, 1.46)	
Mixed ductal/lobular	1.02	(0.83, 1.24)	
Tubular/medullary/mucinous/papillary	0.79	(0.60, 1.04)	
Other/unspecified adenocarcinoma	0.85	(0.66, 1.11)	
Treatment characteristics			
Year of diagnosis			
1991	1.0		
1992	1.19	(0.98, 1.46)	0.08
1993	0.97	(0.79, 1.20)	0.78
1994	1.01	(0.82, 1.25)	0.90
1995	1.23	(0.996, 1.52)	0.06
1996	1.25	(1.002, 1.56)	0.048

(Continued)

Table 2. Factors significantly associated with receipt of postmastectomy radiation therapy (PMRT) in multivariable analysis (Continued)

Variable	OR	95% CI	p-Value
1997	1.68	(1.36, 2.08)	<0.0001
1998	1.56	(1.25, 1.95)	<0.0001
1999	1.76	(1.41, 2.19)	<0.0001
Number of nodes examined			0.0002
1-6	1.0		
≥7	0.68	(0.57, 0.81)	
Unknown, but done	1.02	(0.60, 1.74)	
Zero	2.92	(0.04, 231.2)	
Early reconstructive surgery			0.03
No	1.0		
Yes	0.68	(0.48, 0.96)	

Abbreviations: PMRT = postmastectomy radiation therapy; CI = confidence interval; OR = odds ratio.

*Odds ratios for continuous variables in terms of each additional year (age at diagnosis), or additional mile from the nearest radiation treatment facility (distance).

Stage I or II breast cancer have positive margins (30). Finally, administrative data were not collected for research purposes, and so there is uncertainty about their accuracy and completeness. For example, treatment identification relied largely on Medicare procedure codes, which may be underreported. However we were able to capture radiation use after 4 months of therapy by having the linked Medicare claims, only 71.0% of which would have been identified by the SEER data alone.

CONCLUSION

In conclusion, we have identified variation in use of PMRT based on distance to the nearest radiation treatment

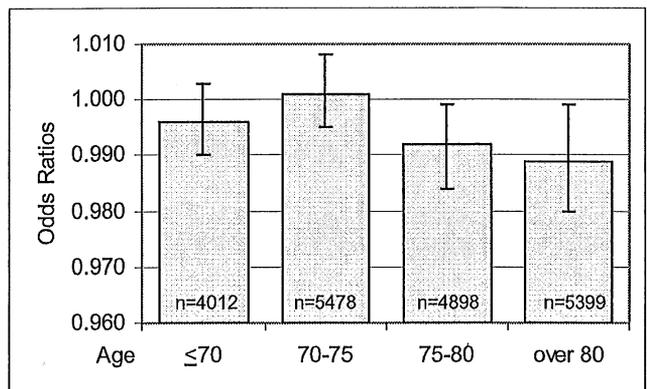


Fig. 2. Adjusted odds ratios for the variable expressing each additional mile of distance from the nearest radiation treatment facility, with analyses separated by age groups (≤70 years, >70 to 75 years, >75 to 80 years, and >80 years). Values shown are adjusted for comorbidity, region of country, history of low income, number of axillary nodes removed, presence of early reconstructive surgery, number of involved lymph nodes, tumor size, grade, histology, estrogen receptor status, and year of diagnosis.

facility, controlling for clinical factors, in a population-based cohort. Geographic region, history of low income, and year of diagnosis were also associated with the receipt of PMRT. Given the demonstrated survival benefit of radiation therapy after mastectomy in women at high risk for locoregional recurrence, mechanisms to ameliorate the

effect of distance on receipt of radiation therapy (such as supporting individuals with transportation limitations, decreasing the centralization of radiation services, or offering shorter hypofractionated courses of radiation therapy) may help to remove barriers to potentially life-saving treatment.

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Exhibit 4



Johnson Memorial Medical Center

Health care. The way it should be.

May 13, 2015

Janet Brancifort, Deputy Commissioner
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308

Dear Deputy Commissioner Brancifort:

I would like to express my support for the Certificate of Need Application filed by Northeast Regional Radiation Oncology Network, Inc. ("NRRON") to replace its existing linear accelerator so that they may continue to provide radiation therapy services at the Johnson Memorial Cancer Center in Enfield, CT.

As a practicing Medical Oncologist located in the same building, I currently refer patients for services, particularly because many patients express a preference for receiving such services close to home. Because oncology patients in need of radiation treatments often require frequent visits over a period of weeks or months, it important that they have to option to receive those treatments closer to where they live, and avoid logistical challenges that going into Hartford can pose for some in this vulnerable group of patients. I feel that their compliance with treatment regimens is enhanced when we can remove logistical barriers. For my patients, especially those receiving both chemotherapy and radiation treatment, it is greatly beneficial to be able to access both in Enfield.

I am very satisfied with the quality of services delivered at the Johnson Memorial Cancer Center and believe that the creation of NRRON has significantly improved patient access to quality radiation therapy services in the area. Failure to authorize the replacement of the linear accelerator would be greatly detrimental for patient access in this community.

I understand that CON authorization is required for NRRON to replace its existing linear accelerator and believe it is imperative that this authorization be given. As the only community-based facility in the Enfield area, I believe it offers my patients the same high quality radiation therapy services offered by the hospitals in Hartford, but in a more convenient and accessible setting for my patients.

I encourage you to approve this proposal and allow NRRON to continue providing the care and access to radiation therapy services that my patients have come to expect in their local community.

Sincerely,

Jaykumar Thumar, MD.

May 14, 2015

Janet Brancifort, Deputy Commissioner
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308

Dear Deputy Commissioner Brancifort:

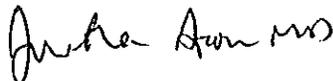
I am the Chief of Hematology-Oncology at St Francis Hospital and at Johnson Memorial Hospital, and the Medical Director for the Krzynowek Infusion Center in Enfield since its opening. I am writing in support of the Certificate of Need application filed by NRRON (Community Cancer Care) to replace the linear accelerator unit for the continuation of radiation therapy services in Enfield. I have practiced Hematology-Oncology in the greater Hartford area for almost 30 years, and at St Francis for 13 years, and I have had ample experience to see the expansion of services for cancer patients in northern CT.

Radiation therapy often involves extended courses of daily treatment, and often the time and energy spent on transportation contributes significantly to the burden on the patient. The catchment area of the Enfield facility includes many patients for whom the additional travel to Hartford, Springfield, or Manchester would have a significant adverse impact on their quality of life. While a small number of patients still need to come to Hartford for specialized radiation therapy treatments, the overwhelming majority of the radiation oncology needs for this area are served by the Enfield facility.

I have not had any concerns about the quality of radiation care being delivered by the physicians or other staff in the radiation oncology department. My medical oncology team has worked well with the radiation therapy department in Enfield, and collaborations for multidisciplinary planning at tumor boards and for routine care of mutual patients have been simple and well-received by patients who see their treatment being managed by a team that works well together. This team environment created by the medical and radiation oncology services has fostered an identity for a JMMC-St Francis cancer program serving the area, which has been a focal point for accreditation by the American College of Surgeons as a Community Cancer Center. The outgrowth of this program development has made available in this community services such as dietary services, rehab medicine, social work, and community outreach, which are held to national standards as part of the accreditation process. This collaboration between radiation and medical oncology is an element that contributed to St Francis partnering with JMMC for co-management of oncology services, that allows facilitated access to specialized cancer services not otherwise available in northern CT such as genetic counseling, clinical trials, and specialized cancer surgeries. Since the opening of the infusion center and the establishment of a St Francis-based medical oncology practice the volume of patients treated in the Cancer Center has continued to grow. As the integration of the two hospitals proceeds, our vision is to provide the most complete package of cancer services possible, beyond what could be offered in a private office setting, and having radiation and medical oncology services adjacent to each other in the cancer center building is vital to providing

optimal support to all the patients receiving care in this community. Replacement of the linear accelerator is a recognition of the successes of this program, and a commitment to continuing the current growth and expansion of services to cancer patients in this area. I encourage you to approve this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan Sporn MD". The signature is fluid and cursive.

Jonathan Sporn, M.D.

Chief of Hematology-Oncology at St Francis Regional Cancer Center and Johnson Memorial Hospital
Professor of Medicine, University of Connecticut School of Medicine.

Exhibit 5

Northeast Regional Radiation Oncology Network, INC.

Quality Management Plan

I. Statement of Purpose

Quality Management is the ongoing evaluation of all aspects of patient care rendered within the corporation in order to identify significant problems, to resolve them effectively, and to pursue opportunities to improve patient care.

The Quality Management Plan for NRRON is designed to monitor and evaluate in an ongoing fashion the appropriateness quality and confidentiality of patient care, to see that it meets predetermined standards, and to assure that the performance of all individuals affecting patient care is optimal.

II. Goals and Objectives

- a) To maintain and improve the quality of patient care within our organization.
- b) To render patient care in the most effective, safe, and efficient way possible.
- c) To coordinate all QM activities of the corporation.
- d) To identify, evaluate, act upon and follow up problems in quality and appropriateness of patient care.
- e) To set priorities, when necessary, for problem evaluation, action and resolution based on elements of severity, risk, numbers of patients involved and cost.
- f) To establish and maintain good communication of QM matters among both facilities (Enfield & Manchester); network with other hospital QM program such as Hartford Hospital.
- g) To assure that NRRON is in full compliance with all regulatory requirements relating to quality and appropriateness of care.
- h) To develop within the corporation an environment of "total quality" in all relationships and transactions between and among patients, care givers and support personnel.
- i) To document and reduce the number of undesired occurrences adversely affecting patient care.

III. Standards and Criteria

The quality and appropriateness of patient care will be assessed using the following measurable predetermined criteria:

- a) Accreditation Manual for Hospitals-Joint Commission for Accreditation of Healthcare Organizations (JCAHO).
- b) Conditions of Participation in Medicare-Healthcare Financing Administration (HCFA); HEW;
- c) Public Health Code - State of Connecticut
- d) NRRON Quality Assurance Plan
- e) Bylaws, rules, regulations of NRRON Medical Staff
- f) Nursing standards, policies and procedures of NRRON Infection Control and Disaster Plan.
- g) Regulations, Nuclear Regulatory Commission

- h) American College of Radiology Standards
- i) Approved medical record forms of NRRON

IV. Organization, Responsibilities, Reporting

A. Clinical Medical Director of Department and Executive Director

The Medical Director and Executive Director will have the main responsibility for the Quality Management Program. (The medical director will be a qualified physician member of the medical staff, certified by the American Board of Radiology in Therapeutic Radiology, who is clinically competent and possesses the administrative skills necessary to assure effective leadership of the department).

The duties of the Medical Director or designee in conjunction with the Executive Director include:

1. Maintain Quality Management program; develop and implement and evaluate the quality and appropriateness of all radiation oncology services.
2. Approval of process for determining qualifications and competence of personnel who provided patient care services, including physicians providing services at both facilities. Ensure that all individuals who provide radiation oncology services have delineation of clinical privileges to insure that effective quality radiation oncology services are available to meet the needs of patients.
3. Monitor compliance with clinical privileges; annual review of credentials of radiation oncologists.
4. Chairman of the monthly Quality Management Committee, or assigns this duty to a Chairperson.
5. Medical Director or designee of the Weekly Management Meeting and monthly departmental meeting; member of appropriate administrative and cancer committees.
6. Responsible for reporting results of NRRON quality assurance activities and minutes of appropriate committee to:
 - ❖ HH Radiation Oncology Quality Management Committee as appropriate
 - ❖ NRRON Board as appropriate
 - ❖ NRRON Medical Staff as appropriate

B. Monthly Quality Management Committee Meeting:

1. Monthly meetings will be held with attendance taken and recorded. Meeting to be chaired by Medical Director or Chairperson designated by Medical Director. Meetings will be held at Hartford Hospital.
2. Members to include Medical Director, Executive Director, radiation oncologist, chief therapist, and physicist.
3. Minutes will be taken and will summarize discussions, actions taken and results of actions. Copies to be kept on file in the technical section of NRRON.
4. The purpose of the committee is to establish and monitor a comprehensive QM program for NRRON to include:
 - ❖ development and modification of QM indicators: physics/equipment, technical, clerical, clinical (nurses, physicians, patients), administration, specific problems, special issues, NRRON QM issues.
 - ❖ development/modification of data collection forms

- ❖ determination of the frequency and methodology of data collection
 - ❖ discussion of issues and problems which impact directly or indirectly on patient care
 - ❖ recommendations to appropriate personnel regarding care issues, equipment, cost containment measures, efficiency, productivity
 - ❖ corporation-wide guidelines and adherence to guidelines concerning: infection control, disaster plan, emergency care, and radiation safety.
 - ❖ guidelines for orientation of new personnel
 - ❖ guidelines for review of qualifications of personnel providing patient services
 - ❖ receive reports and take action on such reports as indicated from all other partnership committees.
5. Reports to be made to the committee include: review of previous meetings minutes; report on resolution of any problems identified; efficacy of these resolutions to problems; section reports including equipment/physics, technical, clinical, administration; other reports to include: specific problems; special projects, goals, corporation QM issues.
 6. Any unplanned treatment break for greater than two 2 weeks will be reviewed at the New Patient Conference.
 7. Mortality/Morbidity Data: Any unusual and significant mortality/morbidity data will be part of the monthly QM department meeting.
 8. Formation of an annual re-evaluation of the comprehensive Quality Management plan.

C. Daily Peer Review: see policy **Peer Review**

1. Peer review of all new patients currently undergoing treatment and new areas of treatment for patients already on treatment including thorough review of chart and portal films. This will be done by a radiation oncologist.

D. Weekly Chart Review: see policy **Weekly Chart**

1. Chart review for completeness - Charts found deficient will be returned the following week for review again to ensure deficiencies were corrected.
2. Quarterly reports to be sent to Quality Management Committee assessing efficacy of monitoring and response to cited deficiencies.

E. Monthly Departmental Meeting: see **Monthly Meeting**

1. All personnel in department expected to attend.
2. Quality Assurance issues to be discussed with departmental personnel as recommended by Quality Management Committee.
3. Continuing Education program to include topics based on Quality Management Committee reports.

F. Monthly Chart Audit: see policy **10 Chart Audit**

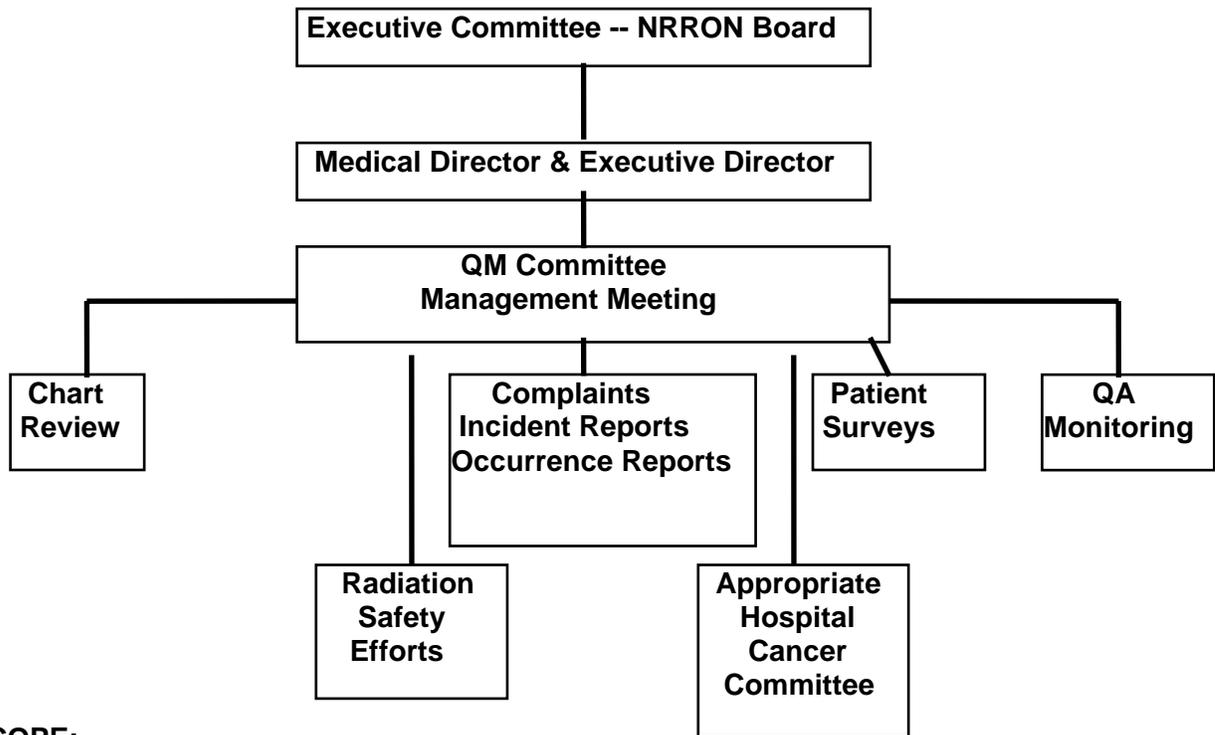
Each month treatment charts for 10 patients who completed treatment will be audited for proper documentation of items listed in Appendix.

G. Patient Satisfaction Survey: see policy **Pt Satisfaction**

To be coordinated by Quality Management Committee and results analyzed and reported.

H. Weekly New Patient Conferences: see policy

ORGANIZATIONAL CHART -- NRRON QM PLAN



V. SCOPE:

The ongoing QM program evaluates the quality and appropriateness of all major clinical activities:

- ❖ Initial credentialing
- ❖ Provisional period monitoring
- ❖ Compliance with delineated privileges
- ❖ Competency of supervised and unsupervised personnel, including regular reappraisal
- ❖ Response to internal and external surveys and reports
- ❖ Appropriate documentation of treatments delivered

VI. METHODS & ONGOING MONITORING

A. Competence

1. The Director of Radiation Oncology is responsible for monitoring the competence of radiation oncologists and in conjunction with the executive director the competence of other personnel.
2. Initial credentialing -- All physicians in the department who provide patient care services shall be Board Certified or Board-eligible with intent of becoming Board Certified. Credentialing will be governed by Medical Staff credential board, Dept. of Radiation Oncology Chairman and NRC requirements.
3. Provisional period evaluation: the responsibility of medical director.
4. Reappraisal/Reappointment process: (confidential file). As governed by the Medical Staff; to be reviewed by medical director. To include:
 - ❖ Specialty certification/recertification -- Professional recognition/awards
 - ❖ Medical Staff Activity -- Attendance at staff/department meetings; Participation in staff/hospital committees
 - ❖ Other demographic data -- age, liability insurance, license renewal, NRC requirements; DEA certification
 - ❖ Statement of physical/mental health
 - ❖ Department quality and appropriateness of care data

ONGOING MONITORING

Reports from QM department meeting as pertaining to individual physician including care data from chart review, (peer review), patient survey, patient complaints and incident occurrence reports.

- ❖ Peer Review Committees Reports
 - Medical records
- ❖ Risk Management Reports
- ❖ Sanctions by other hospitals, licensing bodies, NRC
- ❖ Miscellaneous
 - Unexpected clinical occurrence
 - Letter of commendation
 - Letter of reprimand
 - Staff complaints

B. Chart Audits:

As described above, to be performed at chart review weekly with monitoring indicators to be reviewed as follows to determine appropriateness of documentation, clinical pertinence and appropriateness of care.

- ❖ Legibility including signatures; proper correction of errors; proper format per corporation approved directions; and approved abbreviations only
- ❖ Complete data base: H+P; pathology for curative cases (or reason why pathology not obtained)
- ❖ X-ray data as appropriate; photo for identification; nursing database; dietary database as appropriate; weekly weight, medication list
- ❖ All prior radiation treatment records available for review to be able to determining potential treatment overlap

- ❖ Meaningful progress notes including on treatment note by M.D. weekly; nursing notes as needed
- ❖ Medication orders present in same part of each chart
- ❖ Follow-up of abnormal lab or radiograph result
- ❖ Documentation of patient education, understanding, informed consent
- ❖ Individual verification of completed work through initialing
- ❖ Physician approval of simulator/port films
- ❖ Physician approval of prescription, simulation data, calculations and isodose curves; witness of informed consent
- ❖ Technical documentation and treatment documentation per physics/technical guidelines
- ❖ Physics dose check before last treatment delivered
- ❖ Patient tolerance of treatment and outcome
- ❖ Documentation of DNR discussions
- ❖ Delineation of any precautions necessary while caring for pt
- ❖ Discharge plans including discharge sheet signed by patient
- ❖ Action taken on inadequate records
- ❖ Cumulative summary of categories of inadequacies to identify patterns needing improvement
- ❖ General corrective action to be reporting to Quality Assurance Committee

C. Problem Identification: Source of potential problems.

- ❖ Quality and appropriateness monitoring of clinical indicators
- ❖ Quality Management Committee meeting
- ❖ Employee to supervisor to administration and visa versa
- ❖ Patient surveys/complaints
- ❖ Staff, physician, administration complaints
- ❖ External / internal review reports
- ❖ Medical staff peer review committee
- ❖ Radiation Safety Efforts
- ❖ Volume statistics
- ❖ Mortality statistics
- ❖ Supports service data (dietary, nursing, radiology)
- ❖ Recalls of manufacturers

D. Problem Evaluation and Corrective Action:

1. Described above in discussion of role of:
 - ❖ Clinical Director/Department Director
 - ❖ Quality Management Committee

2. Recording of Problem:
 - ❖ Quality Management Committee meeting reports
 - ❖ Quality Management Logs
 - ❖ Management meeting and chart review minutes
 - ❖ Incident occurrence reports
 - ❖ Minutes of other meetings
3. Evaluation of Problem:
 - ❖ Technical Facilitators review
 - ❖ Medical Director/Executive Director review
 - ❖ Quality Management Committee
 - ❖ Referral to appropriate committee
4. Documentation of Action
 - ❖ Minutes of Quality Management Committee
 - ❖ Logging of problems with subsequent actions taken
 - ❖ Memoranda sent as needed to, physicians, individuals
 - ❖ Written change in policy procedure

E. Problem Follow-up:

Corrective actions taken for deficiencies cited will be reviewed by the Quality Management Committee. The adequacy or inadequacy of corrective actions will be included in minutes of committee and reported to appropriate committees including NRRON board; information to be disseminated to individuals in department, reviewed with medical director, executive director, or QM Committee as appropriate.

VII. MONITORING INDICATORS:

There will be ongoing monitoring and evaluation of quality and appropriateness of clinical performance of all individuals with delineated clinical privileges. The monitoring will encompass all major activities of the department and will be reported to Quality Management Committee: Important areas of monitoring include:

- ❖ Consultations: volume and appropriateness
- ❖ Simulations: volume
- ❖ Treatments: volume, complexity
- ❖ Major Complications/mortality
- ❖ Documentation of equipment failures with reporting of Misadministration of greater than 10% prescribed dose
- ❖ "Down time" of simulators/accelerators
- ❖ Incident reports and occurrence reports
- ❖ Efficiency and productivity studies
- ❖ Specific studies will be carried out whenever indicated to investigate occurrence reports, possible adverse trends, or over-utilization/under-utilization of services
- ❖ See Addendum for "Indicators of Quality" currently being studied

VIII. EDUCATION ASPECTS:

The continuing education offerings of the department will in part reflect the finding of QM activities. The reports/trends of QM problems reported to the QM committee would be included in education activities such as:

- ❖ Weekly chart review
- ❖ Monthly management meeting
- ❖ In-service meetings
- ❖ Hospital educational conferences
- ❖ Patient seminars
- ❖ Professional conferences

Other continuing medical activities include:

- ❖ Medical/surgical grand rounds
- ❖ Local, regional, county medical association meetings
- ❖ NESRO, ASTRO, AMA, ACR, ASCO, NSABP, RTOB, ECOG and ONS

(Attendance to be recorded for individual physicians to be used as part of confidential file used for reappraisal process).

Created: 5/14/97
Revised: 6/30/08
File Name: Quality Management Plan NRRON
Stored: Nonclinical Documents/DCCC and PCCC Paperwork

Exhibit 6

Standard Form of Agreement Between Owner and Design/Builder

THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS USE, COMPLETION OR MODIFICATION.

This Document comprises two separate Agreements: Part 1 Agreement and Part 2 Agreement. To the extent referenced in these Agreements, subordinate parallel agreements to A191 consist of AIA Document A491, Standard Form of Agreements Between Design/Builder and Contractor, and AIA Document B901, Standard form of Agreements Between Design/Builder and Architect.

PART 1 AGREEMENT

1996 EDITION

AGREEMENT

made as of the ____ day of _____ in the year _____.

BETWEEN the Owner: Northeast Regional Radiation Oncology Network, Inc.
(Name and address) 100 Haynes Street, Manchester, CT 06040

and the Design/Builder: The CASLE Corporation
(Name and address) 200 Fisher Drive
Avon, CT 06001-3739

For the following Project:

(Include Project name, location and a summary description.)

Enfield Linear Accelerator and CT Simulation Replacement Project
142 Hazard Avenue
Enfield, CT

Renovations to existing linear accelerator vault, CT simulation room, control room, and other modifications as required accommodating the new linear accelerator and CT simulation equipment. The renovations to the linear accelerator and CT spaces are to include HVAC, Plumbing, Electric, Fire Sprinkler, and Finishes.

1,584 sq. ft.

The architectural services described in Article 1 will be provided by the following person or entity that is lawfully licensed to practice architecture:

(Name and address)

(Registration Number)

(Relationship to Design/Builder)

John W. Manners, AIA
200 Fisher Drive
Avon, CT 06001-3739

Employee

Normal architectural, mechanical and electrical engineering services will be provided contractually through the Architect except as indicated below:

(Name and address)

(Registration Number)

(Relationship to Design/Builder)

The Eugene Steinberg Company

Subcontractor
(Mechanical/HVAC)

The Eugene Steinberg Company

Subcontractor
(Mechanical/Plumbing)

Allstate Fire Systems

Subcontractor
(Mechanical/Fire Protection)

Valley Electric, LLC

Subcontractor
(Electrical)

The cost of these services shall be included in the Guaranteed Maximum Price and pose no additional costs to the Owner.

The Owner and the Design/Builder agree as set forth below:

Article 9
BASIS OF COMPENSATION

The Owner shall compensate the Design/Builder in accordance with Article 5, Payments, and the other provisions of this Part 1 Agreement as described below:

9.1 COMPENSATION FOR BASIC SERVICES

9.1.1 FOR BASIC SERVICES, compensation shall be as follows:

Compensation for services described in this Part 1 Agreement shall be included in the Design/Build Fees declared in the Part 2 Agreement

9.1.2 AN INITIAL PAYMENT of N/A Dollars (\$) shall be made upon execution of this Part 1 Agreement and credited to the Owner's account as follows:

9.1.3 SUBSEQUENT PAYMENTS shall be as follows:

N/A

9.2 COMPENSATION FOR ADDITIONAL SERVICES

9.2.1 FOR ADDITIONAL SERVICES, compensation shall be as follows:

As agreed upon between Owner and Design/Builder

9.3 REIMBURSABLE EXPENSES

9.3.1 Reimbursable Expenses are in addition to Compensation for Basic and Additional Services, and include actual expenditures made by the Design/Builder and the Design/Builder's employees and contractors in the interest of the Project as follows:

9.3.2 FOR REIMBURSABLE EXPENSES, compensation shall be a multiple of one (1.00) times the amount expended.

9.4 DIRECT PERSONNEL EXPENSE is defined as the direct salaries of personnel engaged on the Project, and the portion of the costs of their mandatory and customary contributions and benefits related thereto, such as employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions and similar contributions and benefits.

9.5 INTEREST PAYMENTS

9.5.1 The rate of interest for past due payments shall be as follows:

N/A

(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Design/Builder's principal places of business, at the location of the Project and elsewhere may affect the validity of this provision. Specific legal advice should be obtained with respect to deletion, modification or other requirements, such as written disclosures or waivers)

9.6 IF THE SCOPE of the Project is changed materially, the amount of compensation shall be equitably adjusted.

9.7 The compensation set forth in this Part 1 Agreement shall be equitably adjusted if through no fault of the Design/Builder the services have not been completed within N/A () months of the date of this Part 1 Agreement.

Article 10
OTHER CONDITIONS AND SERVICES

10.1 The Basic Services to be performed shall be commenced on a reasonable agreed upon date by both parties subject to both Board approval and Certificate of Need (CON) approval by the Office of Health Care Access (OHCA) and, subject to authorized adjustments and to delays not caused by the Design/Builder, shall be completed in 90 calendar days. The Design/Builder's Basic Services consist of those described in Paragraph 1.3 as part of Basic Services, and include normal professional engineering and preliminary design services, unless otherwise indicated.

10.2 Services beyond those described in Paragraph 1.4 are as follows:

(Insert descriptions of other services; identify Additional Services included within Basic Compensation and modifications to the payment and compensation terms included in this agreement)

10.3 The Owner's preliminary program, budget and other documents, if any, are enumerated as follows:

Exhibit A List of Architectural Drawings

Exhibit B Bid Summary

This Agreement entered into as of the day and year first written above.

OWNER

Northeast Regional Radiation Oncology Network, Inc.
100 Haynes Street, Manchester, CT 06040

By:

Dennis P. McConville, Chairman

DESIGN/BUILDER

The CASLE Corporation

By:

David W. Sessions, President

PART 1

Article 1

Para 1.2.1. ADD “Such professional persons must (1) fulfill all contractual design obligations assumed by the Design/Builder pursuant to this Agreement and (2) perform all design services according to the care and skill ordinarily used by members of the design profession practicing under similar circumstances and the locality of the project. Nothing in this Agreement shall be construed to limit Owner’s right to pursue remedies in tort against professional persons. In fact, this Agreement recognizes that injury to the Owner is reasonably foreseeable should professional persons breach the afore-referenced standard of care.”

Para 1.2.6. ADD “Notwithstanding, the Design/Builder agrees that its agreements with subcontractors, including the Architect, shall substantially conform with the provisions of this Agreement. To the extent that any such agreement between the Design/Builder and subcontractor is inconsistent with this Agreement and limits any rights, remedies or recourses otherwise available to the Owner, or similarly limits subcontractor’s liabilities to the Owner, the Design/Builder shall be specifically liable to the Owner for the consequences of such limitations.”

Para 1.3.4. ADD “The Design/Builder, at the same time, will discuss all patent practical and costs impacts associated with such alternative design and construction approaches.”

Article 2

Para 2.1.7. ADD “Such services are limited to those services required by the Owner. Design/Builder must provide its own legal, accounting and insurance counseling.”

Article 3

DELETE entire Article and Replace with the following:

3.1 **Ownership**. The Owner shall have unlimited rights to copy and use in connection with Work for the Project all Construction Documents (including design materials) furnished by the Design/Builder, including the right to use the same on the Project at no additional cost to the Owner, regardless of degree of completion, provided that said services performed have been fully paid for as required by the terms of this

Agreement. The Design/Builder agrees to and does hereby grant to the Owner and any assignee or successor of the Owner a royalty-free license to any Construction Documents (including design materials) as to which the Design/Builder or its Architect may assert any rights under patent or copyright laws. The Design/Builder, as part of its agreements with any subcontractor, consultant or design professional employed or engaged for the Work on the Project, will secure such license and use rights from each such entity, and shall defend, indemnify, and hold the Owner and any successors or assigns harmless from any claims by such entities for copyright or patent infringement.

3.2 Use. The Owner, or any successor or assignee of the Owner, may use, reproduce and make derivative works of the Construction Documents (including design materials) furnished by the Design/Builder, or its Architect, for completion of the Work, or subsequent renovations and/or remodeling of the Work, but shall not use, reproduce or make derivative works from said documents for other projects without the written authorization of the Design/Builder, who shall not unreasonably withhold consent.

3.3 Use and Termination. Should this Agreement be terminated prior to Project completion, or should Part 2 of this Agreement not be executed, the Owner may proceed with design and construction of the Project making full use of any Construction Documents (including design materials), irrespective of the status of their completion, provided that the Owner indemnify and hold harmless the Design/Builder and any of its subcontractors, including the Architect, for errors, omission or alterations pertaining to the Contract Documents.

Article 5

Para 5.4. ADD "Except that no interest shall accrue on amounts withheld pursuant to a good faith dispute."

Article 8

Para 8.3. DELETE "and Termination Expenses" in first sentence and last sentence. ADD "Any compensation, however, may be reduced by the value of claims Owner may have against Design/Builder at the time of termination."

Standard Form of Agreement Between Owner and Design/Builder

THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS USE, COMPLETION OR MODIFICATION.

This Document comprises two separate Agreements: Part 1 Agreement and Part 2 Agreement. To the extent referenced in these Agreements, subordinate parallel agreements to A191 consist of AIA Document A491, Standard Form of Agreements Between Design/Builder and Contractor, and AIA Document B901, Standard form of Agreements Between Design/Builder and Architect.

PART 2 AGREEMENT

1996 EDITION

AGREEMENT

made as of the _____ day of _____ in the year _____.

BETWEEN the Owner: Northeast Regional Radiation Oncology Network, Inc.
(Name and address) 100 Haynes Street, Manchester, CT 06040

and the Design/Builder: The CASLE Corporation
(Name and address) 200 Fisher Drive
Avon, CT 06001-3739

For the following Project:

(Include Project name, location and a summary description.)

Enfield Linear Accelerator and CT Simulation Replacement Project
142 Hazard Avenue
Enfield, CT

Renovations to existing linear accelerator vault, CT simulation room, control room, and other modifications as required to accommodate the new linear accelerator and CT simulation equipment. The renovations to the linear accelerator and CT spaces are to include HVAC, Plumbing, Electric, Fire Sprinkler, and Finishes.

1,584 sq. ft.

The architectural services described in Article 1 will be provided by the following person or entity that is lawfully licensed to practice architecture:

(Name and address)

(Registration Number)

(Relationship to Design/Builder)

John W. Manners, AIA
200 Fisher Drive
Avon, CT 06001-3739

Employee

Normal architectural, mechanical and electrical engineering services will be provided contractually through the Architect except as indicated below:

(Name and address)

(Registration Number)

(Relationship to Design/Builder)

The Eugene Steinberg Company

Subcontractor
(Mechanical/HVAC)

The Eugene Steinberg Company

Subcontractor
(Mechanical/Plumbing)

Allstate Fire Systems

Subcontractor
(Mechanical/Fire Protection)

Valley Electric, LLC

Subcontractor
(Electrical)

The cost of these services shall be included in the Guarantee Maximum Price and pose no additional costs to the Owner.

The Owner and the Design/Builder agree as set forth below

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14.5 The Design/Builder's Proposal includes the following documents:
(List below: this Part 2, Supplementary and other Conditions, the drawings, the specifications, and Modifications, showing page or sheet numbers in all cases and dates where applicable to define the scope of Work.)

Exhibit A List of Architectural Drawings

Exhibit B Bid Summary

Exhibit C Memo of Understanding

This Agreement entered into as of the day and year first written above.

OWNER

Northeast Regional Radiation Oncology Network, Inc.

By:

Dennis P. McConville, Chairman

DESIGN/BUILDER

The CASLE Corporation

By:

David W. Sessions, President

Article 1

Paras. 1.3 – 1.3.4 DELETE and replace with “Ownership and use of the Documents shall be governed by the provisions of Part 1, Article 3.”

Article 2

Para 2.6. ADD “Such services are limited to those services required by the Owner. Design/Builder must provide its own legal, accounting and insurance counseling.”

Para 2.8. DELETE

Para 2.9. ADD “ Failure to provide such notice in no way relieves Design/Builder from its obligations to properly design or construct the Project.”

Article 3

Para 3.1.1. ADD “Such professional persons must (1) fulfill all contractual design obligations assumed by the Design/Builder pursuant to this Agreement and (2) perform all design services according to the care and skill ordinarily used by members of the design profession practicing under similar circumstances and the locality of the project. Nothing in this Agreement shall be construed to limit Owner’s right to pursue remedies in tort against professional persons. In fact, this Agreement recognizes that injury to the Owner is reasonably foreseeable should professional persons breach the afore-referenced standard of care.”

“Prior to engaging any such professionals, the Design/Builder shall ensure and satisfy the Owner that each professional carries and shall maintain through the duration of the project adequate professional liability insurance. The Design/Builder shall require that the Owner is named as an additional insured on such policies.”

Para 3.2.5. ADD “Provisions to the contrary may be inserted in the Contract Documents only with the prior written consent of the Owner.”

Article 4

Para 4.5 “However, no adjustment shall be made to Design or Construction Fees with respect to such delay.”

Article 5

Para 5.1.2 CHANGE “10 days” to “60 days”

Para 5.3.1 ADD “Except that no interest shall accrue on amounts withheld pursuant to a good faith dispute.”

Article 7

Para 7.1.2 ADD “In each policy, the Design Builder shall add the Owner as an additional insured.”

Article 8

Para 8.1.3. ADD “Prior to undertaking any design activity with respect to any requested change, the Design/Builder must notify Owner in writing that such requested change shall require additional design services such as those contemplated in 8.2.2. Furthermore, the Owner must acknowledge in writing receipt of such notice and indicate, in writing, its approval to proceed and incur additional design costs. By failing to provide such notice in writing or obtain such approval in writing, the Design/Builder waives any and all rights and claims to additional design fees related to such change.”

Article 11

Para 11.4.1 ADD. “The Owner and Design/Builder WAIVE ANY AND ALL CLAIMS AGAINST EACH OTHER FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES ARISING FROM A BREACH OF THIS AGREEMENT. This waiver includes damages to the Owner for rental expenses, loss of use, income, profit, financing, business and reputation and to the Design/Builder for principal office expenses, losses of financing, business and reputation, lost profit, and productivity on other projects.”

Articles 13 & 14

Delete Articles 13 and 14 of Part 2 entirely and substitute the following:

**ARTICLE 13
BASIS OF COMPENSATION**

13.1 The Owner shall pay the Design/Builder in current funds for the Design/Builder's performance of the Contract the Contract Sum consisting of the Cost of Work as defined in Article 14 and the Contractor's Design/Build Fee as follows:

Contractor's Design/Build Fee:

Design Fee	\$15,000
Construction Fee	\$37,086.00

13.2.1 The sum of the Cost of the Work and the Design/Builder's Design/Build Fees shall be guaranteed by the Design/Builder not to exceed **\$537,016.00**, subject to additions or deletions by Change Order as provided in the Contract Documents. Such maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. The Guaranteed Maximum Price is based upon the data set forth in the attached Exhibit B. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Design/Builder. Prior to CON and Board approval, the Owner is only responsible for those costs outlined in the *Memo of Understanding* attached hereto as Exhibit C, and included in the Guaranteed Maximum Price. The remaining amount of the Guaranteed Maximum Price is contingent upon CON and Board approvals of the project. Should CON, Board approvals, and Owner authorization to proceed with the balance of the project be received by Design-Builder after 7/26/15 the Guaranteed Maximum Price will be subject to review and modification should documentable labor or material cost increases/decreases occur prior to such authorization. The Design/Builder bares the risk as to the accuracy of all quantities and prices stated in Exhibit B except as provided in Paragraph 13.2.2 below.

13.2.2 For the purposes of this Agreement, the term "Savings" shall mean the amount by which the Guaranteed Maximum Price as set forth in this Article 13.2.1 and as adjusted by approved changes in the work in accordance with Article 8 hereof, exceeds the sum of the Cost of the Work as provided in this Article 14 and the Contractor's Design/Build Fee. Any such savings shall be shared **90%** by Owner and **10%** by Design/Builder. Within thirty (30) days of Final Completion of the Work, Design/Builder shall prepare an accounting to the Owner of the Cost of the Work. Owner shall review and approve or reject said accounting within thirty (30) days of the receipt thereof. Upon approval, Owner shall pay Design/Builder its share of the Savings, if any, or Design/Builder shall reimburse Owner for any Costs of the Work which Owner has paid in excess of the Guaranteed Maximum Price.

13.2.3 In the event that the Owner changes the scope of work pursuant to Section 8 of this Agreement, the Construction Management Fee shall change in an amount equal to **7%** of any increases in costs associated with the change order and **0.0%** of any decreases in such costs.

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ARTICLE 14
COSTS OF THE WORK

14.1 The term Cost of Work shall mean costs reasonably and necessarily incurred by the Design/Builder in the proper performance of the Work. The Cost of Work shall include only the items set forth in Article 14.

14.1.1 Labor Costs

14.1.1.1 Wages of construction workers at prevailing rates directly employed by the Design/Builder to perform the construction of the Work at the site or, with the Owner's agreement, at off-site workshops.

14.1.1.2 Wages or salaries of the Design/Builder's supervisory and administrative personnel when stationed at the site with the Owner's agreement at the rates stated in Paragraph 14.3 hereof. The project superintendent's rate shall be at the rate of **\$80.00/hour** and any CASLE carpenter's providing work at the site shall be **\$80.00/hour**.

14.1.1.3 Wages and salaries of the Design/Builder's supervisory or administrative personnel at the rates stated in Paragraph 14.3 hereof engaged, at factories, workshops, or on the road, in expediting the production or transportation of materials or equipment required for the Work, but only for that portion of their time required for the Work as evidenced by contemporaneously maintained time records or other reasonable evidence.

14.1.1.4 Costs paid or incurred by the Design/Builder for taxes, insurance, contributions, assessments and benefits required by law or collective bargaining agreements and, for personnel not covered by such agreements, customary benefits such as sick leave, medical and health benefits, holidays, vacations and pensions, provided such costs are based on wages and salaries included in the Cost of the Work under clauses 14.1.1.1 through 14.1.1.3.

14.1.2 Subcontract Costs

Payments made by the Design/Builder to Subcontractors in accordance with the requirements of the subcontracts which subcontracts shall contain the ordinary and usual terms for the applicable trade and market rates for labor, materials and profit.

14.1.3 Costs of Materials & Equipment

14.1.3.1 Costs, including transportation, of materials and equipment incorporated or to be incorporated in the completed construction.

14.1.3.2 Costs of materials described in the preceding Clause 14.1.3.1 in excess of those actually installed but required to provide reasonable allowance for waste and for spoilage. Unused excess materials, if any, shall be handed over to the Owner at the completion of the Work or, at the Owner's option, shall be sold by the Design/Builder; amounts realized, if any, from such sales shall be credited to the Owner as a deduction from the Cost of the Work.

14.1.4 Costs of Other Materials and Equipment

14.1.4.1 Costs, including transportation, installation, maintenance, dismantling and removal of materials, supplies, temporary facilities, machinery, equipment, and hand tools not customarily owned by the construction workers, which are provided by the Design/Builder at the site and fully consumed in the performance of the Work; and cost less fair market salvage value on such items if not fully consumed, whether sold to others or retained by the Design/Builder. Cost for items previously used by the Design/Builder shall mean fair market value.

14.1.4.2 Rental charges for temporary facilities, machinery, equipment, and hand tools not customarily owned by the construction workers, which are provided by the Design/Builder at the site, whether rented from the Design/Builder or others, and costs of transportation, installation, minor repairs and replacements, dismantling and removal thereof. Rates and quantities of equipment rented shall be subject to the Owner's prior approval.

14.1.4.3 Costs of removal of debris from the site.

14.1.4.4 Costs of telegrams and long-distance telephone calls, postage and parcel delivery charges, telephone service at the site and reasonable petty cash expenses of the site office.

14.1.4.5 That portion of the reasonable travel and subsistence expenses of the Design/Builder's personnel incurred while traveling outside of Hartford County in discharge of duties connected with the Work.

14.1.5 Miscellaneous Costs

14.1.5.1 That portion directly attributable to this Contract of premiums for insurance and bonds.

14.1.5.2 Sales, use or similar taxes imposed by a governmental authority which are related to the Work and for which the Design/Builder is liable.

14.1.5.3 Fees and assessments for the building permit and for other permits, licenses and inspections for which the Design/Builder is required by the Contract Documents to pay.

14.1.5.4 Fees of testing laboratories for tests required by the Contract Documents, except those related to defective or nonconforming Work for which reimbursement is excluded by other provisions of the Contract Documents and which do not fall within the scope of Subparagraphs 14.2.2 through 14.2.4 below.

14.1.5.5 Deposits lost for causes other than the Design/Builder's fault or negligence.

14.1.6 Other Costs

14.1.6.1 Other costs incurred in the performance of the Work if and to the extent approved in advance in writing by the Owner.

14.2 Emergencies: Repairs to Damaged, Defective or Nonconforming Work

The Cost of the Work shall also include costs described in Paragraph 14.2 which are incurred by Design/Builder:

14.2.1 In taking action to prevent threatened damage, injury or loss in case of an emergency affecting the safety of persons and property provided the emergency does not arise due to the act or omission of Design/Builder or any other party within its control and provided reasonable credit is given for losses recovered from other sources which Design/Builder shall pursue with reasonable diligence.

14.2.2 In repairing or correcting Work damaged or improperly executed by construction workers in the employ of the Design/Builder, provided such damage or improper execution did not result from the fault or negligence of the Design/Builder or the Design/Builder's foremen, engineers or superintendents, or other supervisory, administrative or managerial personnel of the Design/Builder and provided any such charge above a de minimis will be called to the attention of Owner by Design/Builder and approved by Owner.

14.2.3 In repairing damaged Work other than that described in Subparagraph 14.2.2, provided such damage did not result from the fault or negligence of the Design/Builder or the Design/Builder's personnel, and only to the extent that the cost of such repairs is not recoverable by the Design/Builder from others and the Design/Builder is not compensated therefor by insurance or otherwise.

14.2.4 In correcting defective or nonconforming Work performed or supplied by a Subcontractor or material supplier and not corrected by them, provided such defective or nonconforming Work did not result from the fault or neglect of the Design/Builder or the Design/Builder's personnel adequately to supervise and direct the Work of the Subcontractor or material supplier, and only to the extent that the cost of correcting the defective or nonconforming Work is not recoverable by the Design/Builder from the Subcontractor or material supplier.

14.3 Project Personnel. The project designer who has primary responsibility for the architectural design of the project is **John Manners AIA** and his hourly rate is **\$130.00** per hour. The project manager who has primary responsibility for conducting the bidding and award of trade contracts as well as for the progress of the construction work is **Paul Duran** and his hourly rate is **\$90.00** per hour.

ARTICLE 15
COSTS NOT TO BE REIMBURSED

15.1 The Cost of the Work shall not include:

15.1.1 Salaries and other compensation of the Design/Builder's personnel stationed at the Design/Builder's principal office or offices other than the site office, except as specifically provided in Clauses 14.1.1.2 and 14.1.1.3.

15.1.2 Expenses of the Design/Builder's principal office or offices other than the site office.

15.1.3 Overhead and general expenses, except as may be expressly included in Article 14.

15.1.4 The Design/Builder's capital expenses, including interest on the Design/Builder's capital employed for the Work.

15.1.5 Rental costs of machinery and equipment, except as specifically provided in Paragraph 14.1.4.2.

15.1.6 Except as provided in Subparagraphs 14.2.2 through 14.2.4 of this Agreement, costs due to the fault or negligence of the Design/Builder, Subcontractors, anyone directly or indirectly employed by any of them, or for whose acts any of them may be liable, including but not limited to costs for the correction of damaged, defective or nonconforming Work, disposal and replacement of materials and equipment incorrectly ordered or supplied, and making good damage to property not forming part of the Work.

15.1.7 Any cost not specifically and expressly described in Article 14.

15.1.8 Costs which would cause the Guaranteed Maximum Price, if any, to be exceeded.

ARTICLE 16
MISCELLANEOUS

16.1 **Accounting Records.** The Design/Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Agreement. The Owner and the Owner's accountants shall be afforded access to the Design/Builder's records, books, correspondence, instructions, drawings, receipts, subcontracts, purchase orders, vouchers, memoranda, and other data relating to the Agreement, and the Design/Builder shall preserve these for a period of three years after final payment, or for such longer period as may be required by law.

16.3 **Interest.** The rate of interest for past due payments shall be at the rate of 10 percent per annum.

16.4 **Schedule.** The date of commencement for the construction Work shall be on a reasonable agreed upon date by both parties subject to both Board approval and Certificate of Need (CON) approval by the Office of Health Care Access (OHCA). The Design/Builder shall achieve Substantial Completion of the building not later than 90 days from date of commencement provided that the Owner has approved the final design on or before February 27, 2015.

16.5.1 **Applications for Payment.** The Design/Builder shall submit an Application for Payment on or about the first day of each month and payment shall be due from the Owner in sixty days.

16.5.2 With each Application for Payment the Design/Builder shall submit payrolls, petty cash accounts, receipted invoices or invoices and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Design/Builder on account of the Cost of the Work and the Design/Build Fee prorated to date, equal or exceed (1) Cost of Work progress payments already received by the Design/Builder; plus (2) the pro rata portion of the Contractor's Design/Build Fee previously paid; plus (3) payrolls for the period covered by the present Application for Payment; less (4) retainage provided in the amount of **5%** applicable to prior progress payments.

16.5.3 The Owner shall be entitled to withhold as retainage five (**5%**) of all Cost of Work items included in each application for payment. At Substantial Completion, retainage shall be paid to the Design/Builder less a sum equal to 1 1/2 times the estimated Punch List Cost.

16.6.1 **Final Payment.** Upon submission of the Application for Final Payment by the Design/Builder, the Owner and/or Owner's accountants will review and report in writing on the Design/Builder's final accounting within 30 day's after delivery. If the Owner or Owner's accountants report the Cost of the Work as set forth on the Design/Builder's final accounting to be less than claimed by the Design/Builder, the Design/Builder shall be entitled to demand arbitration of the disputed amount within 30

days of receipt of the Owner's report. Pending final resolution by arbitration, the Owner shall pay the Design/Builder any final payment due based upon the Cost of the Work substantiated by Owner.

16.6.2 If subsequent to final payment and at the Owner's request, the Design/Builder incurs Work-related costs described in Article 14 and not excluded by Article 15 or covered by Design/Builder's warrantee to correct defective or nonconforming Work, the Owner shall reimburse the Design/Builder such costs and the pro rata portion of the Design/Builder's Design/Build Fee applicable thereto on the same basis as if such costs had been incurred prior to final payment, but not in excess of the Guaranteed Maximum Price. If the Design/Builder has participated in savings as provided in Article 13.2.2, the amount of such savings shall be recalculated and appropriate credit given to the Owner in determining the net amount to be paid by the Owner to the Design/Builder.

16.7 **Plans.** Plans for the Work are listed on **Exhibit A.**

Exhibit A

List of Architectural Drawings

Drawings Prepared by JWM Architectural Group

Drawings:	C-1	Drawing Index and Code Information	03/09/15
	D-1	Demolition Plan	03/09/15
	A-1	Floor/Reflected Ceiling Plan and Misc. Details	03/09/15
	A-2	Casework Plans and Elevations	03/09/15
	A-2.1	Typical Accessory Storage Dimensions (LINAC)	03/09/15

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Exhibit B
Schedule of Values

Cost Category	Value
General Conditions	60,650
Sitework	20,500
Concrete	21,500
Masonry	0
Metals	4,000
Wood	22,550
Thermal & Moisture Protection	0
Doors & Windows	18,690
Finishes	45,780
Specialties	0
Appliances	0
Specialties	0
Window treatment	0
Special Construction	4,700
Elevator	0
Mechanicals	139,700
Electrical	125,500
Fees & Permits	73,446
Total Project Costs	537,016

May 12, 2015

Memo of Understanding

NRRON – Enfield Linear Accelerator and CT Sim Replacement Project

The purpose of this memorandum is to define that limited scope of work authorized to proceed by Northeast Regional Radiation Oncology Network, Inc. (NRRON) prior to CON approval for the project by the DPH - Office of Healthcare Access. These costs are included in and remain a part of the Guaranteed Maximum Price contract between NRRON and The Casle Corporation. Current authorization by NRRON to The Casle Corporation is only for costs associated with design and municipal permit approval for the project by Casle and its design-build subcontractors as defined here:

Casle Architectural Design Fees (85% of \$15,000,00)	\$ 12,500.00
Building Permit Fees incurred by Casle	\$ 6,954.00
Design and Permit Fees by The Eugene Steinberg Co.	\$ 6,000.00
Design and Permit Fees by Valley Electric, LLC	\$ 8,140.00
Design and Permit Fees by Allstate Fire Systems	<u>\$ 825.00</u>
Subtotal	\$ 34,419.00
Casle CM Fee (8%) on design-builders design and permit costs	<u>\$ 2,753.52</u>
Total	\$ 37,172.52

Exhibit 7



The CASLE Corporation
200 Fisher Drive Avon, CT 06001
Tel (860)674-9000 FAX (860)676-9576

April 29, 2015

Ms. Linda J. Buttero
Property Manager
Eastern Connecticut Health Network, Inc.
71 Haynes St.
Manchester, CT 06040

Re: NRRON-Enfield Linear Accelerator/CT Sim Replacement Project

Linda:

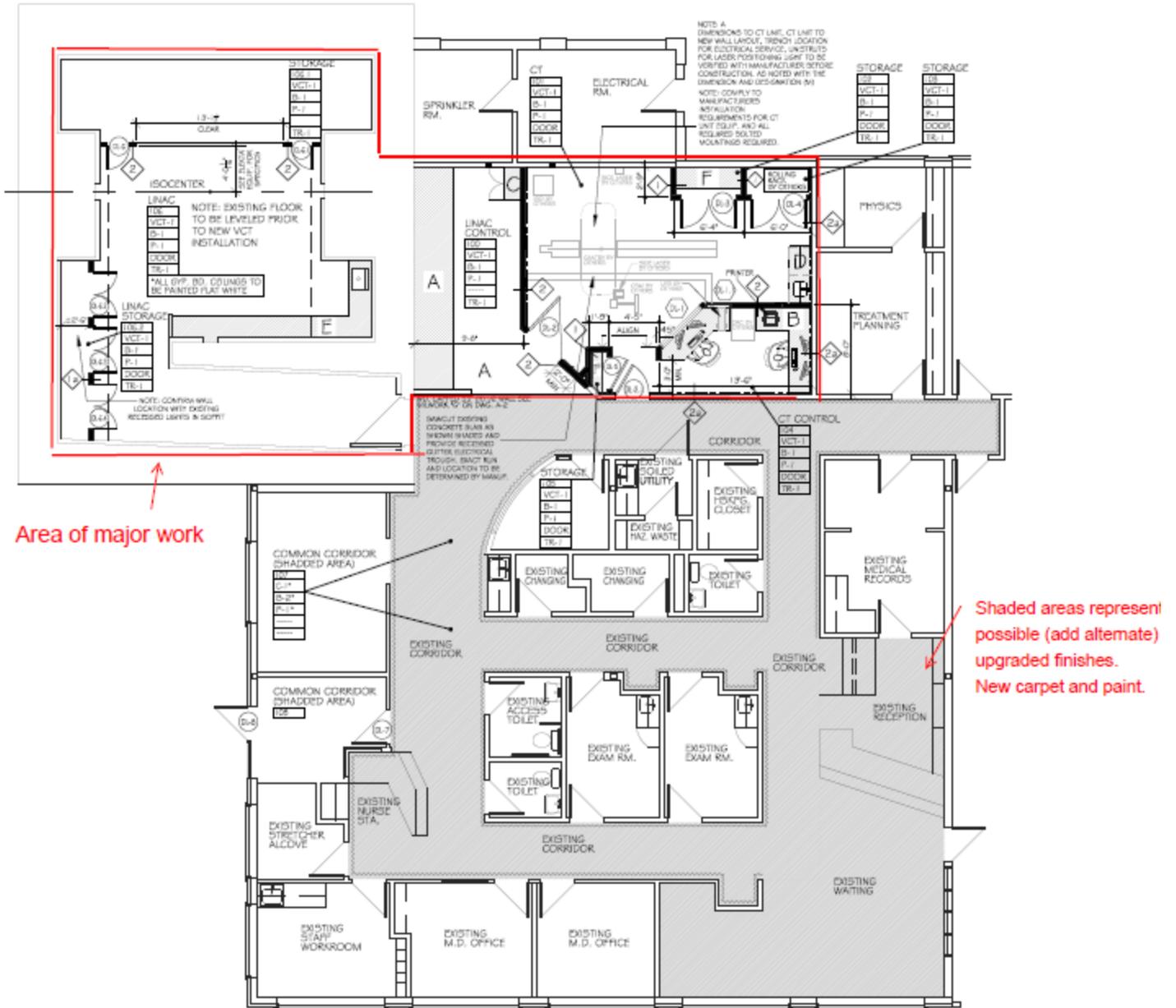
The significant areas of work involved in this project are as follows:

- Removal of existing Linear Accelerator and CT Sim equipment
- Selective demolition of existing walls, finishes, and surfaces
- Removal of existing HVAC, Plumbing, and Electric specific to equipment being replaced
- Removal of old HVAC, Plumbing, and Electric equipment serving the old Linear Accelerator and CT Sim rooms
- Floor modifications necessary for new equipment
- Installation of new HVAC, Plumbing, and Electric specific to new equipment
- Installation of new HVAC, Plumbing, and Electric to service remodeled Linear Accelerator and CT Sim spaces
- Installation of new gypsum wallboard, paint, acoustical ceilings, doors and hardware, millwork, and floorcovering in new Linear Accelerator and CT Sim spaces

Yours Truly

Paul Duran
Project Manager
The CASLE Corporation

7b – Existing and Proposed Floor Plans



PROPOSED PARTIAL PLAN

1/8" = 1'-0"

Exhibit 7c - Renovation Schedule

Task	Start Date	Finish Date	Status
Project approval by NRRON Board	1/13/2014	1/13/2014	Complete
Builder selection	10/1/2014	12/31/2014	Complete
Drawings	2/16/2015	5/29/2015	In Process
Permitting ⁽¹⁾	4/29/2015	7/31/2015	In Process
Order new Linear Accelerator	8/10/2015	10/30/2015	Pending ⁽²⁾
Construction Start	8/10/2015	10/16/2015	Pending ⁽²⁾
Remove Old Linear Accelerator	10/1/2015	10/2/2015	Pending ⁽²⁾
CO from Town	10/19/2015	10/30/2015	Pending ⁽²⁾
Linear Accelerator Installation	11/2/2015	11/6/2015	Pending ⁽²⁾
Linear Accelerator Commissioned	11/9/2015	12/31/2015	Pending ⁽²⁾
Order CT Simulator	11/9/2015	12/24/2015	Pending ⁽²⁾
CT Simulator Installation	12/28/2015	12/30/2015	Pending ⁽²⁾
Linear Accelerator and CT Simulator Operational	12/31/2015	12/31/2015	Pending ⁽²⁾

- (1) Completion pending submission of mechanical and electrical drawings to town and determination of construction
 (2) Construction start date (and subsequent tasks) pending receipt of CON authorization.

Exhibit 8

Purchase and License Agreement

<i>Customer (the "Customer")</i>	<i>Site (the "Site")</i>	<i>Supplier (the "Supplier")</i>
Claudio Capone	Same as Customer	Elekta, Inc.
Phoenix Community Cancer Center NRRON		400 Perimeter Center Terrace
142 Hazard Avenue		Suite 50
Enfield, Connecticut 06082		Atlanta, GA 30046
US		
(t) 1 860 272 3000		(t) 800-535-7355
(f)		(f) 770-670-2323
Currency: USD		

Elekta, Inc. ("Elekta"), a Georgia corporation, is pleased to submit the following offer to sell/license the services, hardware and/or software described in the Scope of Supply (collectively referred to as the "Deliverables") at the prices and terms stated in this Purchase and License Agreement, which consists of this Cover Page and all exhibits attached hereto.

This offer is valid until **April 30th, 2014** and no agreement shall exist between the Customer and Supplier (jointly referred to as the "Parties" and each a "Party") until this Agreement is signed by both Parties.

	Description	Currency	Price/License Fee
Total List Price	Elekta Infinity™ System	USD	\$6,405,065.22
Discount		USD	\$4,905,085.91
Contract Price*		USD	\$1,500,000.00

*plus applicable taxes

Contract Price Payment Schedule

The Customer agrees to pay Supplier the Contract Price according to the following schedule.

- a) An amount equal to 30% of the Contract Price shall be paid at the Customer's execution of this Agreement;
- b) 60% of the Contract Price shall be paid upon shipment (delivery to carrier for shipment to Customer) of the Hardware (excluding cobalt sources, if any);
- c) The remaining 10% of the Contract Price shall be payable upon the date that the Acceptance Test Protocol has been successfully completed.



Requested Delivery Date

The Requested Delivery Date is: June 2014

Contractual Delivery Date

The Contractual Delivery Date is: June 2014

THIS AGREEMENT INCLUDES THIS COVER PAGE AND THE EXHIBITS ATTACHED TO THE COVER PAGE ALL OF WHICH ARE INCORPORATED INTO THIS AGREEMENT BY REFERENCE.

Customer:

Signature:

Claudia A. Capone

Name:

Claudia A. Capone

Title:

Administrative Director

Date:

4/30/14

Supplier:

Signature:

I. Dickson

Name:

I. Dickson

Title:

TREASURER

Date:

5/1/14

EXHIBIT A SCOPE OF SUPPLY

Qty	Description
1	<p>Elekta Infinity™ System Elekta Infinity™ is the definitive Volumetric Modulated Arc Therapy (VMAT) treatment solution. Volumetric Modulated Arc Therapy (VMAT) combines software and hardware innovations that allow delivery of Volumetric Intensity Modulated Radiation Therapy which enables simultaneous and dynamic movement of MLC while rotating the gantry in combination with varying the dose rate, gantry speed and or collimator angle to deliver a highly conformal dose. This advanced delivery capability is further enhanced by the inherent Elekta X-ray Volume Imaging System (XVI) included with this system. Elekta infinity consists of a dual modality digital accelerator, providing a comprehensive range of both x-ray and electron energies to satisfy the requirements of external beam radiotherapy. The Elekta infinity Digital Accelerator offers an unrivalled choice of up to three different x-ray energies and up to 9 electron energies. With a low isocentric height (124cm), the Elekta Infinity Digital Accelerator is designed for optimum clinical usability. Elekta Infinity is remote system diagnostic ready and will function with the optional Elekta IntelliMax™ service monitoring and support system. Elekta IntelliMax™ service monitoring and support system is enabled through software and is available during the original system warranty period or through purchase of an Elekta Advanced Service Agreement. The Precise Table provides smooth, quiet operation for positioning the patient during clinical procedures. It comprises a vertical lift mechanism, couch base and the control system. Elekta Infinity includes the iViewGT™ MegaVoltage Portal Imaging System and the XVI (X-Ray Volume Imaging System) for KV based 3-D volumetric imaging.</p>
1	<p>Agility Kit Agility - fully integrated 160 leaf Beam Shaping Device with fine resolution leaves (0.5 cm wide), Treatment Control System Rack Cabinet and Integrity R3.0 software. Agility is designed to meet the stringent needs of the rapidly evolving field of high resolution stereotactic radiation therapy and volumetric arc therapy (VMAT), providing high conformance beam shaping for these advanced delivery techniques. It also supports conventional and electron based radiation techniques. The excellent, clinically demonstrated, physical characteristics of Agility coupled with its ability to interdigitate, produce real clinical advantage when delivering highly conformal, dose escalated beams close to critical structures. This Kit includes the following components: - Agility Beam Shaping device - Agility head covers and touchguard - Treatment control system Rack cabinet - Network Security Solution - UPS - Agility manual set - Integrity R3.0 software media kit - Beam Mu Dose Module - Basic service tools</p>
1	6 MV Low Energy Photon
1	10 MV Mid Energy Photon
1	6 MeV Electron Energy
1	9 MeV Electron Energy
1	12 MeV Electron Energy
1	15 MeV Electron Energy
1	18 MeV Electron Energy

1 PreciseBEAM™ VMAT

PreciseBEAM™ Volumetric Intensity Modulated Arc Therapy providing continuous Arc Modulation delivery. This license enables simultaneous dynamic movement of one or more of the following parameters:

- MLC
- Diaphragms/Jaws
- Gantry speed
- Dose rate
- Collimator angle

During delivery, the speed of the gantry and dose rate can be automatically adjusted to change the intensity of the radiation beam and vary the MU delivered per degree of movement.

1 Combined Interdigitiation & CVDR license

Optional license providing Interdigitiation and Continuously Variable Dose Rate (CVDR) functionality on MLCi2 and Agility heads only.

This license is applicable to customers who are purchasing a linear accelerator with the Integrity treatment control system. This license is for MLCi2 and Agility systems only. The license is valid for customers requiring interdigitiation with an MLCi2/Agility head and dynamic/VMAT delivery licenses.

1 SYNERGISTIQ Software License Enables the XVI functionality to support advanced workflows available with SYNERGISTIQ. SYNERGISTIQ integrates MOSAIQ and Elekta Synergy into a consolidated and synchronized user interface that brings together, in a coordinated manner, the various systems that are required for Image Guided Radiotherapy.

1 XVI R5.0 Software License

The advanced XVI license enables efficient streamlined IGRT workflows, including one touch VolumeView™, and fast automated image registration.

This license also includes;

- start/stop MotionView™
- Annotation overlay during MotionView™
- Import master RPS data to XVI (Distributed Imaging)
- HU specification
- optimised presets for dose reduction
- data anonymisation

The advanced Intrafraction Imaging functionality is optional with this software.

The advanced registration functionality such as 3D Automated Seed Matching, Critical Structure Avoidance and Symmetry (4D IGRT) are also optional with this software.

Please note that the SYNERGISTIQ configuration requires additional hardware and software to be ordered from BASS.

1 Software License Collation XVI

The XVI software offers a fully integrated solution for advanced Image Guided Radiation Therapy techniques on the Elekta Synergy® and Elekta Infinity™ range of machines. 2D, or optional 3D and 4D kV Images can be acquired with the patient in the treatment position, at the point of treatment on the Elekta Digital Accelerator.

This is mandatory XVI Software

Compatible with Desktop 7.01 or higher

1 Software License Collation XVI 5.0

The XVI software offers a fully integrated solution for advanced Image Guided Radiation Therapy techniques on the Elekta Synergy® and Elekta Infinity™ range of machines. 2D, or optional 3D and 4D kV Images can be acquired with the patient in the treatment position, at the point of treatment on the Elekta Digital Accelerator.

This is mandatory XVI Software. MRT 20261 is also required.

1 PlanarView™ - License

The PlanarView™ license enables the acquisition of static 2D kV Images on the XVI system. Images are displayed and can be compared to a reference image.

PlanarView™ thus provides similar functionality to existing orthogonal MV portal images for initial patient set-up. The X-rays of PlanarView™ are produced using kV energy range which results in high quality images at very low doses.

- 1 MotionView™ License**
2D fluoroscopic-like imaging
MotionView™ imaging module helps locate targets that move on a high frequency basis. This becomes particularly critical with the use of small treatment fields or in PreciseBEAM® IMRT application. Like fluoroscopy, MotionView™ allows evaluation of patient motion while the patient is in the treatment position for optimum treatment delivery.
Developed to address intrafractional organ motion, MotionView™ allows the clinician to visualize patient organ motion for evaluation of field coverage for optimum treatment delivery. Even when a device such as the Elekta Active Breathing Coordinator™ is being employed, MotionView™ is useful for monitoring other motion in the thorax or upper abdomen.
- 1 VolumeView™ License**
3D Volumetric Imaging. Using Elekta 3D volume mode (VolumeView™), clinicians can visualize soft tissue detail in any area of the body.
Elekta VolumeView™ provides volumetric 3D data sets with submillimeter isotropic resolution acquired with the patient in the treatment position.
The system can acquire a complete 3D volume in a single revolution with reconstruction taking place simultaneously with rapid registration against the CT treatment plan image. This allows for optimization of the treatment plan and correction for target shifts due to organ motion and deformation.
The imaging dosage necessary to obtain a VolumeView™ image can be varied depending on the level of contrast required. For prostate imaging, a larger degree of contrast is required to differentiate similar soft tissues in addition to complications caused by low transmission and high scatter, while a VolumeView™ image in the head and neck region would require a lower dose.
- 1 Segmental VolumeView™/ MotionView™**
With XVI R4.5.1 and above provides the user with the ability to interrupt and restart VolumeView™ acquisitions using the Function Key Pad.

With XVI 5.0 provides the user with the additional ability to interrupt and restart MotionView™ acquisitions using the Function Key Pad.

Supports kV acquisition during breath-holding procedures by allowing the acquisition of partial volumes for each separate breath hold, with subsequent reconstruction a single image.
- 1 Automated DICOM CT export license**
An optional automated DICOM CT Export license for XVI reconstructed images.

This DICOM export license allows the user to send post reconstruction XVI images to a configurable destination automatically upon acceptance of the XVI images.
- 1 Auto DICOM RT Image Export**
Automatic DICOM Export of PlanarView™ Images
This license supports the automatic export of PlanarView™ images into the MOSAIQ software, using a DICOM RT Image Standard.

Within MOSAIQ 'Setup Intelligence' functionality, images can be automatically matched using curve, point manual or automatic grey value registration.
- 1 2D Image Quality Phantom**
Image quality phantom use for 2D kV image quality to determine the low contrast and spatial resolution of XVI 2D images (PlanarView™ images).

This test tool is used for the 2D image quality of the Customer Acceptance Test for XVI and can be used to monitor image quality over a period of time.
- 1 VolumeView™ Contrast phantom**
QA phantom to enable measurement of high resolution and contrast resolution and other image quality parameters of the VolumeView™ images acquired on the XVI workstation.
- 1 Adaptor kit for QA Phantom to iBEAM®/iBEAM® evo Couchtop**
Single ball phantom table top adapter kit.

This attachment supports the single ball bearing phantom which is used to calibrate the Synergy® imaging software to the mechanical isocenter.
- 1 iViewGT™ Infinity Hardware**
Retractable arm for iViewGT™

iViewGT™ provides:
- Rigid and fully retractable slimline detector for maximum accessibility and clearance.
- Large, square active area and wide lateral and longitudinal movement accommodating all patient anatomies.
- Automatic and manual arm movement for efficiency of use.

- Fully interlocked safety features for operator confidence and patient comfort.

1 **iViewGT™**

Amorphous Silicon panel for iViewGT™

The iViewGT™ Amorphous Silicon panel provides:

- Fast verification of dose conformance for acceptance of treatment quality.
- Excellent image quality and clear anatomical definition.
- Fast acquisition capture for real-time modification of set up prior to treatment delivery.

1 **iViewGT™ PC running release 3.4 SP2**

High performance PC hardware for use on iViewGT™ imaging systems.

Microsoft Windows XP Professional SP2 operating system and iViewGT™ release 3.4 SP2 software pre-installed.

1 **R3.4 SW License for iViewGT™ Portal Imaging System** Software license for the iViewGT™ portal imaging system

iViewGT™ R3.4 software provides:

- Full image acquisition capability for iViewGT™ customers
- Enhanced image display options offering superior structure visualization. (Enabled with the CLAHE (Contrast Limited Adaptive Histogram Equalization) algorithm)
- Extensive networking capabilities through DICOM
- Automated DICOM export of acquired images
- Sophisticated tool set for efficient image acquisition
- Confident tracking of sophisticated treatments such as IMRT, with fast continuous synchronized imaging
- Enhanced printing for display of images
- Export image log for trend analysis facility

1 **iView™ IMRT Verification Software License**

This software expands existing iView™ functions to verify multiple segment beams for IMRT. The iView™ image acquisition is triggered automatically and the image taken depends on whether the user selects single, multiple or movie image.

1 **External Portal Imaging Interface**

A mechanism where user and system events in iView™ are sent to an external customized program. Could be used as an interface to third party systems or for analysis of image data.

1 **IBEAM® evo iBEAM® evo** is the next generation of carbon fiber Couchtop from MI. This Couchtop has no metallic components apart from the rails. The Couchtop comes complete with the following extensions:

- iBEAM® evo Extension H & N
- iBEAM® evo Extension 415
- Indexing bar
- iBEAM® evo Extension removable rails EP (aluminium)

The extensions are light, easy to use and minimize set-up time.

The tabletop comes with a fixed rail at the foot end of the couch and a removable, light weight rail for the superior couch end. This rail is the same dimensions as the C-Arm tabletop, however the location in relation to the top of the iBEAM® evo and separation between the rails is slightly different to the C-arm.

1 **Independent X/Y movement of table top**

To save time, in reaching the desired position, this kit allows the X/Y brakes to be released independently.

1 **General Function Key Pad**

The Function Key Pad provides the following features:

- MV Start, Interrupt and Terminate
 - LED's to indicate radiation on / off status
 - Linac Assisted Setup (ASU) – facilitating automatic gantry and diaphragm rotations
 - Table ASU – facilitating automatic table translations and isocentric setup
 - Imaging ASU – facilitating automatic remote retraction of the iViewGT™ detector
- This Function Key Pad has been ergonomically designed to ensure comfort during prolonged ASU periods.

1 **Precise Table or Pedestal Pit Kit**

This kit provides the necessary fixings, floor boards and template to install a Precise Table into a custom built Pit or a modified Pedestal Pit.

- 1 **Standard Set of Aperture Plate Electron Beam Applicators**
Field sizes:
- 6 x 6 cm, SSD 95 cm
- 10 x 10 cm, SSD 95 cm
- 14 x 14 cm, SSD 95 cm
- 20 x 20 cm, SSD 95 cm
Fitted with spring loaded touch guard, coded end frames and electrical connection to linear accelerator latch mounting system enables easy and rapid attachment.
- 1 **Applications Training for Standard Therapy on the Desktop**
The 2-day Standard Precise Desktop Course (travel time inclusive) provides training for 4 Radiation Therapists in the clinical use of the Precise Desktop Digital Linear Accelerator. Successful participants will be equipped with the knowledge and skills to operate the system effectively. The course does not provide training in the principles or techniques used in Radiation Therapy.
- 1 **Applications training for iViewGT™**
The 3-day iViewGT™ training course (travel time inclusive), provides training for 4 radiation therapists in the clinical use of the iView™ imaging system. Successful participants will be equipped with the knowledge and skills to operate the system effectively. The course does not provide training in the principles or techniques used in radiation therapy.
- 1 **XVI TFT Monitor**
Specification for high resolution 17" Flat Panel Monitor.
The TFT monitor will fit neatly into the linac control area.
It is used to display the high resolution images acquired on XVI, from PlanarView™, MotionView™, and VolumeView™.
- 1 **40kW kV generator**
The Elekta Synergy® System XVI has an integrated 40kW kV generator which provides multiple setting control via the XVI software. Acquisition parameters are configured within the Preset protocol function in the XVI software which is user configurable. The generator and X-ray tube have been optimized for the 3D VolumeView™ imaging, as well as radiographic type exposures for PlanarView™ and MotionView™.
- 1 **Customer Interface Terminal Board**
- 1 **Synergy® cable reeling**
- 1 **Las Vegas Calibration Phantom**
The Las Vegas phantom is a device that is used to check image quality of a portal imaging device at different Megavoltage energies both at acceptance and as part of the corrective maintenance procedure.
- 1 **Flat panel monitor for iView**
- 1 **Control Room Monitor**
This specification enables customers and / or Business units to purchase the monitor for the treatment control system. The specification is for a standard 17 inch or Flat screen monitor.
- 1 **Control Room Monitor**
This specification enables customers and / or Business units to purchase the monitor for the treatment control system. The specification is for a standard 17 inch or Flat screen monitor.
- 1 **iViewGT™ Warranty**
- 1 **iView Installation**
- 1 **IntelliMax™ Intelligent Agent**
This License provides only the IntelliMax™ Intelligent Agent license. Any provision of services relating to the use of data collected by the Agent (via the IntelliMax™ Enterprise) should be negotiated as part of the Service Contract between the Customer and the BU/distributor.
IntelliMax™ Intelligent Agent requires a dedicated PC. Provision of this PC must be negotiated between the Customer and the Elekta BU/Distributor. A specification of the PC can be obtained from your Elekta representative.
IntelliMax™ Intelligent Agent also requires a direct internet connection to the Agent PC opening secure port 443 (https).
- 1 **Agility Upgrade Cable Kits**
Treatment room and Interbay terminated cable kits for Elekta delivery systems upgrading to the Agility Beam Shaping Device only.

- 1 **Turbo Starter Kit for Linear Accelerators**
Ancillary equipment required for the installation and maintenance of any Precise Digital Accelerator.
Comprising:
- Rotary vacuum pump
- Turbo molecular pump attachment for rapid pump down times and higher roughing vacuum
- 1 **Order two sets of pre defined terminated cable kits**
Pre installation treatment room and Inter bay terminated cable kits
- 1 **TRM Cable**
Cable for additional monitor if located within the Treatment room.
- 1 **In-room Monitor, Keyboard and Mouse**
Local Procurement Specification
- 1 **U.S.A. Electron Flatness**
Electron flatness according to U.S.A. standards, optimized at 100 cm.
- 1 **20" Flat panel control room monitor**
- 1 **Accelerated Installation ~ 1 week**
additional resources and hours needed to accelerate the completion of the linear accelerator installation by 1 week.
- 1 **Standard Rigging & Handling**
Basic rigging of Linac to first floor or ground floor location. Elekta will provide the necessary crew to offload, uncrate, rigging and machinery moving required to set system as per plan, and remove debris. Basic rigging excludes use of a crane or rigging down an elevator shaft.
- Standard Rigging includes:
- Make one pre-installation site visit and delivery project management.
- Drill holes for equipment fasteners
- Supply a 12,000 lb capacity forklift during the off loading procedure
- Stage and uncrate the linac machine, move all components into the facility, and set as directed.
- Remove and dispose of all packaging that will not be reused.
- Transport the base, gantry and beam arm into the facility/bunker on transport trolleys supplied by Elekta.
- Set the base frame in place (Elekta will level).
- Set the gantry drum onto the base frame.
- Set beam arm into the gantry.
- Install counterweight holder and stack the counterweights.
- Supply a manual gantry lifting system to perform aforementioned setting activities and all necessary tools.
Supply a crew, including a rigging supervisor.
- Include the cost of all associated resource and expenses, including related travel time.
- Complete all rigging activities in a single day.
- Standard Rigging excludes:
- Crane service.- Elevator, or shaft deliveries.
- No clear access to the building (exterior).
- Interior obstruction en route to treatment room.
- Any shoring needed to protect the structure from the weight of the system.
- Any shoring and/or plating needed to build temporary dock or landing area for the unit.
- Extra long delivery routes, distances in excess of 150' from offload site to the treatment room.
- Overtime, weekend, premium time, unless Weekend Rigging selected.
- additional travel expenses should the project exceed the time allotted in this scope for reasons beyond Elekta or our contractor's control.
- additional man-hours, manpower, travel expenses, or equipment required due to delays caused by incorrect site preparation, waiting time, or delays not caused by Elekta or our contractor will be itemized and billed to the customer at their current rates.
- 1 **VMAT Treatment Planning System Manual**
- 1 **Software Media Pack, SYNERGISTIQ Clients**

- 1 **XVI Applications Training**
The 4-day XVI training course (travel time inclusive) provides training for Radiation Therapists in the clinical use of the X-ray Volume Imaging portion of the Elekta Digital Accelerators. Successful participants will be equipped with the knowledge and skills to operate the system effectively. The course does not provide training in the principles or techniques used in Radiation Therapy, CT, or Diagnostic Imaging. This course is given at the customer site for a maximum of 4 users.
- 1 **Aperture Plate Electron Beam Applicator 25 x 25 cm**
Filled with spring loaded touch guard, coded end frames and electrical connection to linear accelerator.
The X-ray diaphragms are then set automatically to the optimum position.
A unique hook and latch mounting system enables easy and rapid attachment.
- 1 **Remote Retraction of the iViewGT™ detector**
This kit allows Remote Retraction of the iViewGT™ detector from the Function Key Pad.
- 1 **Set of manuals**
- 1 **IMKM**
The In-room Monitor and Keyboard function provides the operator with access to all clinical and service functions available at the control console from inside the treatment room.
Comprising:
- Cable switching connectors for attaching the in-room monitor to the treatment control system.
- 1 **CRM Cable**
Cable for additional monitor if located within the control room.
- 1 **Elekta Infinity System Cover Set**
- 1 **iViewGT™ Infinity Hardware**
Retractable arm for iViewGT™

iViewGT™ provides:
- Rigid and fully retractable slimline detector for maximum accessibility and clearance.
- Large, square active area and wide lateral and longitudinal movement accommodating all patient anatomies.
- Automatic and manual arm movement for efficiency of use.
- Fully interlocked safety features for operator confidence and patient comfort.
- 1 **Table ASU License**
In addition to normal linac ASU, the user is able to separately request the auto setup of the table isocenter from inside and outside the room.
- 1 **Remote Automatic Table Movement License**
Remote Automatic Table Movement License with either XVI or MOSAIQ.
This license enables the user to make the translation correction movements remotely and automatically at the Precise Table. This movement can either take place following a registration as part of an on-line VolumeView™ imaging workflow or the Precise Table can be moved remotely and automatically to coordinates entered into MOSAIQ.

It should be noted that if customers have XVI, they will only be able to have this functionality when using on-line image workflows.

This feature is only available with MOSAIQ when the Linac does NOT have XVI imaging capability.
- 1 **Multileaf Collimator Head Cover Set**
- 1 **Laser back pointer assembly**
Comprising:
- Fiber optic laser back pointer (Class 2 laser)
- Mechanical mounting kit
- Laser warning label

For customers requiring a laser back pointer who are purchasing the iViewGT™ as a factory fit or upgrade.
- 1 **Kit, XVI Daily QA Phantom**
Daily QA Phantom for kV and MV projection imaging and kV VolumeView™ checks
Laser and lightfield coincide additionally
Spreadsheet for recording and analyzing trend results

- 1 **XVI Water Calibration Kit**
Water phantom calibration kit for XVI calibration.
It provides a reduction in CBCT Image ring artifacts in addition to image quality improvements.

- 1 **Elekta XVI Basic Calibration Kit - Bearing Phantom Assembly**
Specially designed geometric calibration phantom for kV to MV isocentre alignment. Suitable for the Elekta XVI system with either iBEAM evo Couchtop or the Aktina Tabletop.

Utilizing the phantom in conjunction with the specific associated software tools delivered with the XVI system enables fast calibration of the kV to MV X-ray isocentre, and flexmap calibration for VolumeView™ imaging.

- 1 **Agility - Linac Parts**

 - 1 **Agility head covers and touchguard - Non Axesse**
Required for all Elekta delivery systems with the Agility beam shaping device.

 - 1 **Agility Service Tool**
Tool to support maintenance of the Agility beam shaping device.

 - 1 **MOSAIQ Sequencer PC**
This option provides a MOSAIQ Sequencer PC that can be mounted in the Agility Treatment Control system cabinet.

 - 1 **Connexion™ System with all 4 Modules incl. Extension**
This system contains the Connexion Base Board and all modules:
 - Connexion™ Imaging Module
 - Connexion™ Central Opening Module with Connexion™ Solid Inlay
 - Connexion™ Lateral Opening Module with Connexion™ Short Indexing Bars
 - Connexion™ Tennis Racket Inlay
 - Connexion™ Tennis Racket Inlay Cover Foils (5 pcs.)
 - Connexion™ Head and Neck Module
It also contains a storage solution for the modules, components and a set of iBEAM® Indexing bars. additionally it contains also two iBEAM® evo Extensions.

 - 1 **Control System hardware for XVI R5.0**
The XVI control system is a high specification dual processor PC which supports all aspects of the IGRT process including 2D, 3D and 4D kV image acquisition, VolumeView™ reconstruction, and analysis using a suite of advanced registration functionality.

 - 1 **Power Distribution Unit for Elekta® Linear Accelerator - 480 Volt Input**
The PDCU incorporates a transformer, output circuit breakers, filtering for high frequency noise, distortion, and transient pulse suppression, in one cabinet. This reduces site preparation costs and complexity for the customer.

 - 1 **SF6 GAS**
Includes:
- 44-liter cylinder for SF6 gas
- 115 lbs of SF6 gas
- Regulator
- Delivery

 - 1 **SF6 GAS+N2**
Includes:
- 16-liter cylinder for Nitrogen (N2) gas
- Nitrogen (N2) gas
- Regulator
- Delivery

 - 1 **A Frame for Installation/Service**
Includes:
- A Frame
- Trolley
- Hoist (pulley)
- Delivery Note: Not required if iBeam is in place.

 - 1 **Close Circuit TV System-Color**

1 Intercom system for patient and radiographer communication

The MP-S Alphone System consists of :

1. Single Master Station located in the Treatment control station room for the Radiation Therapist use.
2. Substation - This will be mounted on the wall in the Treatment room. The substation is hands free and will carry the patient's voice back to the Master Station.
3. A power supply, 24V transformer, and 100 feet of shielded cable

1 20" Flat panel control room monitor

1 Stereotactic Body Radiation Therapy Program Book

1 Elekta Synergy Site Marketing Guide

Elekta's Synergy Site Marketing Guide provides a comprehensive array of marketing support and resource materials to help you cultivate your investment. Following is a content overview of the guide:

I. Binder

Elekta Synergy® Site Marketing Guide

Contains a comprehensive description of activities and suggestions to develop, implement and manage a marketing campaign for your new Elekta Synergy® system, as well as sample materials that can be easily customized by a center.

II. CD-ROMs

CD-ROM #1 - 3

Elekta Synergy® Site Marketing Templates & Materials

The CD-ROMs contains PowerPoint Presentations, brochures and advertisement templates to help your center market to the patient populations as well as direct mail templates and press release templates to assist in marketing to referring physicians and product photos which can be used to produce brochures, patient education pieces, advertising, etc.

III. Folders

Folder # 1 - Welcome to Elekta, includes basic information about the Site Marketing Guide, Elekta Synergy® Image Guided Radiation Therapy, and background information on Elekta.

Folder # 2 - Education and Training and Users Meetings, includes up-to-the-minute information on the biannual Elekta Oncology Users' Conference and information on Elekta's extensive training and education courses.

Folder #3 - Customer Marketing Samples, containing samples from existing centers to help spur creativity or provide background information for your center's informational materials.

1 Elekta® - IGRT Clinical Training Course

To provide clinical understanding of the use of 4D image guided radiation therapy and give practical guidelines in the use of Elekta Inac.

Content

- Introduction to IGRT - clinical experience and benefits
- General clinical workflows
- Image acquisition - calibration and basic QA
- Data communications (TP-XVI)
- Image registration
- Set-up deviation handling - decision rule - table correction
- Protocol - correction of error
- Practical workflows (on/off-line)
- Lectures on different clinical indications (pelvis, lung, head & neck and breast)
- Practical hands-on
- QA sessions and planning

Pricing includes:

- Tuition for one user

Pricing Does Not Include:

- Airfare
- Hotel
- Travel related expenses

Training centers and duration 2-3 day course at:

- The Netherlands Cancer Institute (NKI/AVL), Amsterdam, the Netherlands
- Princess Margaret Hospital, Department of Radiation Oncology, Toronto, Canada
- Swedish Cancer Institute, Seattle, Washington, USA

- Or an alternate collaborating training hospital.

Target group

- Radiation Oncologists
- Physicists
- Radiation Therapists/Radiographers

Pre-requisite: None

For further information please contact: info.education@elekta.com

Courses are available for twenty-four (24) months after Acceptance or first clinical use, whichever occurs first.

2 Elekta Oncology Engineer Technical Training (EOE) 1

Objective

Basic understanding of both electrical and mechanical operation of:

- Linear Accelerator
- iViewGT & XVI
- Precise Table
- MLCi & Beam Modulator
- Computer Systems

Linear Accelerator

- Course Introduction
- Patient Workflow and Clinical Operation
- Pre-Course Learning Modules
- Machine Geography
- Control Systems
- Interlocks & Supplies
- Isocenter Checking
- Services
- External Systems Overview (including MOSAIQ)
- Machine calibration
- Fault Finding

iViewGT and XVI

- Service support of iViewGT and XVI mechanical systems
- Panel position calibration on iViewGT and XVI

Precise Table

- Safety and Geography
- Calibration and ASU setup
- Principles of Operation
- Corrective and Planned Maintenance
- Trouble Shooting

MLC and Beam Modulator

- Control Systems
- MLC Mechanical Systems
- Beam Modulator Mechanical Systems
- Component Exchange and Fault Finding
- MLC Calibration
- Beam Modulator Calibration
- AGAL Image Based Calibration

Computer Systems Overview and Principles of Operation of:

- Linac Control System
- iViewGT Control System
- XVI Control System

Pricing includes:

- Tuition for one user

Pricing Does Not include:

- Airfare
- Hotel
- Travel related expenses

Assessment Three (3) theory assessments

Training center and duration 15-day course at training center in Europe or USA. Target group

- Hospital physicists
- Hospital engineers
- Elekta and distributors

Pre-requisite:

- None

Further information: Contact the local Elekta business unit or representative.

Courses are available for twenty-four (24) months after Acceptance or first clinical use, whichever occurs first.

1 2nd Line Physics and MLC - Technical Training

Objective

A competent student will be able to:

- Operate the machine in clinical and service mode
- Conduct calibration procedures and QA for the linac and MLC
- Check the operation of the RF system
- Measure and adjust the X-ray and electron beam energy
- Measure and adjust the X-ray and electron field uniformity

Content

- Course introduction
- Quality assurance
- Calibration
- Multileaf collimator (MLC) System
- High tension (HT) and radio frequency (RF)
- Beam energy and transport
- Electrons
- Dosimetry
- System operation

Pricing Includes:

- Tuition for one user

Pricing Does Not Include:

- Airfare
- Hotel
- Travel related expenses

Assessment

- Two theory assessments and practical assignments.

Training centers and duration

- 9-day course at Elekta, Crawley, UK.

Target group

- Hospital physicists
- Elekta and distributors' physics staff

Pre-requisite

Completed the 1st Line training course or gained a 1st Line Exemption Test pass with 4 months on-site experience.

Further information

Contact the local Elekta business unit or representative. Courses are available for twenty-four (24) months after Acceptance or first clinical use, whichever occurs first.

1 Customer Travel Support – Not to exceed \$5,000.00 USD

Funds that are granted for customer travel, meals, and expenses to industry related activities (e.g. ASTRO attendance, IGRT training, local symposia, etc.). This fund is limited to the amount shown and must be distributed within 24 months after equipment acceptance.

1 Room Lasers, Green, Remote

Laser patient alignment system, green lines with remote control adjustment.

Set of 4 Green Room lasers.

Comprising 3 crosshair and 1 line sagittal laser.

Featuring extremely fine lines (< 1mm), high precision adjustment at the isocenter and easy to install, stable mounting bracket. Inclusive of switchable (110v to 240v) Power Supply and universal mains adaptor and remote hand-held controller.

1 Clinical academic course: IMRT/VMAT

The objective of this clinical program is to present the steps required to implement IMRT/VMAT for routine treatment on Elekta's linear accelerators.

Target groups

Radiation oncologists

Medical physicists

Dosimetrists

Radiation Therapists/Radiographers

Content:

Commissioning the linear accelerator and treatment

planning system for IMRT/VMAT

Acquisition of beam data

Dosimetry and stability of beam segments of small MU and dimensions

Methods to establish the appropriate margins for IMRT/VMAT

Inverse planning methods for IMRT/VMAT

QA tools for IMRT/VMAT delivery

Demonstrations performed on Elekta linear accelerators
2-day course held at: Mannheim Medical Centre, Germany
Course Director: Professor Frederik Wenz
Faculty: Professor Frank Lohr, M.D., and Volker Steil, M.Sc.

Third Party Products:

- 1 **Third Party Water Chiller 60Hz**
Closed Circuit Water Chiller. For 60Hz power network – provided by Third Party Supplier

EXHIBIT B
GENERAL TERMS AND CONDITIONS

B 1. Definitions. The following terms used in this Agreement shall have the meaning set forth below:

B 1.1 "Acceptance Test Protocol" means Supplier's standard protocol and procedure for testing and/or accepting delivery of the Hardware and/or Software, as revised from time to time by Supplier.

B 1.2 "Affiliate(s)" means, with reference to a specified person or entity, any person/entity that directly or indirectly controls or is controlled by or is under common control with the specified person/entity. The term control means the direct or indirect ownership of a majority of the outstanding voting securities of a corporate entity.

B 1.3 "Agreement" means the agreement between Supplier and the Customer relating to the sale/license of the Deliverables, consisting of the Cover Page and all exhibits attached thereto and incorporated herein by reference.

B 1.4 "Confidential Information" means any nonpublic information of a Party, in oral, written, graphic or machine-readable form, including, without limitation, that which relates to medical information concerning patients and patient records, trade secrets, research, product plans, products, inventions, processes, designs, algorithms, source code, programs, business plans, agreements with third parties, services, customers, marketing, finances, the terms and pricing under this Agreement, and any additional nonpublic information of a Party which is designated as confidential or proprietary by the disclosing Party at the time of disclosure, or which considering all the circumstances surrounding the disclosure, ought reasonably to be understood by the receiving Party to be confidential.

B 1.5 "Contract Price" means the price for the Hardware and/or Software as specified in the Cover Page.

B.1.6 "Cover Page" means the document issued by Supplier containing Supplier's offer to the Customer, to which these General Terms and Conditions and all other applicable exhibits are attached.

B 1.7 "Deliverables" means the Services, Hardware and/or Software listed on the Cover Page and described in more detail in the Scope of Supply.

B 1.8 "Delivery" means the moment when Supplier fulfills its delivery obligation under the applicable trade term with respect to Hardware.

B 1.9 "End-User" means the entity using the Hardware and/or Software at the Site.

B 1.10 "Hardware" means any tangible property listed on the Cover Page and described in more detail in the Scope of Supply.

B 1.11 "Installation" means any and all procedures and tasks that are specified by Supplier to be performed by Supplier following the arrival of the Hardware and/or Software at the Site.

B 1.12 "Lost Profit" means the Contract Price and/or the License Fee (if any) for the remainder of the term of the license and/or the Service Fee (if any) for the remainder of the term of the services, minus any amounts already paid by the Customer to Supplier, minus the total costs that would have been incurred by Supplier and its Affiliates in manufacturing, delivering and installing the Deliverables at the Site or performing the Services and which Supplier can reasonably avoid.

B 1.13 "Payment Terms" means the terms of payment for the Deliverables as set out in this Agreement.

B 1.14 "Scope of Supply" means the scope of supply attached to this Agreement as an exhibit, specifying the Deliverables being purchased/licensed.

B 1.15 "Services" means the Hardware maintenance and support services and/or Software maintenance and support services listed on the Cover Page and described in more detail in the Scope of Supply.

B 1.16 "Software" means any software listed on the Cover Page and described in more detail in the Scope of Supply.

B 1.17 "Third Party Products" means Hardware and/or Software product(s) not manufactured by or directly on behalf of Supplier or any of its Affiliates.

B 1.18 "Third Party Supplier" means the supplier of Third Party Products.

B 1.19 "Warranty Period" means the period/term of the warranty.

B 2. Terms of Sale/License.

B 2.1 Pursuant to the terms and conditions contained in this Agreement, Supplier agrees to sell/license and deliver the Services, Hardware and/or Software and the Customer agrees to purchase/license and accept delivery of the Services, Hardware and/or Software.

B 2.2 Partial shipments/deliveries shall be allowed unless otherwise agreed in writing by the Parties. Any failure by Supplier to provide Deliverables shall not constitute grounds for terminating this Agreement but shall only to the extent set out in this Agreement be a basis for terminating the Parties' future obligation with respect to the individual Deliverable so affected.

B 3. Price and Payment Terms, Etc.

B 3.1 Unless otherwise agreed or set out in the Cover Page all payments shall be due and payable within 30 days of the date of invoice. Any price stated in this Agreement is net and (unless otherwise expressly set out in this Agreement) excludes any financing costs, letter of credit or bank guarantee costs, sales tax, and any other taxes, dues, duties and any cost connected with the Installation and use of the Deliverables. Any price under this Agreement shall be paid via cash, check, or bank wire transfer according to the instructions noted on the face of the invoices.

B 3.2 The Customer shall not be entitled to deduct or set-off any amount of the monies due to the Supplier in respect of this Agreement.

B 4. Customer's Default.

B 4.1 If the Customer fails to make any of the payments by the due date thereof, then Supplier shall give the Customer written notice of such failure and may suspend all Services, licenses and Delivery.

B 4.2 If the Customer fails to make any payment within thirty (30) calendar days after the date of Supplier's notice referred to in section B.4.1, Supplier may elect to terminate this Agreement by giving written notice of such termination to the Customer. Such termination shall be effective as of the date of such termination notice and if the Deliverables have been delivered to the Customer, Supplier shall be entitled, without prejudice to its other rights and remedies, to enter the Site and remove and repossess and/or disable the Deliverables as applicable.

B 4.3 In the event Supplier terminates this Agreement due to the Customer's breach, Supplier shall be entitled, without prejudice to its other rights and remedies, to recover from the Customer an amount equal to Supplier's Lost Profit. This shall apply irrespective of whether the Deliverables have been delivered or not.

B 4.4 Any payment required to be made by Customer to Supplier which remains unpaid after the date on which such payment is due shall bear interest at a rate equal to the lesser of one and one-half percent (1.5) per month, or fraction thereof, or the maximum legal rate, as such rate may be adjusted from time to time.

B 5. Excusable Delays.

B 5.1 If the performance of this Agreement by or any obligation of either Party hereunder is prevented, restricted or interfered with by reason of fire, explosion, labor disputes or accidents affecting performance under this Agreement, or war, mobilization, civil commotions, blockade or embargo, or any law, regulation, ordinance or requirement of any government or regulatory agency, or any other act whatsoever similar to those listed herein, or any other circumstance beyond the reasonable control of a Party, then the affected Party shall promptly notify the other Party of the resulting difficulties, and any of the foregoing events shall excuse any performance required under this Agreement (other than the payment of money) for the duration of the events.

B 5.2 If either Party is prevented from performance of its obligations for a continuous period in excess of six (6) months, the other Party may terminate this Agreement forthwith on service of written notice upon the Party so prevented, in that case neither Party shall have any liability to the other except that rights and liabilities that accrued prior to such termination shall continue to subsist.

B 6. Acceptance Test Protocol.

B 6.1 To the extent applicable for the Hardware and/or Software, upon completion of the Installation of the Deliverables (or part thereof), Supplier shall perform the Acceptance Test Protocol and the Hardware and/or Software shall be deemed to have been accepted by the Customer after the Acceptance Test Protocol has been successfully completed. To evidence this, the Customer shall as soon as possible thereafter sign a confirmation of the acceptance, which shall not be unreasonably withheld, conditioned or delayed. Any noncompliance revealed during the performance of the Acceptance Test Protocol shall be remedied by Supplier at the cost of Supplier, unless such noncompliance is attributable to the Customer's responsibility under this Agreement. The Customer shall not run, operate, or otherwise use the Hardware and/or Software until the Acceptance Test Protocol has been successfully completed and the acceptance confirmed. If Customer runs the Hardware and/or Software before such time, the Acceptance Test Protocol shall be deemed to be successfully completed and the Customer shall be deemed to have accepted the Hardware and/or Software.

B 7. Exclusive Remedies; Disclaimer of Warranties; Limitation of Liability.

B 7.1 The Customer's exclusive remedies and Supplier's sole liabilities for breaches of this Agreement and all matters relating to (directly or indirectly) this Agreement and the subject matter hereof shall be limited to those specifically provided for in this Agreement.

B 7.2 THE WARRANTIES PROVIDED IN THIS AGREEMENT ARE EXCLUSIVE AND GIVEN AND ACCEPTED IN LIEU OF ALL OTHER WARRANTIES OF SUPPLIER OR ITS AFFILIATES WITH RESPECT TO QUALITY, PERFORMANCE AND OPERATION OF THE DELIVERABLES, WRITTEN OR ORAL, EXPRESSED OR IMPLIED.

B 7.3 ALL OTHER WARRANTIES OF SUPPLIER OR ITS AFFILIATES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF NON-INFRINGEMENT, MERCHANTABILITY, SATISFACTORY QUALITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED.

B 7.4 CORRECTION OF NON-CONFORMITIES OR DEFECTS AS PROVIDED IN THIS AGREEMENT SHALL BE CUSTOMER'S EXCLUSIVE REMEDY AND SHALL CONSTITUTE FULL AND FINAL FULFILLMENT OF ALL LIABILITIES OF SUPPLIER, AND ITS AFFILIATES, WHETHER IN WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, TORT OR OTHERWISE WITH RESPECT TO THE DELIVERABLES. IN NO EVENT SHALL SUPPLIER OR ANY OF ITS AFFILIATES BE LIABLE FOR LOSS OF USE, LOSS OF DATA, REVENUE OR

PROFIT OR ECONOMIC LOSS, OR FOR ANY OTHER INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGE, WHETHER ARISING IN CONTRACT OR TORT. CUSTOMER AGREES THAT SUPPLIER'S TOTAL MAXIMUM LIABILITY FOR DAMAGES, IF ANY, SHALL NOT EXCEED THE SUMS PAID TO SUPPLIER BY CUSTOMER FOR THE DELIVERABLES UNDER THIS AGREEMENT. THE PROVISIONS OF THIS SECTION SHALL SURVIVE THE TERMINATION OF THIS AGREEMENT.

B 8. Permits, Etc.

B 8.1 The Customer shall obtain all licenses, permits or similar documents required for site preparation and/or Installation, possession, running and use of the Deliverables and the Customer shall comply with all federal, state and local laws, regulations or recommendation for the importation, transportation, Installation, possession, running and use of the Deliverables. Upon Supplier's request the Customer shall submit to Supplier copies of any such licenses, permits or similar documents.

B 8.2 The Customer shall in case of direct or indirect re-export of all or any portion of the Deliverables comply with any and all export regulations and rules now in effect or as may be issued from time to time.

B 8.3 The Supplier shall obtain all applicable licenses, permits or similar documents required for sale, transportation Installation and Service of the Deliverable(s) and shall comply with all applicable federal, state and local laws, regulations or recommendation for the sale, importation, transportation, Installation and Service of the Deliverables. Upon Customer's request, the Supplier shall submit to Customer copies of any such licenses, permits or similar documents.

B 9. Drawings, Etc.

B 9.1 All drawings, descriptive matter, specifications and advertising issued by Supplier and any descriptions or illustrations contained in Supplier's catalogues or brochures describing the Deliverables are issued or published for the sole purpose of giving an approximate idea of the Deliverables described in them. They do not form part of this Agreement.

B 10. Intellectual Property and Indemnification.

B 10.1 All intellectual property rights in the Deliverables are and shall remain the exclusive property of Supplier or its Affiliates (or, in the case of Third Party Products, the Third Party Supplier).

B 10.2 Supplier agrees to indemnify the Customer and to hold it harmless from all damages awarded against the Customer and all reasonable expenses incurred by the Customer as the result of any third party claim of trade secret, patent, or copyright infringement asserted against the Customer by virtue of the Customer's use of the Deliverables in accordance with the terms of this Agreement and as delivered by Supplier provided that:

- (a) the Customer notifies the Supplier immediately upon becoming aware of any suspected infringement of intellectual property by the Deliverables;
- (b) the Supplier is given the right to control and direct the investigation, preparation, defense, and settlement of each such claim; and
- (c) the Customer fully co-operates with Supplier in connection with any such claims.

B 10.3 Should the Deliverables as delivered by Supplier become or, in Supplier's opinion, be likely to become, the subject of a claim of infringement of a trade secret, patent, or copyright, Supplier may at its option and expense either:

- (a) procure for the Customer the right to continue to use the Deliverables as contemplated hereunder;
- or
- (b) replace or modify the Deliverables or modify the Deliverables to make its use hereunder non-infringing.

B 10.4 If the Supplier considers that neither option is available to it, then this Agreement may be terminated with respect to the Deliverables so affected at the option of the Supplier without further obligation or liability except that the Customer shall return the Deliverables so affected to Supplier and Supplier shall grant the Customer a refund of the Contract Price or the one-off License Fee attributable to the so affected Deliverable as depreciated on a five-year, straight-line basis.

B 10.5 Supplier shall have no liability for any claim of trade secret, patent, or copyright infringement based on:

- (a) the Customer's use or combination of the Hardware and/or Software with products or data not supplied by Supplier as part of the Deliverables;
- (b) the Customer's use of Third Party Products;
- (c) the Customer's use of the Deliverables not in accordance with this Agreement or with the Third Party Products;
- (d) any modification of any Deliverables by a party other than Supplier or its authorized representative;
- or
- (e) the Customer's failure to install changes or updates as instructed by Supplier; or
- (f) the Customer's failure to use the Hardware and/or Software in accordance with any documentation issued by the Supplier from time to time in relation to the Hardware and/or Software.

B 11. Operation.

B 11.1 The Customer warrants the Hardware and/or Software shall not be run, operated or otherwise used, except by qualified employees or physicians who are suitably skilled and experienced to use the Hardware and/or Software.

B 12. Proprietary Markings Etc

B 12.1 The Customer agrees not to cover, alter or remove any proprietary or copyright notices, markings or confidential legends placed upon, affixed or contained within the Deliverables or any related material or documentation.

B 13. Services not covered by this Agreement.

B 13.1 Services not covered by Scope of Supply will, at Supplier's discretion, be performed at Supplier's list prices on a time and materials basis from time to time for such services and both the terms of this Agreement and Supplier's applicable Terms and Conditions for Services shall thereby in relevant parts automatically be applicable.

B 14. Third Party Products.

B 14.1 To the extent Third Party Products are included in this Agreement such products shall be subject to the standard agreements of the Third Party Supplier and the Customer agrees to execute and deliver to Supplier all agreements required to be executed by the Third Party Supplier. The Customer acknowledges that Supplier is not authorized to modify, amend, or supplement, and has not modified, amended, or supplemented, any term or condition of Third Party Supplier's standard agreement. Supplier shall use its reasonable efforts to assist the Customer in obtaining warranties, maintenance and support from Third Party Suppliers, provided, however, that in the event such Third Party Suppliers fail to warrant, maintain or support such Third Party Products, Supplier shall have no responsibility or liability by reason of such failure.

B 14.2 CUSTOMER ACKNOWLEDGES AND AGREES THAT SUPPLIER IS NOT THE MANUFACTURER OR SUPPLIER OF THE THIRD PARTY PRODUCTS. SUPPLIER ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OR USE OF SUCH THIRD PARTY PRODUCTS.

B 14.3 SUPPLIER, NOT BEING THE MANUFACTURER OR SUPPLIER OF THE THIRD PARTY PRODUCTS, HAS NOT MADE AND DOES NOT MAKE ANY REPRESENTATION, WARRANTY OR COVENANT, EXPRESSED OR IMPLIED WITH RESPECT TO THE DESIGN, CONDITION, DURABILITY, SUITABILITY, NON-INFRINGEMENT, FITNESS FOR USE, MERCHANTABILITY OR SATISFACTORY QUALITY OF THIRD PARTY PRODUCTS IN ANY RESPECT.

B 14.4 AS BETWEEN SUPPLIER AND CUSTOMER, THE THIRD PARTY PRODUCTS SHALL BE ACCEPTED AND PURCHASED OR LICENSED BY CUSTOMER AS-IS AND WITHOUT WARRANTY BY SUPPLIER.

B 14.5 CUSTOMER AGREES TO SETTLE ALL CLAIMS DIRECTLY WITH THE APPROPRIATE THIRD PARTY SUPPLIER AND WILL NOT ASSERT ANY SUCH CLAIMS AGAINST SUPPLIER, OR ANY AFFILIATES OF SUPPLIER.

B 15. Indemnification by Supplier.

B 15.1 Supplier shall indemnify the Customer and its Affiliates, agents, servants and employees, and hold them harmless from and against all damages, claims, judgments and liabilities by or to third parties (plus reasonable litigation costs incurred) resulting from injury to or death of any person or physical loss or damage to property arising out of defective materials, workmanship, or manufacture of the Hardware and/or Software or the defective Services of the Hardware and/or Software (but, with respect to Services, only to the extent performed by or on behalf of Supplier) and, in each case, provided that the Customer has complied with all terms and conditions relating to the use or maintenance of the Hardware and/or Software.

B 16. Indemnification by the Customer.

B 16.1 The Customer shall indemnify Supplier and its Affiliates, agents, servants, and employees and hold them harmless from and against all damages, claims, judgments and liabilities by or to third parties (plus reasonable litigation costs incurred) resulting from injury to or death of any person or physical loss or damage to property arising out of the operation or medical use or misuse of the Hardware and/or Software (but which is not attributable to defective materials, workmanship or manufacture of the Hardware and/or Software) or the defective maintenance of the Hardware and/or Software (but only to the extent not performed by or on behalf of Supplier).

B 17. Non-Disclosure and Confidentiality.

B 17.1 Neither Party will use any Confidential Information disclosed to it by the other for any purpose other than for the purposes of this Agreement. Neither Party will disclose or permit disclosure of any Confidential Information of the other Party to third parties or to employees, other than:

- (a) directors, officers, employees, consultants, attorneys, accountants, and agents of the receiving Party who require that information in order to fulfill this Agreement or further potential business transaction between the Parties and who are bound by nondisclosure obligations sufficient to enable the receiving Party to comply with its obligations under this Agreement; or
- (b) to comply with applicable law.

B 17.2 Each Party will be liable for misuse and/or improper disclosure of the other's Confidential Information by its directors, officers, employees, consultants, attorneys, accountants, and agents. Each Party will maintain all Confidential Information of the other with the strictest care and in trust for the sole and exclusive benefit of the disclosing Party. Each Party agrees to notify the other in writing of any actual or suspected misuse, misappropriation or unauthorized disclosure of Confidential Information of the disclosing Party which may come to the receiving Party's attention.

B 17.3 Neither Party will have any obligation under this Agreement with respect to Confidential Information, other than patient identifiable data, that:

- (a) is or subsequently becomes publicly available without breach of any obligation under this

Agreement;

- (b) was in the possession of the other Party prior to the time of first disclosure hereunder;
- (c) is developed by the other Party without any use of or reference to any Confidential Information received from the first Party;
- (d) is obtained without restriction from a third party reasonably believed by the other Party to be free to provide such information without breach of any obligation owed to the first Party;
- (e) is publicly disclosed with the prior written approval of the other Party; or
- (f) is disclosed pursuant to the order or requirement of a court, administrative agency, or other government body; provided, however, that the other Party will take all reasonable steps to provide the first Party with sufficient prior notice to contest the order or requirement.

B 17.4 If the receiving Party claims that Confidential Information received by it is subject to any of the exclusions contained in section B 17.3(a) through (f) above, it shall have the burden of establishing the applicability of such exclusion by clear and convincing documentary evidence.

B 17.5 Notwithstanding the foregoing, Supplier shall be entitled to list major terms of this Agreement, including the Deliverables that have been purchased and the name of the Customer on its website, in press releases and in other marketing material. Further, the Supplier shall be entitled to provide Customer information to the Third Party Supplier if reasonably requested by the Third Party Supplier.

B 17.6 The provisions of this section B 17 shall survive termination of this Agreement.

B 18. Assignment.

B 18.1 Except as otherwise provided in this Agreement, neither Party may assign its respective rights or obligations under this Agreement in whole or in part to any person without obtaining the prior written consent, of the other Party. Notwithstanding the foregoing, Supplier may assign this Agreement in whole or in part to an Affiliate and in such case Supplier shall take full responsibility for the Affiliate's compliance with this Agreement. If the Customer makes an assignment (which shall require consent of Supplier) or if the Customer is not the End-User, the Customer hereby ensures that;

- (a) the terms and conditions in this Agreement are included in the agreement with the End-User/assignee; and
- (b) the Customer takes full responsibility for the End-User's/assignee's compliance with this Agreement.

B 19. Subcontractors.

B 19.1 Supplier shall be entitled to appoint subcontractors or any other third parties for the performance or fulfillment in whole or in part of Supplier's obligations under this Agreement without the consent of the Customer, and Supplier shall be fully responsible and liable for the performance of any such entities.

B 20. Entire Agreement.

B 20.1 This Agreement constitutes the entire Agreement between the Parties hereto and supersedes any prior or contemporaneous agreements, negotiations or discussions between the Parties with respect to the subject matter hereof.

B 20.2 No amendment of the provisions of this Agreement will be valid unless made in writing and signed by both Parties hereto and variance from, deletions of or additions to the terms and conditions of this Agreement in any Purchase Order or other written notification from or on behalf of the Customer will be of no effect.

B 21. No waiver. No waiver of any provision of this Agreement shall be valid and enforceable unless it is in writing and signed by the authorized representative of the Party granting the waiver. The waiver by any Party of a breach of any of the provisions of this Agreement shall not operate or be construed as a waiver of any subsequent breach by

any Party or a breach of the entire Agreement.

B 22. Counterparts. This Agreement may be executed in any number of counterparts and by the Parties to it on separate counterparts, each of which when so executed and delivered shall be an original, but all the counterparts shall together constitute one and the same instrument.

B 23. Severability. If any of the provisions of this Agreement shall be determined to be illegal or unenforceable by arbitrators or a court of competent jurisdiction that provision shall, to the extent of its invalidity, be deemed severable and, notwithstanding this, the other provisions shall remain in full force and effect.

B 24. Notices. Any notice or other formal communication related to this Agreement shall be in writing and shall be personally delivered, delivered by certified mail or telefax or delivered by commercial courier service to the Party to be served at its address set out in the Cover Page. Either Party may change its address by a notice to the other Party in the manner set forth above. Notices shall be effective upon receipt.

B 25. Headings. Headings used in this Agreement are for convenience only and shall not affect the interpretation.

B 26. Conflicting Provisions. In the event of any conflict among the terms of the Cover Page, these General Terms and Conditions or any exhibit hereto, the contract documentation shall, unless otherwise set out in this Agreement, be given the following order of precedence:

- (a) Cover Page.
- (b) Exhibits, including the General Terms and Conditions, in the order of attachment.

B 27. Disputes and Governing Law. All disputes arising in connection with this Agreement shall be resolved by binding arbitration in Atlanta, Georgia under the Commercial Arbitration Rules of the American Arbitration Association. Judgment upon the award rendered may be entered in any court having jurisdiction or application may be made to such court for judicial acceptance of such award and an order of enforcement as the case may be. Notwithstanding the foregoing, either party may seek equitable relief in any court of competent jurisdiction in order to protect its Confidential Information or intellectual property rights. This Agreement shall be governed by and construed in accordance with the laws of the State of Georgia and the United States.

EXHIBIT C
TERMS AND CONDITIONS FOR HARDWARE

C 1. Definitions. The following terms used in this Agreement shall have the meaning set forth below:

C 1.1 "Contractual Delivery Date" means the date set forth on the Cover Page hereto or if no such date is provided then that date which is provided by Supplier at a reasonable time before Delivery specifying the date for delivery.

C 1.2 "Requested Delivery Date" means the tentative date of delivery of Hardware as requested by Customer in the Cover Page.

C 1.3 "Site Planning Criteria" are the technical data required for installation of the Hardware set forth in general terms in the site planning criteria (if any) provided by Supplier separately.

C 1.4 "Specifications" are the manufacturer's technical data for which the Hardware and imbedded Software conform to and which successful completion of the Acceptance Test Protocol shall evidence conformance to.

C 2. Insurance and Security Interest.

C 2.1 Until full payment of the Contract Price is made, the Customer shall exercise reasonable care and diligence to keep the Hardware (following Delivery) in good working order and shall obtain and maintain fire and extended coverage insurance for its fair insurable value, with an insurance company acceptable to Supplier, with loss payable to Supplier as its interests may appear. Upon Supplier's request, the Customer shall evidence that such insurance exists. The Customer hereby grants to Supplier a first priority security interest in the Hardware and authorizes Supplier to execute and file any documents necessary to perfect such security interest.

C 3. Delivery and Requested Delivery Date.

C 3.1 Supplier shall deliver any Hardware to the Customer CIP Site (as defined in Incoterms 2000). Notwithstanding the preceding sentence, the Customer agrees to pay all sales or use taxes levied by any state or political subdivision thereof as a result of this Agreement. The Customer shall also be responsible for payment of all customs and other charges with respect to the importation of the Deliverables.

C 3.2 The Requested Delivery Date is understood to be a target date only and Supplier shall not be liable for any loss or damage for failure to deliver the Deliverables by the Requested Delivery Date. With respect to time of Delivery, the Contractual Delivery Date sets out the exact date for Delivery.

C 3.3 In the event that the Contractual Delivery Date is more than eighteen months from the Effective Date of this Purchase and License Agreement, Elekta reserves the right to increase the purchase price by the smaller of a) five percent (5%) or b) percentage change in the Annual Consumer Price Index ("CPI"), as issued by the U.S. Bureau of Labor Statistics (All Urban Consumers, US Cities Average, Not Seasonally Adjusted) for the period between execution of this agreement and the Contractual Delivery Date. Such increase, if applicable, will be calculated on the Contractual Delivery Date and applied to the final payment invoice.

C 4. Site Preparation.

C 4.1 The Customer agrees to prepare the Site in accordance with the Site Planning Criteria and to be responsible for and make such other preparations as set out in the Site Planning Criteria. If no Site Planning Criteria is provided, the Customer shall follow Supplier's reasonable request to prepare the Site.

C 4.2 The Site preparation shall be in compliance with all safety electrical and building codes relevant to the Hardware and its installation. Sufficiency of such plans and specifications, specifically including, but not limited to the accuracy of the dimensions described therein, shall be the sole responsibility of Customer. The Customer shall advise Supplier of conditions at or near the Site which could adversely affect the carrying out of the installation and shall ensure that such conditions are corrected and that the Site is fully prepared and available to Supplier before the installation is due to begin.

C 5. Installation.

C 5.1 To the extent Installation is either required for the Hardware or is specifically included in the Scope of Supply, Supplier shall arrange for the Installation of the Hardware at the Site. The Customer shall provide reasonable and adequate access to the Site, as required by Supplier to perform the Installation of the Hardware, and shall comply with such requirements as may be imposed from time to time by Supplier or by any third party engaged by Supplier to perform the Installation of the Hardware.

C 5.2 Unless specifically included in the Scope of Supply, all rigging costs (if any) shall be the responsibility of the Customer. The Customer shall likewise be responsible, at its expense, for any work required to be done to the Site during and after the Installation including, but not limited to, any structural alterations, restoration and redecoration of the premises.

C 5.3 The Hardware must be used solely at the Site and may not be removed from the Site without Supplier's prior written consent.

C 5.4 Parts which have been replaced by Supplier during the Installation (if any) shall be the property of Supplier.

C 6. Deferred Installation.

C 6.1 In case of the Customer's delay in completing the preparation of the Site or if for any other reason (including without limitation the lack of proper permits) the Customer is unable to receive the Hardware at the Site in accordance with the Contractual Delivery Date or otherwise to perform its obligations under this Agreement, Supplier may elect not to deliver the Hardware to Site but to transport to and store the Hardware at a storage facility selected by Supplier until such time as the Customer is able to receive the Hardware and to perform its obligations hereunder. In the event that the Installation is thus deferred:

- (a) the Scope of Supply shall automatically be considered modified to reflect the potential harm to the Hardware caused by storage;
- (b) the risk of loss for the Hardware will pass to the Customer in accordance with the applicable delivery term;
- (c) all unpaid elements of Contract Price provided for in this Agreement shall be accelerated and any remaining amount of the Contract Price shall be immediately due and payable;
- (d) the Customer shall reimburse Supplier for Supplier's expenses incurred as a result of such delay, including without limitation transport, storage and insurance costs; and
- (e) the Warranty Period shall start upon Delivery of the Hardware to the storage facility.

C 7. Reporting.

C 7.1 To the extent reasonably required by Supplier, the Customer shall collect and furnish to Supplier case reports, information, documents and portions of documents concerning patient treatments promptly according to the protocol established by Supplier from time to time, which protocol may require data in digital form. In addition to foregoing, the Customer shall furnish to Supplier a copy of any information with respect to a reportable event required to be reported according to federal, state and local laws, regulations or recommendation and relating to the Hardware or its use. All reports submitted to Supplier shall be sanitized to omit individually identifiable information.

C 8. Warranty.

C 8.1 Supplier warrants that the Hardware will perform in accordance with the Scope of Supply and the Hardware will be free from defects in design, materials, and workmanship which result in non-compliance with the Scope of Supply for a period of twelve (12) months from:

- (a) the date that the Acceptance Test Protocol has been successfully completed in accordance with this Agreement;
- (b) if no Acceptance Test Protocol has been designated by Supplier, the Delivery of the Hardware;
- (c) in case of deferred installation, the date as per 6.1 (e).

C 8.2 Notwithstanding the foregoing, Supplier's warranty does not cover:

- (a) defects arising out of materials or parts provided, modified or designed by the Customer;
- (b) preventative maintenance;
- (c) defects emanating from the Customer's improper performance of this Agreement or improper use or maintenance of the Hardware;

- (d) normal deterioration, decay or wear and tear;
- (e) storage or environmental conditions at the Site that induce premature failure;
- (f) defects resulting from repairs or service of the Hardware supplied by other than by Supplier or its authorized representative; or
- (g) Deliverables other than Hardware.

C 8.3 In the event that the Hardware or any part or component thereof shall fail to conform to the warranty, Supplier shall (or cause one of its Affiliates to) promptly repair or replace, at its option and at its expense, the defect in the Hardware or component thereof. Repair or replacement parts furnished or work performed under this warranty shall be warranted for:

- (a) the remainder of the original Warranty Period; or
 - (b) for a period of ninety (90) days from and after the date of such repair or replacement;
- whichever period of (a) and (b) that is the longer period.

C 8.4 The defective Hardware or part thereof which is replaced in accordance with this warranty shall be the property of Supplier. Supplier may, at its sole discretion replace parts with refurbished or modified parts of equal quality as the original parts.

C 8.5 In order to avail itself of its rights under this warranty, the Customer shall immediately notify Supplier in writing during the Warranty Period of any defects that appear under the warranty and shall give Supplier every opportunity of inspecting and remedying such defects.

EXHIBIT D
TERMS AND CONDITIONS FOR SOFTWARE

D 1. Definitions. The following terms used in this Agreement shall have the meaning set forth below:

D 1.1 "Designated Equipment " means collectively the designated network and authorized workstation terminals, including but not limited to desktops, laptops, and/or PDAs operated by or associated with the Customer and/or as identified in the Scope of Supply.

D 1.2 "Documentation " means the specifications and other documentation relating to the use and performance of the Software (if any), provided by Supplier, in effect at the time such Software is licensed by the Customer.

D 1.3 "License Fee(s) " means the price for the Software license(s), if any, as specified in the Scope of Supply for the Software.

D 2. Grant of License.

D 2.1 Subject to the provisions of this Agreement, Supplier hereby grants to the Customer, and the Customer hereby accepts from Supplier, a nonexclusive, nontransferable, non-assignable limited license to use the Software on the Designated Equipment for internal purposes only in accordance with this Agreement during the term specified in section D 7 below. The Customer acknowledges and agrees that the Software is the proprietary information and a trade secret of Supplier and its Affiliates and that this Agreement grants the Customer no title or rights of ownership in the Software. The Customer agrees not to market, sublicense, distribute, permit timeshare, or allow any other access to the Software other than the Customer's own internal use as permitted hereby. However Customer data files and patient data stored in the Software are and shall remain the exclusive property of the Customer.

D 2.2 The Customer understands and agrees that Supplier or its Affiliates may develop and market new or different computer programs, which use part or all of the Software and which perform all or part of the functions performed by the Software. Nothing contained in this Agreement gives the Customer any rights with respect to such new or different computer programs.

D 2.3 Supplier shall provide Software in machine readable object code form, training materials and the on-line help system for the Software licensed in accordance with the Scope of Supply.

D 3. Authorized Use.

D 3.1 The Customer is authorized to use the Software only on Designated Equipment used at the Site specified in the Cover Page and/or in an exhibit to this Agreement. The Customer agrees that it will not use or permit the Software to be used in any manner, whether directly or indirectly, that would enable the Customer's customers, employees, or any other person or entity to use the Software on other than the Designated Equipment at the Site. The Customer will take all necessary steps to protect the security and confidentiality of all data, information, programs, systems, materials, techniques, and procedures, which are delivered to the Customer by Supplier.

D 3.2 The Customer shall not:

- (a) copy or duplicate, or permit anyone else to copy or duplicate, any physical, magnetic, or other version of the Software, Documentation or information other than five (5) copies of the Software for back-up or archival purposes only;
- (b) create or attempt to create, reverse engineer or otherwise, the source programs or any part thereof from the Software; or
- (c) modify the Software in any manner without the express written authorization of Supplier.

D 4. Use on Other than Designated Equipment.

D 4.1 Notwithstanding section D 3.1, the Customer may use the Software on other than the Designated Equipment in the following circumstances:

- (a) if the Designated Equipment cannot be used because of equipment or software malfunction, the Customer may temporarily use the Software on another system operated by or associated with the Customer until the Designated Equipment may be used again; and

(b) if the Designated Equipment is replaced by the Customer, the Customer may designate successor equipment operated by or associated with the Customer and use the Software on that equipment.

D 4.2 In each of section D 4.1(a) and (b) the Customer must give written notice and Supplier must give its consent before such other equipment is permitted.

D 5. Warranty.

D 5.1 Supplier warrants that the Software will perform substantially as described in the Documentation for a period of twelve (12) months from:

- (a) the date that the Acceptance Test Protocol has been successfully completed in accordance with the terms of this Agreement; or
- (b) if no Acceptance Test Protocol has been designated by Supplier for the Software, from the date of its acceptance in accordance with the acceptance procedure for Software described in 8.2 of these Terms and Conditions for Software.

D 5.2 Notwithstanding the foregoing, Supplier's warranty does not cover:

- (a) defects arising out of unauthorized repair, alteration or modification;
- (b) defects emanating from improper application, the Customer's improper performance of this Agreement, improper installation, installation and operation on other equipment than Designated Equipment;
- (c) accidental damage, negligence in use, improper storage, electrical power damage, Deliverables malfunction (other than Software); abnormal operating conditions; or
- (d) Deliverables other than Software.

D 5.3 In the event that the Software shall fail to conform with the warranty, Supplier's sole liability to the Customer (subject to section D 5.4 below) shall be to (or cause one of its Affiliates to) provide such assistance as is necessary to cause the Software to perform substantially in accordance with Supplier's Documentation by providing a suitable "fix, " "patch, " or "work around " for the problem or a statement that an appropriate "fix " will be included in a future release of the Software, the time period within which the release is expected to be issued and a commitment to provide the release at no cost to the Customer.

D 5.4 If Supplier is unable, after reasonable effort, to cause the Software to perform substantially in accordance with the Documentation, then this Agreement may be terminated with respect to the Software at the option of either Party hereto without further obligation or liability and such termination shall (subject to section D 5.5 below) be the Customer's exclusive remedy and Supplier's sole liability in connection with the failure to remedy the breach of warranty.

D 5.5 In the event of termination during the warranty period as per section D 5.4 above, Supplier shall refund to the Customer all License Fee paid by the Customer for the affected Software. No refund shall be made if the License Fee is included in the Scope of Supply for the Hardware.

D 5.6 In order to avail itself of its rights under this warranty, the Customer shall immediately notify Supplier in writing during the Warranty Period of any defects that appear under the warranty, adequately describe any such failure encountered by the Customer and shall give Supplier every opportunity of inspecting and remedying such defects.

D 5.7 Supplier does not warrant that any Software is error-free or that its use will be uninterrupted.

D 5.8 Supplier shall not be obligated to remedy any Software defect which cannot be adequately repeated. Further in the event the Supplier spends time looking for a defect that cannot be found/repeated it shall be entitled to charge the Customer for the time spent at its list price in force at that time for such services.

D 6. DISCLAIMER OF WARRANTY.

D 6.1 EXCEPT AS EXPRESSLY PROVIDED IN SECTION 5. ABOVE, THE SOFTWARE IS PROVIDED "AS-IS " WITHOUT ANY OTHER WARRANTY WHATSOEVER. ALL IMPLIED WARRANTIES; INCLUDING IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXCLUDED.

D 7. Term and Termination.

D 7.1 The licenses granted commence upon the date of acceptance of the Software in accordance with the acceptance procedure for Software in section 8. and shall be perpetual unless otherwise set out in this Agreement or unless sooner terminated in accordance with the provisions of this Agreement.

D 7.2 Supplier shall have the right to terminate any license granted immediately upon written notice to the Customer without further obligation or liability to the Customer if the Customer commits any breach of this Agreement. In addition thereto the license shall terminate immediately upon written notice to the Customer without further obligation or liability to the Customer if:

- (a) any sublicense, assignment or transfer or attempted sublicense, assignment or transfer by the Customer of Software is made without the consent of Supplier;
- (b) any transport, movement or attempted transport or movement by the Customer of the Software, or the Designated Equipment on which the Software is installed, from the Site is made without prior written consent of Supplier;
- (c) any modification or adaptation of the Software is made or any attempt to use the Software with any products other than the Hardware is made;
- (d) any use of the Software in connection with or on other equipment than the Designated Equipment without the prior written consent of the Supplier as set out in this Agreement.

D 8. Acceptance.

D 8.1 To the extent applicable for the Software, Supplier shall perform the Acceptance Test Protocol as per section B 6. in the General Terms and Conditions.

D 8.2 If no Acceptance Test Protocol has been designated by Supplier for the Software, the Customer shall be deemed to have accepted the Software as of the date of first clinical use, completion of on-site training, remote Installation or on-site Installation, whichever occurs first. For purposes of the foregoing, with respect to any Software:

- (a) "first clinical use " shall be applicable to the initial implementation of each of the Software products set forth in the Cover Page and the subsequent licenses of new Software;
- (b) "completion of on-site training " shall be applicable to subsequent purchases of on-site training;
- (c) "completion of remote Installation " or "completion of subsequent on-site Installation" of Software shall be applicable to subsequent licensing of additional Software.

D 9. Modification of Software by the Customer.

D 9.1 Any modification of the Software by the Customer or any failure by the Customer to implement any improvements or updates to the Software as supplied by Supplier or Third Party Supplier shall void any and all of Supplier's obligations with respect to the Software.

D 10. Consequences of Termination.

D 10.1 Upon the termination of this Agreement in total or in part with respect to the Software for any reason, the license and all other rights granted to the Customer hereunder for the Software shall immediately cease, and the Customer shall immediately:

- (a) return the Software to Supplier together with all reproductions and modifications of the Software and all copies of any Documentation, notes, and other materials respecting the Software;
- (b) purge all copies of the Software or any portion thereof from all Designated Equipment and from any computer storage device or medium on which the Customer has placed or has permitted others to place Software; and
- (c) give Supplier a written certification that the Customer has complied with all of its obligations under this section.

D 10.2 Supplier's termination of this Agreement in total or in part and repossession of the Software shall be without prejudice to any other remedies Supplier may lawfully have.

EXHIBIT E
TERMS AND CONDITIONS FOR COMPLIANCE WITH HEALTH INSURANCE PORTABILITY AND
ACCOUNTABILITY ACT (HIPAA)

E 1. Definitions. The following terms used in this Agreement shall have the meaning set forth below:

E 1.1 "HIPAA" means Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and the Security, the National Identifiers Standards Regulations, and the Privacy of Individually Identifiable Health Information Regulations promulgated there under.

E 1.2 "Mandatory Requirement" means a mandatory technical requirement that Customer is required to fulfill under HIPAA.

E 2. Compliance with HIPAA.

E 2.1 The Parties shall comply with the provisions of the HIPAA. The Standards for Privacy of Individually Identifiable Health Information have been adopted and include the "business associate" provisions. Supplier agrees to comply with the "business associate" requirements under HIPAA to the extent that they apply to Supplier. The Parties agree that this Exhibit includes the "business associate agreement" between the Parties.

E 3. Mandatory Requirements.

E 3.1 In case of a Mandatory Requirement during the term of this Agreement Supplier shall provide Customer with updates or enhancements to the Deliverables to support HIPAA compliance at no additional cost to Customer so long as Customer is entitled to Services and such Mandatory Requirement:

- (a) is applicable to Customer as a provider of health care;
- (b) requires the adaptation of the Deliverables;
- (c) can reasonably be supported by the Deliverables in a manner intended for their use;
- (d) cannot be accomplished through the use of procedures, tools, programs, or utilities available to Customer; and
- (e) becomes effective, or is scheduled to become effective, during the term of this Agreement.

E 3.2 Supplier shall retain full discretion to determine the appropriate manner by which the update or enhancement of the Deliverables shall fulfill any and all Mandatory Requirements. Such updates or enhancements shall be provided to Customer prior to any implementation or compliance deadline time requirement imposed by the appropriate issuing authority and any legal extensions to such implementation or compliance deadline time requirements.

E 3.3 Any further enhancement, deliverable, service or updates to the Deliverables requested by Customer that are above and beyond any Mandatory Requirements will, at Supplier's discretion, be performed at Supplier's list prices on a time and materials basis from time to time for such services and both the terms of this Agreement and Supplier's from time to time applicable Terms and Conditions for Services shall thereby in relevant parts automatically be applicable.

E 4. Security and privacy of protected health information.

E 4.1 Supplier recognizes that Customer has patient health information and other proprietary information that are valuable, special, and unique assets of Customer. Supplier acknowledges that Supplier is prohibited from further using or disclosing individually identifiable health information for any purpose other than the purpose stated in this Agreement. Supplier agrees that it will not improperly disclose or improperly use the individually identifiable health information.

E 4.2 Supplier shall only have access to and shall only use or disclose patient health information to the extent that Supplier has a legitimate and reasonable need to access, use or disclose the individually identifiable health information. Supplier shall access and use the individually identifiable health information only to the extent absolutely necessary to carry out its functions under this Agreement or as required by law, and shall limit its use and disclosure of individually identifiable health information to the minimum necessary to accomplish the intended purpose of this Agreement. Supplier agrees that it shall employ and maintain appropriate safeguards to prevent any unauthorized use or disclosure or other disclosure of individually identifiable health information not expressly permitted herein. Supplier agrees to document disclosures of patient health information and shall upon request by

Customer disclose tracking information to Customer. Supplier agrees to utilize and maintain commercially reasonable efforts to implement administrative, technical, and physical, safeguards to prevent authorized use, access, or disclosure of protected health information.

E 4.3 At termination of this Agreement, Supplier shall return or destroy all individually identifiable health information received from Customer. If such return or destruction is not feasible, Supplier shall extend the protections of this Agreement to the individually identifiable health information and limit further uses and disclosures to those purposes that make the return or destruction of the individually identifiable health information unfeasible.

E 5. Review.

E5.1 Supplier will make available its internal practices, books and records relating to the use and disclosure of individually identifiable health information received from Customer to the U.S. Department of Health and Human Services or its agents for purposes of enforcing the medical information privacy provisions.

EXHIBIT F
TERMS AND CONDITIONS FOR SERVICES

F 1. Definitions. The following terms used in this Agreement shall have the meaning set forth below:

F 1.1 "Hardware Maintenance and Support Service Fee" means the Supplier's price for the Services for the Hardware. The Hardware Maintenance and Support Service Fee for the current year is specified in the Cover Page.

F 1.2 "Service Fee" means individually or collectively the fee for Hardware Maintenance and Support Service and/or Software Maintenance and Support Service.

F 1.3 "Software Maintenance and Support Service Fee" means the Supplier's price for the Services for the Software. The Software Maintenance and Support Service Fee for the current year is specified in the Cover Page.

F 2. Services.

F 2.1 Subject to these Terms and Conditions for Services and payment of the Service Fee set forth in this Agreement, Supplier will provide the Customer with Services on the Hardware and/or Software as specified in the part of the Scope of Supply applicable for Services.

F 2.2 Service and support of Third Party Products shall be provided by Third Party Supplier and shall only be provided in accordance with the terms and conditions of such Third Party Suppliers' standard agreements assigned to the Customer. Supplier shall use its reasonable efforts to assist the Customer in obtaining service and support from such Third Party Suppliers, provided, however, that in the event such Third Party Suppliers fail to maintain or support such Third Party Products, Supplier shall have no responsibility or liability by reason of such failure.

F 3. Term, Termination and Automatic Renewal.

F 3.1 The Services shall commence as specified in the Cover Page and, except as provided for in Section F.3.2, shall terminate on the last day of the term specified in the Scope of Supply.

F 3.2 If no term is specified in the Scope of Supply, then the initial term for the Services shall be one (1) year. After the initial one (1) year term, Supplier will continue to provide the Customer with Services on an annual basis, provided that the Customer pays Supplier in advance the Service Fee then in effect. Supplier's obligation to provide Services and the Customer's obligation to pay the Service Fees then in effect shall in such case automatically renew on the anniversary date of acceptance of the Hardware or Software, whichever is applicable, in accordance with the procedure described in this Agreement and continue until cancelled by either Party giving the other at least thirty (30) days' prior written notice before the anniversary at which the Services will automatically renew.

F 4. Exclusions from Services.

F 4.1 Services do not include, among other things, labor and replacement parts required because of accident, abuse, neglect, improper use, failure of electrical power, air-conditioning, humidity control, unusual physical or electrical stress, extreme operating conditions and unreasonable operating procedures.

F 4.2 Faults caused by the following are specifically excluded from the scope of this Agreement:

- (a) operating supplies, consumables, spare parts or accessories not supplied by Supplier;
- (b) painting or refinishing of the Hardware, or furnishing of materials for this purpose;
- (c) electrical work external to the Hardware and/or Software subject to the Services;
- (d) maintenance or Services of Hardware, Software accessories, alterations, attachments or other devices not specifically noted in the extent and Scope of Supply applicable for Services provided pursuant to this Agreement; or
- (e) any Hardware and/or Software subject to the Services, which have been modified, altered, added to, moved, installed, reinstalled or improperly serviced, by other than Supplier personnel or its authorized representative without Supplier's prior written approval.

F 4.3 In the event that Supplier is required to remove, for repair or replacement purposes, any Hardware whose size will require that physical alterations be made to the Site, then the Customer will assume full responsibility for all costs and expenses associated with the movement of the Hardware. This will include, but not be limited to, special rigging and handling, removal and replacement of walls, equipment, exterior sections of the building or other unspecified clearing of the transportation route required to replace the Hardware.

F 5. Access.

F 5.1 The Customer shall promptly provide Supplier with access to all facilities, information, assistance and materials that Supplier request from time to time to facilitate the proper and timely performance of the Services and the Customer shall timely procure appropriate licenses and/or permits necessary for Supplier to perform the Services (if any).

F 5.2 The Customer shall upon Supplier's request schedule adequate time during normal business hours (unless otherwise agreed to in writing by the Parties) for required on-site Services, if any.

F 5.3 The Customer shall ensure that Supplier shall have full, free and safe access to the Hardware and/or Software subject to the Services and the Customer's operation, performance and maintenance records for such Hardware and/or Software, on each scheduled, requested, or emergency service call. Supplier shall also have access to and use of any machine, network (including servers and workstations), attachments, features or other equipment necessary to perform the Services at no charge to Supplier. Should Supplier be denied access to the Hardware and/or Software or to the Customer's records or to such other equipment, including the network, at the agreed time, a charge equal to the current applicable hourly rate, and all expenses and costs related hereto, will be paid by the Customer. The Customer shall be responsible for adherence with all applicable health and safety requirements including, without limitation, decontamination and general cleaning with regard to the Hardware being serviced.

F 6. Adjustment of Service Fee.

F 6.1 Supplier is entitled to adjust the Software Maintenance and Support Fee on a yearly basis in accordance with Supplier's price for Service.

F 6.2 Supplier is entitled to adjust the Hardware Service Fee on a yearly basis by the Annual Consumer Price Index's ("CPI") (All Urban Consumers, US Cities Average, Not Seasonally Adjusted) percentage change in the two previous full year indices. The CPI is issued by the U.S. Bureau of Labor Statistics.

F 7. The Customer's duties.

F 7.1 The Customer shall:

- (a) maintain proper environmental conditions at the Site, perform routine maintenance or make arrangements to have routine maintenance done and maintain reasonable standards of quality control, operations, procedures, safety testing and inspection of the Hardware and/or Software subject to the Services;
- (b) operate Hardware and/or Software subject to the Services exclusively by duly qualified personnel in a safe and reasonable manner and operate them exclusively for the purpose for which the Hardware and/or Software subject to the Services where intended;
- (c) upon Supplier's request provide Supplier or its Affiliates with supervisor security rights on the equipment on which the Software runs, promptly install new updates of the Software as requested by Supplier and provide Supplier or its Affiliates with access for remote diagnostics in accordance with Supplier's then current documentation;
- (d) not abuse the Hardware and/or Software subject to the Services or any component thereof or subject the Hardware and/or Software subject to the Services to unusual stress, extreme operating conditions or unreasonable operating procedures. The Customer shall not attempt to repair, or cause another to repair, the Hardware and/or Software subject to the Services or any component thereof unless otherwise agreed to in writing by the Parties;
- (e) promptly notify Supplier of any defect, failure, or errors that occur during the term of this Agreement and shall adequately describe such defect, failure, or error encountered by Customer; and

(f) abide by Supplier's documentation, as updated from time to time, for the Hardware and/or Software subject to the Services, including, but not limited to, all operational instructions, directions and system requirements.

F 8. Warranties.

F 8.1 Supplier warrants that the Services will be carried out in a competent and professional manner and with all reasonable care and skill.

F 8.2 Supplier warrants that all replacement parts installed outside of the original Hardware warranty issued by Supplier are covered by a 90-day parts only warranty unless otherwise stated. Any replacement parts installed within the original Hardware warranty provided by Supplier are covered for the remainder of the Hardware warranty for both parts and labor.

F 8.3 Supplier reserves the right to replace any spare parts with new, modified or refurbished parts of substantially equal quality as the original parts in the course of providing the Services and any defective part which is replaced when providing the Services shall be the property of Supplier if Supplier so requests.

F 8.4 To the extent the Services specified in the Scope of Supply includes that the Hardware and/or Software shall perform substantially in accordance with its Scope of Supply and/or Documentation, whichever is applicable, and if Supplier is unable, after reasonable effort, to cause the Hardware and/or Software subject to the Services to perform substantially in accordance with its Scope of Supply and/or Documentation, whichever is applicable, then the Services may be terminated with respect to the Hardware and/or Software so affected at the option of either Party hereto without further obligation or liability. Such termination shall be the Customer's exclusive remedy and Supplier's sole liability in connection with the Services related to any such Hardware and/or Software.

F 8.5 Supplier shall not be obligated to remedy any Hardware and/or Software defect, failure, or error that cannot be adequately repeated.

F 8.6 New software products are not included in Supplier's standard Services and will be offered by Supplier to the Customer at Supplier's then current published prices and on such other terms and conditions as are acceptable to Supplier.

**Amendment Number One
to Purchase and License Agreement**

This amendment (“**Amendment Number One**”) is dated _____, 2015 (the “**Amendment Effective Date**”), and is between Elekta, Inc. (“**Elekta**”), and Phoenix Community Cancer Center NRRON (“**Customer**”).

RECITALS

1. Elekta and Customer entered into a(n) Purchase and License Agreement dated April 28, 2014 Elekta Agreement number # 2014-49106-RN (the “**Agreement**”).
2. Elekta and Customer wish to amend the Agreement as provided in this Amendment Number One.

Therefore, Elekta and Customer agree as follows:

1. Unless otherwise indicated, capitalized terms used in this Amendment Number One have the meanings given them in the Agreement.
2. Both parties agree that should Customer not receive the Certificate of Need from the State of Connecticut for the Elekta Infinity System, as described in Exhibit A of this Agreement #2014-49106-RN, by September 30, 2015, a new installation date shall be mutually agreed upon by both parties in writing.
3. Except as expressly amended by this Amendment Number One, all other provisions of the Agreement continue in full force and effect. This Amendment Number One constitutes the entire agreement of the parties relating to the subject matter covered by this Amendment Number One, supersedes all prior written and oral agreements and understandings relating to that subject matter, and cannot be modified or amended except by a written instrument executed by the parties. If there is a conflict between the Agreement and this Amendment Number One, the terms of this Amendment Number One control. This Amendment Number One may be executed by the parties on separate counterparts or signature pages, which will be considered the same as if a single document had been executed. This Amendment Number One will become a binding agreement when one or more of such counterparts or signature pages has been executed by each of the parties and delivered (including by facsimile transmission) to the other party. Each counterpart of this document containing the valid signatures (including those delivered by facsimile) of each of the parties will be deemed an original, and all such counterparts and signature pages, taken together, will be considered a single document.

Signed by authorized representatives of Elekta and Customer as of the Amendment Effective Date.

Phoenix Community Cancer Center NRRON	Elekta, Inc.
By:	By:
Printed Name:	Printed Name:
Title:	Title:
Date Signed:	Date Signed:

Exhibit 8b - Depreciation Schedule

Replacement Linear Accelerator and New CT Simulator for Enfield Site

Currently in Depreciation for NRRON						
Enfield Equipment	Cost	Deposit	Year 1	Year 2	Year 3	Year 4
Replacement Linac	\$ 1,500,000	\$ 450,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
New CT Simulator	\$ 609,568	\$ 60,957	\$ 6,096	\$ 6,096	\$ 6,096	\$ 6,096
TOTAL	\$ 2,109,568	\$ 510,957	\$ 51,096	\$ 51,096	\$ 51,096	\$ 51,096

Currently in Depreciation for NRRON (continued)						
Enfield Equipment	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Replacement Linac	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
New CT Simulator	\$ 6,096	\$ 6,096	\$ 6,096	\$ 6,096	\$ 6,096	\$ 6,096
TOTAL	\$ 51,096					

Balance of Depreciation Schedule for Enfield Linear Accelerator and CT Simulator				
Fiscal Year	Replacement Linac	New CT Simulator	New Leasehold	TOTAL
Original Cost	\$ 1,500,000	\$ 609,568	\$537,016	\$ 2,646,584
Deposit	\$ 450,000	\$ 60,957	\$ -	\$ 510,957
Remaining	\$1,050,000	\$548,611	\$537,016	\$2,135,627
FY2016	\$78,750	\$41,146	\$10,327	\$130,223
FY2017	\$105,000	\$54,861	\$13,770	\$173,631
FY2018	\$105,000	\$54,861	\$13,770	\$173,631
FY2019	\$105,000	\$54,861	\$13,770	\$173,631
FY2020	\$105,000	\$54,861	\$13,770	\$173,631
FY2021	\$105,000	\$54,861	\$13,770	\$173,631
FY2022	\$105,000	\$54,861	\$13,770	\$173,631
FY2023	\$105,000	\$54,861	\$13,770	\$173,631
FY2024	\$105,000	\$54,861	\$13,770	\$173,631
FY2025	\$105,000	\$54,861	\$13,770	\$173,631
FY2026	\$26,250	\$13,715	\$13,770	\$53,735
FY2027			\$13,770	\$13,770
FY2028			\$13,770	\$13,770
FY2029			\$13,770	\$13,770
FY2030			\$13,770	\$13,770
FY2031			\$13,770	\$13,770
FY2032			\$13,770	\$13,770
FY2033			\$13,770	\$13,770
FY2034			\$13,770	\$13,770
FY2035			\$13,770	\$13,770
FY2036			\$13,770	\$13,770
FY2037			\$13,770	\$13,770
FY2038			\$13,770	\$13,770
FY2039			\$13,770	\$13,770
FY2040			\$13,770	\$13,770
FY2041			\$13,770	\$13,770
FY2042			\$13,770	\$13,770
FY2043			\$13,770	\$13,770
FY2044			\$13,770	\$13,770
FY2045			\$13,770	\$13,770
FY2046			\$13,770	\$13,770
FY2047			\$13,770	\$13,770
FY2048			\$13,770	\$13,770
FY2049			\$13,770	\$13,770
FY2050			\$13,770	\$13,770
FY2051			\$13,770	\$13,770
FY2052			\$13,770	\$13,770
FY2053			\$13,770	\$13,770
FY2054			\$13,770	\$13,770
FY2055			\$3,442	\$3,442

Exhibit 8c - Amortization Schedule, Useful Life and Anticipated Residual Value

AMORTIZATION SCHEDULE

Equipment: Linear Accelerator, CT Scanner and Tenant Improvements

Vendor: Elekta Capital

Interest Rate 4.249%
 Term (Months) 84
 Loan Amount 2,135,627
 Monthly Payment \$30,832
 Start Date 10/01/15

Useful Life (Linear Accelerator): 7-10 Years
 Residual Value of Linear Accelerator at End of Lease Term*: \$75,000
 * Assumes estimated residual value will be 5% of original purchase price (\$1.5 million).

\$0 for months 1-3, \$20,000 for months 3-6.

Payment #	Payment Date	Beginning Balance	Interest	Principal	Monthly Payment	Ending Balance
1	10/01/15	2,135,627.00			0.00	2,135,627.00
2	11/01/15	2,135,627.00			0.00	2,135,627.00
3	12/01/15	2,135,627.00			0.00	2,135,627.00
4	01/01/16	2,135,627.00	7,561.12	12,438.88	20,000.00	2,123,188.12
5	02/01/16	2,123,188.12	7,517.08	12,482.92	20,000.00	2,110,705.20
6	03/01/16	2,110,705.20	7,472.88	12,527.12	20,000.00	2,098,178.08
7	04/01/16	2,098,178.08	7,428.53	23,403.47	30,832.00	2,074,774.61
8	05/01/16	2,074,774.61	7,345.67	23,486.33	30,832.00	2,051,288.29
9	06/01/16	2,051,288.29	7,262.52	23,569.48	30,832.00	2,027,718.81
10	07/01/16	2,027,718.81	7,179.07	23,652.93	30,832.00	2,004,065.88
11	08/01/16	2,004,065.88	7,095.33	23,736.67	30,832.00	1,980,329.21
12	09/01/16	1,980,329.21	7,011.29	23,820.71	30,832.00	1,956,508.50
13	10/01/16	1,956,508.50	6,926.96	23,905.04	30,832.00	1,932,603.46
14	11/01/16	1,932,603.46	6,842.32	23,989.68	30,832.00	1,908,613.78
15	12/01/16	1,908,613.78	6,757.39	24,074.61	30,832.00	1,884,539.16
16	01/01/17	1,884,539.16	6,672.15	24,159.85	30,832.00	1,860,379.31
17	02/01/17	1,860,379.31	6,586.61	24,245.39	30,832.00	1,836,133.93
18	03/01/17	1,836,133.93	6,500.77	24,331.23	30,832.00	1,811,802.70
19	04/01/17	1,811,802.70	6,414.63	24,417.37	30,832.00	1,787,385.33
20	05/01/17	1,787,385.33	6,328.18	24,503.82	30,832.00	1,762,881.51
21	06/01/17	1,762,881.51	6,241.43	24,590.57	30,832.00	1,738,290.93
22	07/01/17	1,738,290.93	6,154.36	24,677.64	30,832.00	1,713,613.30
23	08/01/17	1,713,613.30	6,066.99	24,765.01	30,832.00	1,688,848.29
24	09/01/17	1,688,848.29	5,979.31	24,852.69	30,832.00	1,663,995.60
25	10/01/17	1,663,995.60	5,891.32	24,940.68	30,832.00	1,639,054.93
26	11/01/17	1,639,054.93	5,803.02	25,028.98	30,832.00	1,614,025.95
27	12/01/17	1,614,025.95	5,714.41	25,117.59	30,832.00	1,588,908.35
28	01/01/18	1,588,908.35	5,625.48	25,206.52	30,832.00	1,563,701.83
29	02/01/18	1,563,701.83	5,536.24	25,295.76	30,832.00	1,538,406.07
30	03/01/18	1,538,406.07	5,446.68	25,385.32	30,832.00	1,513,020.75
31	04/01/18	1,513,020.75	5,356.80	25,475.20	30,832.00	1,487,545.55
32	05/01/18	1,487,545.55	5,266.61	25,565.39	30,832.00	1,461,980.15
33	06/01/18	1,461,980.15	5,176.09	25,655.91	30,832.00	1,436,324.25
34	07/01/18	1,436,324.25	5,085.26	25,746.74	30,832.00	1,410,577.51
35	08/01/18	1,410,577.51	4,994.10	25,837.90	30,832.00	1,384,739.61
36	09/01/18	1,384,739.61	4,902.63	25,929.37	30,832.00	1,358,810.24
37	10/01/18	1,358,810.24	4,810.82	26,021.18	30,832.00	1,332,789.06
38	11/01/18	1,332,789.06	4,718.70	26,113.30	30,832.00	1,306,675.76
39	12/01/18	1,306,675.76	4,626.24	26,205.76	30,832.00	1,280,470.00
40	01/01/19	1,280,470.00	4,533.46	26,298.54	30,832.00	1,254,171.46
41	02/01/19	1,254,171.46	4,440.35	26,391.65	30,832.00	1,227,779.82
42	03/01/19	1,227,779.82	4,346.91	26,485.09	30,832.00	1,201,294.73
43	04/01/19	1,201,294.73	4,253.15	26,578.85	30,832.00	1,174,715.88
44	05/01/19	1,174,715.88	4,159.04	26,672.96	30,832.00	1,148,042.92
45	06/01/19	1,148,042.92	4,064.61	26,767.39	30,832.00	1,121,275.53
46	07/01/19	1,121,275.53	3,969.84	26,862.16	30,832.00	1,094,413.37
47	08/01/19	1,094,413.37	3,874.74	26,957.26	30,832.00	1,067,456.11
48	09/01/19	1,067,456.11	3,779.29	27,052.71	30,832.00	1,040,403.40
49	10/01/19	1,040,403.40	3,683.51	27,148.49	30,832.00	1,013,254.92
50	11/01/19	1,013,254.92	3,587.40	27,244.60	30,832.00	986,010.31
51	12/01/19	986,010.31	3,490.94	27,341.06	30,832.00	958,669.25
52	01/01/20	958,669.25	3,394.14	27,437.86	30,832.00	931,231.39
53	02/01/20	931,231.39	3,296.99	27,535.01	30,832.00	903,696.38
54	03/01/20	903,696.38	3,199.51	27,632.49	30,832.00	876,063.89
55	04/01/20	876,063.89	3,101.68	27,730.32	30,832.00	848,333.57
56	05/01/20	848,333.57	3,003.50	27,828.50	30,832.00	820,505.06
57	06/01/20	820,505.06	2,904.97	27,927.03	30,832.00	792,578.04
58	07/01/20	792,578.04	2,806.10	28,025.90	30,832.00	764,552.13
59	08/01/20	764,552.13	2,706.87	28,125.13	30,832.00	736,427.00
60	09/01/20	736,427.00	2,607.30	28,224.70	30,832.00	708,202.30
61	10/01/20	708,202.30	2,507.37	28,324.63	30,832.00	679,877.67
62	11/01/20	679,877.67	2,407.08	28,424.92	30,832.00	651,452.75

AMORTIZATION SCHEDULE

Equipment: Linear Accelerator, CT Scanner and Tenant Improvements

Vendor: Elekta Capital

Interest Rate	4.249%
Term (Months)	84
Loan Amount	2,135,627
Monthly Payment	\$30,832
Start Date	10/01/15

Useful Life (Linear Accelerator):	7-10 Years
Residual Value of Linear Accelerator at End of Lease Term*:	\$75,000
* Assumes estimated residual value will be 5% of original purchase price (\$1.5 million).	

\$0 for months 1-3, \$20,000 for months 3-6.

Payment #	Payment Date	Beginning Balance	Interest	Principal	Monthly Payment	Ending Balance
63	12/01/20	651,452.75	2,306.45	28,525.55	30,832.00	622,927.20
64	01/01/21	622,927.20	2,205.45	28,626.55	30,832.00	594,300.65
65	02/01/21	594,300.65	2,104.10	28,727.90	30,832.00	565,572.76
66	03/01/21	565,572.76	2,002.39	28,829.61	30,832.00	536,743.15
67	04/01/21	536,743.15	1,900.32	28,931.68	30,832.00	507,811.47
68	05/01/21	507,811.47	1,797.89	29,034.11	30,832.00	478,777.36
69	06/01/21	478,777.36	1,695.10	29,136.90	30,832.00	449,640.46
70	07/01/21	449,640.46	1,591.94	29,240.06	30,832.00	420,400.39
71	08/01/21	420,400.39	1,488.41	29,343.59	30,832.00	391,056.81
72	09/01/21	391,056.81	1,384.52	29,447.48	30,832.00	361,609.33
73	10/01/21	361,609.33	1,280.27	29,551.73	30,832.00	332,057.60
74	11/01/21	332,057.60	1,175.64	29,656.36	30,832.00	302,401.24
75	12/01/21	302,401.24	1,070.64	29,761.36	30,832.00	272,639.88
76	01/01/22	272,639.88	965.27	29,866.73	30,832.00	242,773.15
77	02/01/22	242,773.15	859.53	29,972.47	30,832.00	212,800.68
78	03/01/22	212,800.68	753.41	30,078.59	30,832.00	182,722.10
79	04/01/22	182,722.10	646.92	30,185.08	30,832.00	152,537.02
80	05/01/22	152,537.02	540.05	30,291.95	30,832.00	122,245.07
81	06/01/22	122,245.07	432.80	30,399.20	30,832.00	91,845.88
82	07/01/22	91,845.88	325.18	30,506.82	30,832.00	61,339.05
83	08/01/22	61,339.05	217.17	30,614.83	30,832.00	30,724.22
84	09/01/22	30,724.22	108.78	30,723.22	30,832.00	1.00
			329,270.00	2,135,626.00	2,464,896.00	

Exhibit 9

April 1, 2015

Northeast Regional Radiation Oncology Network, Inc.
 142 Hazard Avenue
 Enfield, CT 06082
 Attention: Arleen Carrasquillo

Dear Ms. Carrasquillo,

Elekta Capital is pleased to present this proposal, subject to the following terms and conditions, for your review and acceptance. The following lease proposal is for discussion purposes only and is an indication of interest regarding a possible financing transaction on the general terms and conditions outlined herein and should not be construed as a commitment.

LESSEE: Northeast Regional Radiation Oncology Network, Inc.

LESSOR: Elekta Capital

VENDORS: Elekta, Inc. and Philips Healthcare

EQUIPMENT: * Elekta Infinity System more fully described in Quotation # 2014-49106-RN version number 3 dated April 28, 2014
 * Philips Brilliance CT scanner more fully described in Quotation # 1-11NZT3U version 4 dated December 16, 2013

FINANCED AMOUNT: \$2,135,627.00 excluding any applicable taxes

NOTE: The Financed Amount can be further broken down as follows:

- \$1,050,000.00 representing the balance due to Elekta for the Infinity System.
- \$548,611.00 representing the balance due Philips for the Brilliance CT scanner
- \$537,016.00 representing the cost of tenant improvements

LEASE STRUCTURE: capital lease or operating lease

BASE LEASE TERM: 60 months or 84 months

BASE LEASE

RENTAL PAYMENTS:

assuming a capital lease structure:

- if a 60 month term, 3 monthly payments of \$0.00 followed by 3 monthly payments of \$20,000.00 followed by 54 monthly payments of \$42,339.00 excluding any applicable taxes
- if an 84 month term, 3 monthly payments of \$0.00 followed by 3 monthly payments of \$20,000.00 followed by 78 monthly payments of \$30,832.00 excluding any applicable taxes

assuming an operating lease structure:

- if a 60 month term, 3 monthly payments of \$0.00 followed by 3 monthly payments of \$20,000.00 followed by 54 monthly payments of \$34,778.00 excluding any applicable taxes
- if an 84 month term, 3 monthly payments of \$0.00 followed by 3 monthly payments of \$20,000.00 followed by 78 monthly payments of \$28,643.00 excluding any applicable taxes

ADJUSTMENTS TO BASE LEASE RENTAL PAYMENTS:

The Base Lease Rental Payments stated above reflect current money market rates as indicated by the like term interest rate swap as published in the Federal Reserve H.15 Daily Update (<http://www.federalreserve.gov/releases/h15/>) as of March 30, 2015 ("Reference Yield"). Any movement upward or downward in the Reference Yield prior to commencement shall cause the Base Lease Rental Payments to be adjusted accordingly. The Base Lease Rental Payments shall be defined as the payment due for use of the equipment and do not include any applicable taxes.

OPTIONS AT BASE LEASE TERM EXPIRATION:

assuming a capital lease structure:

Upon the expiration of the Base Lease Term, provided Lessee is not in default, Lessor will consider Lessee's obligations to have been met. Unless prohibited by Vendor, Lessor shall transfer title to the Equipment to the Lessee for \$1.00.

assuming an operating lease structure:

Upon the expiration of the Base Lease Term, provided Lessee is not in default, Lessee shall either:

- 1) Purchase all, but not less than all, of the Equipment at its then fair market value, or
- 2) Subject to Lessor's return provisions, return all, but not less than all, of the Equipment, or
- 3) Renew the lease for a term and structure mutually agreeable to Lessee and Lessor

ADVANCE PAYMENTS: None required. Payments are in arrears

PROGRESS PAYMENTS: Upon the request of the Lessee, the Lessor will finance progress payments/deposits due to manufacturers prior to the lease commencement on an interest-only basis. Lessor will fund payments and invoice Lessee based on the then current Wall Street Journal Prime Lending Rate + 1%. Accrued interest is not due until lease commencement and may be rolled into the final financed amount.

NET LEASE: The lease will be a net lease in which the Lessee will be responsible for all expenses relating to the Equipment and the transaction including, without limitation, Equipment maintenance, insurance coverage, payment of sales and/or property taxes, recording fees and other expenses relating to the purchase, possession, lease and use of the Equipment.

DOCUMENTATION: The Lease is subject to the execution and delivery of all documentation required by, and satisfactory to, the Lessor. A documentation fee, not to exceed \$500.00 plus any applicable taxes, will be due at commencement of the Lease.

SECURITY DEPOSIT: None required

CREDIT: This proposal is subject to final approval by Lessor, which will require your cooperation in furnishing financial information, and the absence of any material, adverse change in your financial condition or business prospects prior to closing. Lessee authorizes the Lessor to obtain credit information and other relevant information from third parties. Lessee authorizes Lessor to disclose to its representatives, advisors and potential investors and assignees such information as Lessee submits to Lessor or Lessor otherwise obtains, provided that such disclosure is on a confidential basis and solely for the purpose of evaluating the proposed transaction. Lessee acknowledges that all information submitted is true and correct as of the stated date and there exist no liabilities, direct or contingent, except as disclosed by the Lessee in writing, and that title to all assets disclosed in the Lessee's name except where noted. Lessee shall immediately notify the Lessor of any material adverse change in the facts represented.

GENERAL: This proposal is an expression by Lessor of its interest in considering a lease transaction on the general terms and conditions outlined above. This proposal is not intended to and does not create any binding legal obligation on the part of either party. **THIS LETTER IS NOT, AND IS NOT TO BE CONSTRUED AS, A COMMITMENT BY LESSOR TO ENTER INTO THE PROPOSED LEASE TRANSACTION.** Lessor shall not be obligated to provide any lease financing until the satisfactory completion of its due diligence, the receipt of all requisite approvals by Lessor's management, and the prior execution and delivery of final legal documentation in form and substance acceptable to Lessor, including acceptance of the Equipment by the Lessee.

If this proposal meets with your approval, please indicate your acceptance by countersigning below and returning this proposal to our attention. All other terms and conditions notwithstanding, this proposal expires April 30, 2015.

Sincerely,

Zeb Stewart
Regional Finance Manager
Elekta Capital
1111 Old Eagle School Road
Wayne, PA 19087

(610) 386-5750 – phone
(610) 386-5087 – fax
zstewart@leasedirect.com

AGREED AND ACCEPTED

By: _____

Print Name: _____

Title: _____

Date: _____

Exhibit 10

**Northeast Regional Radiation
Oncology Network, Inc.
d/b/a Community Cancer Care**

**Financial Statements
and Independent Auditor's Report**

September 30, 2014 and 2013

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

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Independent Auditor's Report

To the Board of Directors
Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care

We have audited the accompanying financial statements of Northeast Regional Radiation Oncology Network, Inc. d/b/a Community Cancer Care ("NRRON") (a nonprofit organization), which comprise the statements of financial position as of September 30, 2014 and 2013, and the related statements of operations and changes in net assets and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Northeast Regional Radiation Oncology Network, Inc. d/b/a Community Cancer Care as of September 30, 2014 and 2013, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

CohnReznick LLP

Hartford, Connecticut
April 2, 2015

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Statements of Financial Position
September 30, 2014 and 2013**

<u>Assets</u>	<u>2014</u>	<u>2013</u>
Current assets:		
Cash and cash equivalents	\$ 6,711,475	\$ 6,067,133
Patient services receivable, net	940,043	1,102,234
Lease termination deposit	-	
Due from related party	49,900	82,783
Prepaid expenses	44,095	90,436
Total current assets	7,745,513	7,342,586
	10,904,660	10,245,326
Less accumulated depreciation and amortization	(5,354,078)	(4,676,296)
Equipment, fixtures and leasehold improvements, net	5,550,582	5,569,030
Security deposits	13,574	13,574
Total assets	\$ 13,309,669	\$ 12,925,190

Liabilities and Net Assets

Liabilities - accounts payable and accrued expenses	\$ 53,684	\$ 63,738
Commitments and contingencies		
Unrestricted net assets	13,255,985	12,861,452
Total liabilities and net assets	\$ 13,309,669	\$ 12,925,190

See Notes to Financial Statements.

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Statements of Operations and Changes in Net Assets
Years Ended September 30, 2014 and 2013**

	2014	2013
Revenues and support:		
Patient services revenue, net of contractual allowances and discounts	\$ 6,556,364	\$ 7,451,191
Less provision for uncollectible accounts	155,377	223,592
Patient services revenue, net of provision for uncollectible accounts	6,400,987	7,227,599
Rental income and other	9,823	7,131
Investment income	1,713	730
Total revenues and support	6,412,523	7,235,460
Expenses:		
Personnel, including contract services	3,352,684	3,496,216
Grants	-	400,000
Non-personnel	463,696	388,119
Occupancy	934,045	905,867
Depreciation and amortization	677,782	716,694
Equipment maintenance and technology support	589,783	605,118
Total expenses	6,017,990	6,512,014
Change in net assets	394,533	723,446
Net assets, beginning of year	12,861,452	12,138,006
Net assets, end of year	\$ 13,255,985	\$ 12,861,452

See Notes to Financial Statements.

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Statements of Cash Flows
Years Ended September 30, 2014 and 2013**

	2014	2013
Operating activities:		
Change in net assets	\$ 394,533	\$ 723,446
Adjustments to reconcile change in net assets to net cash provided by operating activities:		
Depreciation and amortization	677,782	716,694
Provision for uncollectible accounts	155,377	223,592
Changes in operating assets and liabilities:		
Patient services receivable	6,814	(526,738)
Due from related party	32,883	(7,822)
Prepaid expenses	46,341	40,928
Accounts payable and accrued expenses	(10,054)	11,583
Net cash provided by operating activities	1,303,676	1,181,683
Investing activities:		
Purchases of equipment, fixtures and leasehold improvements	(659,334)	(114,871)
Net cash used in investing activities	(659,334)	(114,871)
Net increase in cash and cash equivalents	644,342	1,066,812
Cash and cash equivalents, beginning of year	6,067,133	5,000,321
Cash and cash equivalents, end of year	\$ 6,711,475	\$ 6,067,133

See Notes to Financial Statements.

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Notes to Financial Statements
September 30, 2014 and 2013**

Note 1 - Organization and summary of significant accounting policies

Organization

Northeast Regional Radiation Oncology Network, Inc. d/b/a Community Cancer Care ("NRRON"), a not-for-profit organization, provides accessible community-based comprehensive medical care and treatment to cancer patients utilizing radiation therapy services in Northeastern Connecticut. NRRON also provides, or coordinates, the delivery of supporting services including, but not limited to, education, screening and early detection, pre-treatment evaluation, tumor boards, rehabilitation, continuing care, outpatient services, terminal care, hospice and research.

NRRON was incorporated under the Nonstock Corporation Act of the State of Connecticut. The founding and initial members of NRRON were Hartford Hospital, Johnson Memorial Hospital, Inc., Manchester Memorial Hospital, and Rockville General Hospital, Inc. The by-laws of NRRON provide for the annual election of four directors, one from each of the founding members.

Basis of presentation

The accompanying financial statements have been prepared on the accrual basis of accounting. The financial statements report information regarding NRRON's financial position and activities according to three classes of net assets: unrestricted, temporarily restricted and permanently restricted. They are described as follows:

Unrestricted - Net assets that are not subject to explicit donor-imposed stipulations. Unrestricted net assets may be designated for specific purposes by action of the Board of Directors.

Temporarily Restricted - Net assets whose use by NRRON is subject to either explicit donor-imposed stipulations or by the operation of law that can be fulfilled by actions of NRRON or that expire by the passage of time. At September 30, 2014 and 2013, NRRON had no temporarily restricted net assets.

Permanently Restricted - Net assets subject to explicit donor-imposed stipulations that they be maintained permanently by NRRON and stipulate the use of income and/or appreciation as either unrestricted or temporarily restricted based on donor imposed stipulations or by operation of law. At September 30, 2014 and 2013, NRRON had no permanently restricted net assets.

Performance indicator

The statements of operations and changes in net assets include the change in unrestricted net assets as the performance indicator.

Cash and cash equivalents

NRRON considers all highly liquid investments with a maturity of three months or less when acquired to be cash equivalents.

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Notes to Financial Statements
September 30, 2014 and 2013**

Concentrations of credit risk

The NRRON's financial instruments that are exposed to concentrations of credit risk consist primarily of cash and cash equivalents and patient services receivable (see Note 2) and revenue (see Note 5).

NRRON maintains its cash and cash equivalents with high-credit quality financial institutions. At times, these balances may exceed the Federal Insurance limits; however, NRRON has not experienced any losses with respect to its bank balances in excess of government provided insurance. At September 30, 2014, NRRON's uninsured bank balances totaled approximately \$6,000,000. NRRON limits its credit risk by selecting financial institutions considered to be highly creditworthy. Management believes that no significant concentration of credit risk exists with respect to these cash balances at September 30, 2014.

Patient services receivable

The collection of receivables from third-party payors and patients is NRRON's primary source of cash for operations and is critical to its operating performance.

Patient services receivable and revenue are recorded when patient services are performed. The primary collection risk relates to patient accounts for which the primary insurance payor has paid, but patient responsibility amounts (deductibles and copayments) remain outstanding. Patient services receivable from third-party payors are carried at a net amount determined by the original charge for the service provided, less any estimate made for contractual adjustments or discounts provided to third-party payors.

Receivables due directly from patients are carried at the original charge for the service performed, less discounts provided under NRRON's charity care policy, less amounts covered by third-party payors and an estimated allowance for doubtful accounts. Management determines the allowance for doubtful accounts by identifying troubled accounts and by historical experience applied to an aging of accounts. NRRON does not charge interest on past due accounts.

The provision for uncollectible accounts is increased when patient services receivable are deemed uncollectible. Recoveries of receivables previously written off are recorded as a reduction of provision for uncollectible accounts when received.

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Notes to Financial Statements
September 30, 2014 and 2013**

Equipment, fixtures and leasehold improvements

Equipment, fixtures and leasehold improvements are recorded at cost, regardless of dollar amount. Depreciation is computed using the straight-line method over the estimated useful lives, which range from three to ten years. NRRON amortizes its leasehold improvements over the lesser of the lease term or estimated useful life.

Maintenance and repairs are charged against change in net assets as incurred and major renewals and betterments are capitalized.

Cost and accumulated depreciation of property sold or disposed of are eliminated from the respective accounts and any realized gain or loss is reflected in the statements of operations and changes in net assets.

Impairment of long-lived assets

NRRON reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. In performing a review for impairment, NRRON compares the carrying value of the assets with their estimated future undiscounted cash flows. If it is determined that impairment has occurred, the loss would be recognized during that period. The impairment loss is calculated as the difference between the asset carrying values and the present value of estimated net cash flows or comparable market values, giving consideration to recent operating performance and pricing trends. There were no impairments on long-lived assets during 2014 and 2013.

Revenue recognition

Contributions

Contributions received are recorded as unrestricted, temporarily restricted or permanently restricted support depending on the existence and/or nature of any donor restrictions. Support that is restricted by the donor is reported as an increase in unrestricted net assets if the restrictions expire in the reporting period in which the support is recognized. All donor-restricted support is reported as an increase in temporarily or permanently restricted net assets, depending on the nature of the restriction. When a restriction expires (that is, when a stipulated time restriction ends or purpose restriction is accomplished), temporarily restricted net assets are reclassified to unrestricted net assets and reported in the statements of operations and changes in net assets as net assets released from restrictions.

Patient service revenue

NRRON has agreements with third-party payors that provides for payments to NRRON at amounts different from its established rates. Patient services revenue is reported at the estimated net realizable amounts from patients, third-party payors and others for services rendered, including retroactive adjustments under reimbursement agreements with third-party payors, which are subject to audit by administrating agencies. These adjustments are accrued on an estimated basis and are adjusted in future periods as final settlements are determined.

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Notes to Financial Statements
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NRRON provides care to certain patients under Medicare and Medicaid payment arrangements. Laws and regulations governing the Medicaid and Medicare programs are complex and subject to interpretation. Compliance with such laws and regulations can be subject to future government review and interpretation as well as significant regulatory action. Self-pay revenue is recorded at published charges with charity care deducted to arrive at net self-pay revenue.

Charity care

NRRON provides care to patients who meet certain criteria under its charity care policy without charge or at amounts less than its established rates. Such patients are identified based on financial information obtained from the patient and services provided. Due to the fact that NRRON does not pursue collection of amounts determined to qualify as charity care, such amounts are not reported as revenue in the accompanying statements of operations and changes in net assets. The cost of providing this charity care was \$13,723 and \$96,813 for the years ended September 30, 2014 and 2013, respectively.

Income taxes

NRRON is organized as a nonstock, nonprofit corporation under Section 501(c)(3) of the Internal Revenue Code and is not subject to Federal or state corporate income taxes.

NRRON has no unrecognized tax benefits at September 30, 2014 and 2013. NRRON's Federal and state information returns prior to fiscal year 2011 are closed and management continually evaluates expiring statutes of limitations, audits, proposed settlements, changes in tax law and new authoritative rulings.

If NRRON had unrelated business income taxes, it would recognize interest and penalties associated with any tax matters as part of the income tax provision and include accrued interest and penalties with the related tax liability in the statements of financial position.

Use of estimates

The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

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**Notes to Financial Statements
September 30, 2014 and 2013**

Reclassifications

Certain prior year information has been reclassified to conform with the current year presentation.

Subsequent events

NRRON has evaluated events and transactions for potential recognition or disclosure through April 2, 2015, which is the date the financial statements were available to be issued.

Note 2 - Patient services receivable, net

NRRON grants credit without collateral to its patients, most of whom are local residents and are insured under third-party payor agreements. The mix of receivables, net from patients and third-party payors as of September 30, 2014 and 2013 is as follows:

	2014	2013
Medicare	\$ 576,054	\$ 1,293,140
Anthem Blue Cross Blue Shield	207,770	547,720
Commercial and other	539,946	1,814,749
Medicaid	45,944	321,940
Self-pay	35,785	147,595
	1,405,499	4,125,144
Less allowance for doubtful accounts and contractual allowance	(465,456)	(3,022,910)
	\$ 940,043	\$ 1,102,234

Patient services receivable are reduced by an allowance for doubtful accounts. In evaluating the collectability of patient services receivable, NRRON analyzes its past history and identifies trends for each of its major payor sources of revenue to estimate the appropriate allowance for doubtful accounts and provision for uncollectible accounts. Management regularly reviews data about these major payor sources of revenue in evaluating the sufficiency of the allowance for doubtful accounts.

For receivables associated with services provided to patients who have third-party coverage, NRRON analyzes contractually due amounts and provides an allowance for doubtful accounts and a provision for uncollectible accounts, if necessary (for example, for expected uncollectible deductibles and copayments on accounts for which the third-party payor has not yet paid, or for payors who are known to be having financial difficulties that make the realization of amounts due unlikely). For receivables associated with self-pay patients (which includes both patients without insurance and patients with deductible and copayment balances due for which third-party coverage exists for part of the bill), NRRON records a provision for uncollectible accounts in the period of service on the basis of its past experience, which indicates that many patients are unable or unwilling to pay the portion of their bill for which they are financially responsible. The difference between the standard rates (or the discounted rates provided by NRRON's policy) and the amounts

**Northeast Regional Radiation Oncology Network, Inc.
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**Notes to Financial Statements
September 30, 2014 and 2013**

actually collected after all reasonable collection efforts have been exhausted is charged against the allowance for doubtful accounts. NRRON's allowance for doubtful accounts was 33% and 73% of patient services receivable at September 30, 2014 and 2013, respectively. NRRON has not changed its charity care or uninsured discount policies during 2014 and 2013. NRRON had \$16,099 and \$186,592 of write-offs during the years ended September 30, 2014 and 2013, respectively.

Note 3 - Equipment, fixtures and leasehold improvements

Equipment, fixtures and leasehold improvements consisted of the following at September 30:

	2014	2013
Equipment	\$ 7,522,288	\$ 7,495,976
Leasehold improvements	2,294,979	2,294,979
Furniture and fixtures	99,698	99,698
Software and computers	414,968	292,903
Network	61,770	61,770
	10,393,703	10,245,326
Accumulated depreciation and amortization	(5,354,078)	(4,676,296)
	5,039,625	5,569,030
Construction in progress	510,957	-
	\$ 5,550,582	\$ 5,569,030

Note 4 - Related party transactions/commitments

NRRON leases space for a treatment center and administrative offices in Manchester, Connecticut from Manchester Memorial Hospital. This lease expires June 30, 2025 and requires annual rental payments, which will increase in future years based on the Consumer Price Index ("CPI"). The base annual rent at the beginning of the lease was \$422,416.

NRRON leases space for a treatment center in Enfield, Connecticut from Johnson Memorial Hospital, Inc. The base annual rent was \$158,298 at the start of the lease and has increased throughout the lease based on the CPI. The agreement provides for the option to extend the lease for three successive terms of five years each upon the termination of the original lease, which ends in January 2018.

Rent expense, not including utilities and common area maintenance charges, for the years ended September 30, 2014 and 2013 was \$846,926 and \$829,697, respectively.

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**Notes to Financial Statements
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Future minimum lease payments under the leases in each of the five years subsequent to September 30, 2014 and thereafter are as follows:

<u>Year Ending September 30,</u>	
2015	\$ 842,852
2016	842,852
2017	852,852
2018	694,628
2019	620,516
Thereafter	<u>3,567,968</u>
	<u>\$ 7,411,668</u>

NRRON had a contract, which expired on September 30, 2014 (this contract has been extended on a month-to-month basis), with Hartford Hospital to provide a variety of radiation therapy services to both NRRON treatment centers. Hartford Hospital was reimbursed for these services based on rates and times set forth in the agreement. Costs for the years ended September 30, 2014 and 2013 were \$2,492,748 and \$2,602,340, respectively, and are included in personnel, including contract services, in the accompanying statements of operations and changes in net assets.

NRRON has an administrative contract with Eastern Connecticut Health Network (which owns two of the founding member facilities) to receive various services including executive, administrative, dietary and valet. The expenses associated with this agreement were \$178,556 and \$191,513 for the years ended September 30, 2014 and 2013, respectively, and are included in personnel, including contract services, in the accompanying statements of operations and changes in net assets.

During 2013, NRRON paid \$100,000 to each of their founding members, for a total of \$400,000. These payments represent grants which were made by NRRON to further its mission to maintain and improve the health status of the residents of Connecticut by providing accessible community-based comprehensive medical care and treatment of cancer patients. There were no payments to the founding members in 2014.

Note 5 - Patient services revenue, net

NRRON recognizes patient services revenue associated with services provided to patients who have Medicaid, Medicare and third-party payor coverage on the basis of contractual rates for services rendered.

**Northeast Regional Radiation Oncology Network, Inc.
d/b/a Community Cancer Care**

**Notes to Financial Statements
September 30, 2014 and 2013**

For the years ended September 30, 2014 and 2013, patient services revenue (net of contractual allowances) consists of the following:

	<u>2014</u>	<u>2013</u>
Medicare	\$ 2,688,109	\$ 3,228,791
Other managed care	2,491,419	2,795,298
Anthem Blue Cross Blue Shield	983,455	941,830
Medicaid	196,691	389,098
Self-pay	<u>196,690</u>	<u>96,174</u>
	<u>\$ 6,556,364</u>	<u>\$ 7,451,191</u>

Medicaid, Medicare and third-party payor revenue is reimbursed to NRRON at the net reimbursement rates determined by each program. Reimbursement rates are subject to revisions under the provision of reimbursement regulations. Adjustments for such revisions are recognized in the fiscal year incurred.

Note 6 - Expense allocation

Directly identifiable expenses are charged to program services. Management and general expenses include those expenses that are not directly identifiable with any other specific function but provide for the overall support and direction of NRRON.

	<u>2014</u>	<u>2013</u>
Program services	\$ 4,539,576	\$ 5,070,247
Management and general	<u>1,478,414</u>	<u>1,441,767</u>
	<u>\$ 6,017,990</u>	<u>\$ 6,512,014</u>

Note 7 - Retirement plan

NRRON maintains a 401(k) plan. Employees who are reasonably expected to receive at least \$5,000 in compensation in the current calendar year or who have received at least \$5,000 in compensation in the preceding calendar year are eligible. Salary reduction election agreements are signed annually with employees and may be modified quarterly. NRRON makes matching contributions in an amount equal to the sum of 100% of the portion of the employees' 401(k) contributions that do not exceed 3% of compensation, plus 50% of the portion of the employees' 401(k) contributions between 3% and 5% of compensation. Contributions for the years ended September 30, 2014 and 2013 were \$4,748 and \$4,351, respectively.

**Northeast Regional Radiation Oncology Network, Inc.
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**Notes to Financial Statements
September 30, 2014 and 2013**

Note 8 - Professional liability

NRRON is insured with respect to professional liability on a claims-made basis. Insurance coverage under the policy has limits of \$1,000,000 and \$3,000,000 per claim and \$3,000,000 and \$6,000,000 in the aggregate for the years ended September 30, 2014 and 2013, respectively.

Note 9 - Commitments

The healthcare industry is subject to voluminous and complex laws and regulations of Federal, state and local governments. Compliance with such laws and regulations can be subject to future government review and interpretation as well as regulatory actions unknown or unasserted at this time. These laws and regulations include, but are not necessarily limited to, matters such as licensure, accreditation, government healthcare program participation requirements, reimbursement laws and regulations, anti-kickback and anti-referral laws and false claims prohibitions.

In recent years, government activity has increased with respect to investigations and allegations concerning possible violations of reimbursement, false claims, anti-kickback and anti-referral statutes and regulation by healthcare providers. NRRON believes that it is in material compliance with all applicable laws and regulations and is not aware of any pending or threatened investigations involving allegations of potential wrongdoing. Upon audit, if discrepancies are discovered, NRRON could be held responsible for refunding the amounts in question.

Exhibit 11

NON-PROFIT

Applicant: NRRON
Financial Worksheet (A)

Please provide one year of actual results and three years of projections of **Total Entity** revenue, expense and volume statistics without, incremental to and with the CON proposal in the following reporting format:

LINE	Total Entity:	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		FY 14	FY 15 ^d	FY 16	FY 16	FY 16	FY 17	FY 17	FY 17	FY 18	FY 18	FY 18	FY 19	FY 19	FY 19
Description		Actual Results	Projected Results	Projected W/out CON	Projected Incremental	Projected With CON	Projected W/out CON	Projected Incremental	Projected With CON	Projected W/out CON	Projected Incremental	Projected With CON	Projected W/out CON	Projected Incremental	Projected With CON
A. OPERATING REVENUE															
1	Total Gross Patient Revenue	\$21,930,592	\$18,780,104	\$15,759,997	\$3,248,728	\$19,008,725	\$14,753,295	\$4,331,637	\$19,084,932	\$14,753,295	\$4,331,637	\$19,084,932	\$14,753,295	\$4,331,637	\$19,084,932
2	Less: Allowances	\$15,374,228	\$12,277,324	\$10,216,189	\$2,105,941	\$12,322,130	\$9,479,948	\$2,783,358	\$12,263,306	\$9,393,777	\$2,758,057	\$12,151,834	\$9,305,020	\$2,731,998	\$12,037,019
3	Less: Charity Care	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	Less: Other Deductions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Net Patient Service Revenue	\$6,556,364	\$6,502,780	\$5,543,808	\$1,142,787	\$6,686,595	\$5,273,347	\$1,548,280	\$6,821,627	\$5,359,518	\$1,573,580	\$6,933,098	\$5,448,274	\$1,599,639	\$7,047,914
5	Medicare	\$2,688,109	\$2,666,140	\$2,237,387	\$461,210	\$2,698,596	\$2,094,469	\$614,946	\$2,709,415	\$2,094,469	\$614,946	\$2,709,415	\$2,094,469	\$614,946	\$2,709,415
6	Medicaid	\$196,691	\$195,083	\$163,711	\$33,747	\$197,458	\$153,254	\$44,996	\$198,250	\$153,254	\$44,996	\$198,250	\$153,254	\$44,996	\$198,250
7	CHAMPUS & TriCare	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Total Government	\$2,884,800	\$2,861,223	\$2,401,098	\$494,957	\$2,896,054	\$2,247,723	\$659,942	\$2,907,665	\$2,247,723	\$659,942	\$2,907,665	\$2,247,723	\$659,942	\$2,907,665
9	Commercial Insurers	\$3,474,874	\$3,446,474	\$2,979,000	\$614,084	\$3,593,083	\$2,872,371	\$843,342	\$3,715,713	\$2,958,542	\$868,642	\$3,827,184	\$3,047,298	\$894,701	\$3,942,000
10	Uninsured	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	Self Pay	\$196,690	\$195,082	\$163,710	\$33,747	\$197,457	\$153,253	\$44,996	\$198,249	\$153,253	\$44,996	\$198,249	\$153,253	\$44,996	\$198,249
12	Workers Compensation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Total Non-Government	\$3,671,564	\$3,641,557	\$3,142,710	\$647,831	\$3,790,541	\$3,025,624	\$888,338	\$3,913,962	\$3,111,795	\$913,638	\$4,025,433	\$3,200,552	\$939,697	\$4,140,249
	Net Patient Service Revenue^a (Government+Non-Government)	\$6,556,364	\$6,502,780	\$5,543,808	\$1,142,787	\$6,686,595	\$5,273,347	\$1,548,280	\$6,821,627	\$5,359,518	\$1,573,580	\$6,933,098	\$5,448,274	\$1,599,639	\$7,047,914
14	Less: Provision for Bad Debts	\$155,377	\$154,107	\$131,381	\$27,083	\$158,463	\$124,971	\$36,692	\$161,663	\$127,013	\$37,292	\$164,305	\$129,117	\$37,909	\$167,026
	Net Patient Service Revenue less provision for bad debts	\$6,400,987	\$6,348,673	\$5,412,427	\$1,115,705	\$6,528,132	\$5,148,376	\$1,511,588	\$6,659,963	\$5,232,505	\$1,536,288	\$6,768,793	\$5,319,158	\$1,561,730	\$6,880,888
15	Other Operating Revenue	\$11,536	\$6,029	\$4,944	\$1,085	\$6,029	\$4,944	\$1,085	\$6,029	\$4,944	\$1,085	\$6,029	\$4,944	\$1,085	\$6,029
17	Net Assets Released from Restrictions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	TOTAL OPERATING REVENUE	\$6,412,523	\$6,354,702	\$5,417,371	\$1,116,790	\$6,534,161	\$5,153,320	\$1,512,673	\$6,665,993	\$5,237,449	\$1,537,373	\$6,774,822	\$5,324,102	\$1,562,815	\$6,886,917
B. OPERATING EXPENSES															
1	Salaries and Wages	\$412,752	\$386,648	\$279,471	\$112,977	\$392,448	\$283,663	\$114,672	\$398,335	\$287,918	\$116,392	\$404,310	\$292,236	\$118,138	\$410,374
2	Fringe Benefits	\$34,203	\$18,462	\$13,344	\$5,395	\$18,739	\$13,545	\$5,475	\$19,020	\$13,748	\$5,558	\$19,305	\$13,954	\$5,641	\$19,595
3	Physicians Fees	\$18,749	\$14,000	\$14,210	\$0	\$14,210	\$14,423	\$0	\$14,423	\$14,639	\$0	\$14,639	\$14,859	\$0	\$14,859
4	Supplies and Drugs	\$38,810	\$32,256	\$27,475	\$5,664	\$33,138	\$26,106	\$7,665	\$33,770	\$26,497	\$7,780	\$34,277	\$26,895	\$7,896	\$34,791
5	Depreciation and Amortization	\$677,782	\$730,000	\$730,000	\$130,223	\$860,223	\$730,000	\$173,631	\$903,631	\$730,000	\$173,631	\$903,631	\$730,000	\$173,631	\$903,631
6	Provision for Bad Debts-Other ^p	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	Interest Expense	\$0	\$0	\$0	\$65,874	\$65,874	\$0	\$77,471	\$77,471	\$0	\$64,799	\$64,799	\$0	\$51,577	\$51,577
8	Malpractice Insurance Cost	\$65,007	\$63,239	\$64,188	\$0	\$64,188	\$65,150	\$0	\$65,150	\$66,128	\$0	\$66,128	\$67,120	\$0	\$67,120
9	Lease Expense	\$841,774	\$861,162	\$687,961	\$186,119	\$874,079	\$698,280	\$251,881	\$950,161	\$708,754	\$255,659	\$964,413	\$719,386	\$259,494	\$978,879
10	Other Operating Expenses	\$3,928,913	\$3,999,617	\$3,406,769	\$702,263	\$4,109,032	\$3,236,992	\$950,396	\$4,187,388	\$3,285,546	\$964,652	\$4,250,198	\$3,334,830	\$979,122	\$4,313,951
	TOTAL OPERATING EXPENSES	\$6,017,990	\$6,105,385	\$5,223,417	\$1,208,514	\$6,431,931	\$5,068,158	\$1,581,191	\$6,649,349	\$5,133,231	\$1,588,470	\$6,721,700	\$5,199,279	\$1,595,499	\$6,794,778
	INCOME/(LOSS) FROM OPERATIONS	\$394,533	\$249,317	\$193,955	(\$91,724)	\$102,230	\$85,162	(\$68,518)	\$16,644	\$104,219	(\$51,096)	\$53,122	\$124,823	(\$32,684)	\$92,139
	NON-OPERATING REVENUE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	EXCESS/(DEFICIENCY) OF REVENUE OVER EXPENSES	\$394,533	\$249,317	\$193,955	(\$91,724)	\$102,230	\$85,162	(\$68,518)	\$16,644	\$104,219	(\$51,096)	\$53,122	\$124,823	(\$32,684)	\$92,139

NON-PROFIT

Applicant: NRRON

Please provide one year of actual results and three years of projections of **Total Entity** revenue, expense and volume statistics without, incremental to and with the CON proposal in the following reporting format:

Financial Worksheet (A)

LINE	Total Entity: Description	(0)	(1)	(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)		(11)		(12)		(13)				
		FY 14 Actual Results	FY 15 ^d Projected Results	FY 16 Projected W/out CON	FY 16 Projected Incremental	FY 16 Projected With CON	FY 17 Projected W/out CON	FY 17 Projected Incremental	FY 17 Projected With CON	FY 18 Projected W/out CON	FY 18 Projected Incremental	FY 18 Projected With CON	FY 19 Projected W/out CON	FY 19 Projected Incremental	FY 19 Projected With CON	FY 19 Projected W/out CON	FY 19 Projected Incremental	FY 19 Projected With CON	FY 19 Projected W/out CON	FY 19 Projected Incremental	FY 19 Projected With CON	FY 19 Projected W/out CON	FY 19 Projected Incremental	FY 19 Projected With CON	FY 19 Projected W/out CON	FY 19 Projected Incremental	FY 19 Projected With CON			
	Principal Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
C. PROFITABILITY SUMMARY																														
1	Operating Margin	6.2%	3.9%	3.6%		1.6%	1.7%		0.2%	2.0%		0.8%	2.3%		1.3%															
2	Non Operating Margin	0.0%	0.0%	0.0%		0.0%	0.0%		0.0%	0.0%		0.0%	0.0%		0.0%															
3	Total Margin	6.2%	3.9%	3.6%		1.6%	1.7%		0.2%	2.0%		0.8%	2.3%		1.3%															
D. FTEs																														
		6.6	6.6	4.7	1.9	6.6	4.7	1.9	6.6	4.7	1.9	6.6	4.7	1.9	6.6	4.7	1.9	6.6	4.7	1.9	6.6	4.7	1.9	6.6	4.7	1.9	6.6	4.7	1.9	6.6
E. VOLUME STATISTICS^c																														
1	Radiation Therapy - Enfield	3,437	4,226	1,057	2,113	3,170	0	4,226	4,226	0	4,226	4,226	0	4,226	4,226	0	4,226	4,226	0	4,226	4,226	0	4,226	4,226	0	4,226	4,226	0	4,226	4,226
2	Radiation Therapy - Manchester	9,104	8,187	9,244	0	9,244	9,596	(1,409)	8,187	9,596	(1,409)	8,187	9,596	(1,409)	8,187	9,596	(1,409)	8,187	9,596	(1,409)	8,187	9,596	(1,409)	8,187	9,596	(1,409)	8,187	9,596	(1,409)	8,187
	Total Radation Therapy Volume	12,541	12,413	10,300	2,113	12,413	9,596	2,817	12,413	9,596	2,817	12,413																		
3	CT Simulations - Enfield	0	0	0	104	104	0	208	208	0	208	208	0	208	208	0	208	208	0	208	208	0	208	208	0	208	208	0	208	208
4	CT Simulations - Manchester	439	403	455	0	455	472	(69)	403	472	(69)	403	472	(69)	403	472	(69)	403	472	(69)	403	472	(69)	403	472	(69)	403	472	(69)	403
	Total CT Simulation Volume	439	403	455	104	559	472	139	611	472	139	611																		

^aTotal amount should equal the total amount on cell line "Net Patient Revenue" Row 14.

^bProvide the amount of any transaction associated with Bad Debts not related to the provision of direct services to patients. For additional information, refer to FASB, No.2011-07, July 201

^cProvide projected inpatient and/or outpatient statistics for any new services and provide actual and projected inpatient and/or outpatient statistics for any existing services which will change due to the proposal.

^dBased on FY2015 YTD (unaudited) financials through March 2015.

Exhibit 12

Exhibit 12 - Break Even Model Based on Financial Worksheet A

	<u>FY2016</u>		<u>FY2017</u>		<u>FY2018</u>		<u>FY2019</u>	
Total Net Patient Patient Revenue	\$6,686,595		\$6,821,627		\$6,933,098		\$7,047,914	
Other Operating Revenue	\$6,029		\$6,029		\$6,029		\$6,029	
Revenue from Operations	\$6,692,624	\$516 a	\$6,827,656	\$524 a	\$6,939,127	\$533 a	\$7,053,943	\$542 a
Salaries and Fringe Benefits	\$411,187	\$62,301 b	\$417,355	\$63,236 b	\$423,615	\$64,184 b	\$429,969	\$65,147 b
Physician Fees	\$14,210	\$14,210 d	\$14,423	\$14,423 d	\$14,639	\$14,639 d	\$14,859	\$14,859 d
Supplies and Drugs	\$33,138	\$3 a	\$33,770	\$3 a	\$34,277	\$3 a	\$34,791	\$3 a
Bad Debts	\$158,463	2.4% c	\$161,663	2.4% c	\$164,305	2.4% c	\$167,026	2.4% c
Other Operating Expense	\$4,109,032	\$317 a	\$4,187,388	\$322 a	\$4,250,198	\$326 a	\$4,313,951	\$331 a
Depreciation/Amortization	\$860,223	\$860,223 d	\$903,631	\$903,631 d	\$903,631	\$903,631 d	\$903,631	\$903,631 d
Malpractice Insurance Cost	\$64,188	\$64,188 d	\$65,150	\$65,150	\$66,128	\$66,128	\$67,120	\$67,120
Interest Expense	\$65,874	\$65,874 d	\$77,471	\$77,471 d	\$64,799	\$64,799 d	\$51,577	\$51,577 d
Lease Expense	\$874,079	\$874,079 d	\$950,161	\$950,161 d	\$964,413	\$964,413 d	\$978,879	\$978,879 d
Total Operating Expense	\$6,590,394	\$6,406,591	\$6,811,012	\$6,781,175	\$6,886,005	\$6,791,107	\$6,961,804	\$6,797,876
Gain/(Loss) from Operations	\$102,230	\$0	\$16,644	\$0	\$53,122	\$0	\$92,139	\$0
Visits	12,972	12,418	13,024	12,935	13,024	12,746	13,024	12,551
		12,419		12,936		12,747		12,552
Radiation Therapy - Enfield	24%	3,170	32%	4,198	32%	4,136	32%	4,073
Radiation Therapy - Manchester	71%	9,244	63%	8,187	63%	8,013	63%	7,890
CT Simulations - Enfield	1%	104	2%	208	2%	204	2%	200
CT Simulations - Manchester	4%	455	3%	403	3%	394	3%	388
FTEs	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6

Assumptions used to calculate break even patient volumes:

- Average per patient statistic calculated from financial projection and used to determine revenue and expense associated with break even volume.
- Average per FTE statistic calculated from financial projection and used to determine the Salaries and Fringe Benefits expense for the break even volume.
- Percent of Revenue from Operations projected as Bad Debt. Same percentages utilized in the break even scenario to determine bad debt associated with break even volume.
- Expenses will remain constant regardless of volume.

Staffing Matrix - Estimated	Visits	FTEs
	12000	6.6
	14000	7.6
	16000	8.6
	18000	9.6
	20000	10.6



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Fax: 860-272-3036

June 24, 2015

Brian Carney, Associate Research Analyst
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308

Re: Certificate of Need Application, Docket Number 15-32001-CON
Northeast Regional Radiation Oncology Network, Inc. (NRRON)
Replacement of Existing Non-Hospital-Based Linear Accelerator in Enfield

Dear Mr. Carney:

On Monday, June 22, 2015 I received your request for additional information regarding NRRON's application requesting approval to acquire a linear accelerator at its Enfield location to replace the existing linear accelerator that had been in operation at the site. Please find the responses to your questions below.

1. Page 8 states that the proposal "...improves access to treatments that cannot currently be performed on the existing linear accelerator due to its advanced age." Please elaborate on this statement and provide the types of treatments/treatment methods that will now be available to patients as a result of acquiring the new LINAC.

Response:

On page 17 of the CON application, in response to Question 9, the Applicant identified the types of treatments that cannot currently be performed on the existing linear accelerator. These treatments include electron beam radiation for skin cancer, high-energy radiation for deep seeded tumors, stereotactic body radiation therapy and rapid arc intensity modulated radiation therapy.

Electron Beam Therapy

Electrons are used to treat superficial tumors like skin cancer. For breast cancer patients, electrons are used to treat the chest wall after a mastectomy or a superficial tumor bed after breast conserving surgery. These groups of patients would need to receive some or all of their treatment in Hartford or Manchester because the existing linear accelerator in Enfield does not have the capability to deliver electron therapy.

High-Energy Radiation

The existing linear accelerator is a single energy machine (6 MV photons) and does not have the capability to delivery high energy photons. Newer machines are equipped to deliver both high and low energy photons (for example 6 MV and 10 MV or 6 MV and 18 MV photons). 6 MV photons are appropriate for treatment of many patients, but may not be appropriate treatment for large patients with centrally located tumors (chest, abdomen or pelvis) or breast cancer patients with large breasts. Using 6 MV photons in these patients may result in more toxicity as more of the dose may be given to normal tissue for the radiation to treat a deep or thick target. These groups of patients would need to receive some or all of their treatment in Hartford or Manchester because the existing linear accelerator in Enfield does not have the capability provide high-energy radiation.

Stereotactic Body Radiation Therapy (SBRT)

This is a new but commonly used radiation technique. While it is used to treat many tumor types it is most often used in early stage lung cancer. As a result of more aggressive screening programs for high risk populations, early stage lung cancer is now a common diagnosis. SBRT has allowed for improved local control for early stage lung cancer patients compared to older radiation techniques. SBRT relies on the use of precise image guidance, fine radiation beam shaping and a high radiation delivery rate. The old linear accelerator did not have these

capabilities and was not designed to be used for this technique. These groups of patients would need to receive all of their treatment in Hartford or Manchester because SBRT is not available in Enfield.

Rapid Arc Intensity Modulated Radiation Therapy (RA-IMRT)

This is a new but commonly used radiation technique. It is used to treat many tumor types including prostate cancer, cancers of the head and neck, lung and pelvic malignancies. RA-IMRT allows for the rapid delivery of radiation therapy improving the accuracy of the treatment by avoiding target movement known to happen during prolonged treatment times. RA-IMRT relies on the use of precise image guidance, fine radiation beam shaping and a high radiation delivery rate. The old linear accelerator did not have these capabilities and was not designed to be used for this technique. Physician and physicist concerns around treatment accuracy in complex cases require these patients to receive all of their treatment in Hartford or Manchester because RA-IMRT is not available on the existing linear accelerator.

- Using the attachment, revise and resubmit the payer mix for Fiscal Years (FY) 2014 through FY 2018. Base the projected years (FYs 2015-18) on actual results from the last full completed year (FY 2014).

Response:

As requested, the Applicant has updated the current and projected payer mix to utilize the payer mix for FY 2014 as the baseline for the payer mix projections.

Please note, the Applicant's projection period, as presented in Financial Attachment I was FY2015 through FY2019. FY2019 was inadvertently excluded from Table 7 as it originally appeared on page 36 of the CON application. The table below now provides the revised patient payer mix for the projected years through FY 2019.

The patient volume for the projected years was determined using the treatment volume presented in Financial Attachment I and assumes that the number of treatments per patient will remain constant at the rate observed in FY 2014 (3,437 treatments for 90 patients equates to approximately 38 treatments per unique patient).

**TABLE 7
APPLICANT'S CURRENT & PROJECTED PAYER MIX**

Payer	FY 2014		Projected									
			FY 2015		FY 2016		FY 2017		FY 2018		FY 2019	
	Patients	%										
Medicare*	72	53%	89	53%	66	53%	89	53%	89	53%	89	53%
Medicaid*	9	7%	11	7%	8	7%	11	7%	11	7%	11	7%
CHAMPUS & TriCare	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total Government	0	60%										
Commercial Insurers	54	40%	66	40%	50	40%	66	40%	66	40%	66	40%
Uninsured	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Workers Compensation	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total Non-Government	54	40%	66	40%	50	40%	66	40%	66	40%	66	40%
Total Payer Mix	135	100%	166	100%	125	100%	166	100%	166	100%	166	100%

*Includes managed care activity.

Greer, Leslie

From: Martone, Kim
Sent: Wednesday, June 03, 2015 3:39 PM
To: Riggott, Kaila
Cc: Greer, Leslie; Hansted, Kevin
Subject: FW: NRRON Request for Expedited Review
Attachments: NRRON Request for Expedited Review Submitted 06032015.pdf

Importance: High

From: Kline, Gina C [<mailto:gkline@echn.org>]
Sent: Wednesday, June 03, 2015 3:35 PM
To: Martone, Kim
Cc: Mcconville, Dennis P; DelGallo, Daniel J; Lazarus, Steven
Subject: NRRON Request for Expedited Review
Importance: High

Kim,

Please find attached a letter from Dennis McConville regarding NRRON's request for an expedited review of Docket Number 15-32001-CON.

A hardcopy of the letter is being sent regular mail for your records.

Thank you!
-Gina

Gina C. Kline, MHS

Director, Planning and System Development
Eastern Connecticut Health Network (ECHN)
71 Haynes Street
Manchester, CT 06040
(860)646-1222 x2748
gkline@echn.org

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www.echn.org

June 3, 2015

Janet Brancifort, Deputy Commissioner
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308

Re: Certificate of Need Application, Docket Number 15-32001-CON
Northeast Regional Radiation Oncology Network, Inc. ("NRRON")
Replacement of an Existing Non-Hospital-Based Linear Accelerator in Enfield

Dear Deputy Commissioner Brancifort:

On May 27, 2015, NRRON filed a Certificate of Need ("CON") request to acquire a non-hospital-based linear accelerator to replace the existing linear accelerator at its Enfield location. As discussed in the CON application, the existing linear accelerator is past its useful life expectancy and has been experiencing, with increasing frequency and duration, on-going age-related problems. While it was NRRON's intention to continue operating the existing linear accelerator until a decision regarding the acquisition of its replacement was made by the Office of Health Care Access ("OHCA"), **a critical failure of the equipment has occurred resulting in the immediate and indefinite suspension of radiation therapy services in Enfield.**

Equipment issues that bring the linear accelerator offline have been occurring on average two or three times a month over the last year and a half. The linear accelerator was actually offline at the time the CON was submitted, but it was expected that a temporary fix could be put in place pending replacement of the linear accelerator, and that service could be restored to patients quickly. On Monday, June 1st, however, we learned that the current issues with the linear accelerator are more severe than in the past. The estimated cost of the current repairs exceeds \$120,000, without any assurance that they will be successful. As a result of this exorbitant expense, the uncertainty surrounding the success of the proposed repairs, and growing concerns regarding patient safety and the overall quality of services provided by the failing linear accelerator, the Board has determined that repairs to the linear accelerator are not prudent and that separate arrangements will need to be made to ensure continued radiation therapy services for patients seen at NRRON's Enfield location unless and until a new linear accelerator can be put into operation at the site (pending CON authorization).

June 3, 2015

Page 2

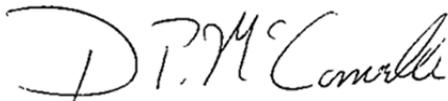
A navigator from NRRON is currently available to assist patients in rescheduling their radiation therapy treatments at the Manchester location or in Hartford as desired, but patients have been very frustrated by this unexpected change in their care delivery. While the navigator is helping to coordinate transportation where ever possible so that patients may continue to receive their radiation therapy treatments as planned, more than half of the patients receiving treatment are over the age of 65 and traveling the additional twenty-five to thirty minutes to Manchester or Hartford several times each week to receive their treatments is difficult.

As discussed in the CON application, the closure of the Enfield location significantly decreases patient access to radiation therapy services and negatively impacts long-term access to these services for vulnerable populations in the Enfield area, including the elderly, Medicaid recipients and indigent persons. **Given the immediate and negative impact on patient access that has developed as a result of the unplanned closure of the Enfield site, we are respectfully requesting that OHCA expedite their review of the CON application referenced above and render a decision as quickly as possible** so that NRRON can proceed with plans to install the replacement linear accelerator or make arrangements to permanently transition patients to other radiation therapy providers.

If the CON is authorized, NRRON is prepared to begin renovations immediately and would plan to have the new linear accelerator in operation as quickly as possible, but certainly no later than the December 31, 2015 date proposed in the CON application. Given this, the volume and financial projections presented in the application if the CON is approved remain valid. The impact without CON authorization is the same, only on an accelerated schedule, with the volumes for the Enfield site dropping to zero beginning in June of 2015 (instead of January 2016). Swift review of NRRON's application and CON authorization to replace the linear accelerator will restore patient access to radiation therapy services in Enfield.

If you have any questions regarding this Certificate of Need Application, please do not hesitate to give me a call at (860) 533-3429.

Sincerely,

A handwritten signature in black ink, appearing to read "D.P. McConville". The signature is written in a cursive, somewhat stylized font.

Dennis P. McConville
Chairman, NRRON

cc: Daniel J. DelGallo, Executive Director, NRRON



Eastern Connecticut Health Network
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Manchester, CT 06040
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June 3, 2015

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June 3, 2015

Page 2

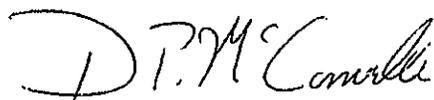
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Sincerely,



Dennis P. McConville
Chairman, NRRON

cc: Daniel J. DelGallo, Executive Director, NRRON

Greer, Leslie

From: Schaeffer-Helmecki, Jessica
Sent: Wednesday, June 24, 2015 9:53 AM
To: Greer, Leslie
Cc: Riggott, Kaila; Carney, Brian
Subject: FW: NRRON LINAC Acquisition - Docket Number 15-32001-CON
Attachments: NRRON Linac Completeness Response 15.32001.CON.PDF; NRRON Linac Completeness Response 15.32001.CON.DOCX

Importance: High

Hey Leslie, would you please add this correspondence to the above docket number? Thank you!

From: Mcconville, Dennis P [<mailto:dmconville@echn.org>]
Sent: Wednesday, June 24, 2015 9:48 AM
To: Carney, Brian
Cc: Riggott, Kaila; Schaeffer-Helmecki, Jessica; DelGallo, Daniel J; Kline, Gina C
Subject: RE: NRRON LINAC Acquisition - Docket Number 15-32001-CON
Importance: High

Good morning Brian,

Please find the attached letter containing the responses to your questions for NRRON's application requesting approval to acquire a linear accelerator at its Enfield location (Docket Number 15-32001-CON).

Best regards,

Dennis P. McConville
Chairman
Northeast Regional Radiation Oncology Network, Inc.
(860) 533-3429 (office)
(860) 647-6860 (fax)
dmconville@echn.org

From: Carney, Brian [<mailto:Brian.Carney@ct.gov>]
Sent: Monday, June 22, 2015 10:12 AM
To: Mcconville, Dennis P
Cc: Riggott, Kaila; Schaeffer-Helmecki, Jessica
Subject: NRRON LINAC Acquisition - Docket Number 15-32001-CON

Dear Mr. McConville,

Please provide OHCA with the following information regarding NRRON's application requesting approval to acquire a linear accelerator at its Enfield location (Docket Number 15-32001-CON).

- 1) Page 8 states that the proposal "...improves access to treatments that cannot currently be performed on the existing linear accelerator due to its advanced age." Please elaborate on this statement and provide the types of treatments/treatment methods that will now be available to patients as a result of acquiring the new LINAC.
- 2) Using the attachment, revise and resubmit the payer mix for Fiscal Years (FY) 2014 through FY 2018. Base the projected years (FYs 2015-18) on actual results from the last full completed year (FY 2014).

Please provide this information via email by 12 noon on June 26, 2015.

In addition to myself brian.carney@ct.gov, please copy Kaila.riggott@ct.gov and Jessica.Schaeffer-Helmecki@ct.gov .

Sincerely,
Brian Carney

Brian A. Carney, MBA

Associate Research Analyst
CT Department of Public Health
Office of Health Care Access
410 Capitol Avenue, MS #13HCA
P.O. Box 340308
Hartford, CT 06134-0308

Phone: (860) 418-7014
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Email: brian.carney@ct.gov
Web: www.ct.gov/ohca

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June 24, 2015

Brian Carney, Associate Research Analyst
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
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Re: Certificate of Need Application, Docket Number 15-32001-CON
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Response:

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Electrons are used to treat superficial tumors like skin cancer. For breast cancer patients, electrons are used to treat the chest wall after a mastectomy or a superficial tumor bed after breast conserving surgery. These groups of patients would need to receive some or all of their treatment in Hartford or Manchester because the existing linear accelerator in Enfield does not have the capability to deliver electron therapy.

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Stereotactic Body Radiation Therapy (SBRT)

This is a new but commonly used radiation technique. While it is used to treat many tumor types it is most often used in early stage lung cancer. As a result of more aggressive screening programs for high risk populations, early stage lung cancer is now a common diagnosis. SBRT has allowed for improved local control for early stage lung cancer patients compared to older radiation techniques. SBRT relies on the use of precise image guidance, fine radiation beam shaping and a high radiation delivery rate. The old linear accelerator did not have these

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- Using the attachment, revise and resubmit the payer mix for Fiscal Years (FY) 2014 through FY 2018. Base the projected years (FYs 2015-18) on actual results from the last full completed year (FY 2014).

Response:

As requested, the Applicant has updated the current and projected payer mix to utilize the payer mix for FY 2014 as the baseline for the payer mix projections.

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*Includes managed care activity.

Please let me know if you need any additional information regarding NRRON's application. If you have additional questions, please do not hesitate to give me a call at (860) 533-3429.

Sincerely,

Dennis P. McConville
Chairman

CC: Daniel DelGallo, Executive Director



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100 Haynes Street
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June 24, 2015

Brian Carney, Associate Research Analyst
Department of Public Health - Office of Health Care Access
410 Capitol Avenue, MS# 13HCA
P.O. Box 340308
Hartford, CT 06134-0308



Re: Certificate of Need Application, Docket Number 15-32001-CON
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The existing linear accelerator is a single energy machine (6 MV photons) and does not have the capability to delivery high energy photons. Newer machines are equipped to deliver both high and low energy photons (for example 6 MV and 10 MV or 6 MV and 18 MV photons). 6 MV photons are appropriate for treatment of many patients, but may not be appropriate treatment for large patients with centrally located tumors (chest, abdomen or pelvis) or breast cancer patients with large breasts. Using 6 MV photons in these patients may result in more toxicity as more of the dose may be given to normal tissue for the radiation to treat a deep or thick target. These groups of patients would need to receive some or all of their treatment in Hartford or Manchester because the existing linear accelerator in Enfield does not have the capability provide high-energy radiation.

Stereotactic Body Radiation Therapy (SBRT)

This is a new but commonly used radiation technique. While it is used to treat many tumor types it is most often used in early stage lung cancer. As a result of more aggressive screening programs for high risk populations, early stage lung cancer is now a common diagnosis. SBRT has allowed for improved local control for early stage lung cancer patients compared to older radiation techniques. SBRT relies on the use of precise image guidance, fine radiation beam shaping and a high radiation delivery rate. The old linear accelerator did not have these

capabilities and was not designed to be used for this technique. These groups of patients would need to receive all of their treatment in Hartford or Manchester because SBRT is not available in Enfield.

Rapid Arc Intensity Modulated Radiation Therapy (RA-IMRT)

This is a new but commonly used radiation technique. It is used to treat many tumor types including prostate cancer, cancers of the head and neck, lung and pelvic malignancies. RA-IMRT allows for the rapid delivery of radiation therapy improving the accuracy of the treatment by avoiding target movement known to happen during prolonged treatment times. RA-IMRT relies on the use of precise image guidance, fine radiation beam shaping and a high radiation delivery rate. The old linear accelerator did not have these capabilities and was not designed to be used for this technique. Physician and physicist concerns around treatment accuracy in complex cases require these patients to receive all of their treatment in Hartford or Manchester because RA-IMRT is not available on the existing linear accelerator.

- Using the attachment, revise and resubmit the payer mix for Fiscal Years (FY) 2014 through FY 2018. Base the projected years (FYs 2015-18) on actual results from the last full completed year (FY 2014).

Response:

As requested, the Applicant has updated the current and projected payer mix to utilize the payer mix for FY 2014 as the baseline for the payer mix projections.

Please note, the Applicant's projection period, as presented in Financial Attachment I was FY2015 through FY2019. FY2019 was inadvertently excluded from Table 7 as it originally appeared on page 36 of the CON application. The table below now provides the revised patient payer mix for the projected years through FY 2019.

The patient volume for the projected years was determined using the treatment volume presented in Financial Attachment I and assumes that the number of treatments per patient will remain constant at the rate observed in FY 2014 (3,437 treatments for 90 patients equates to approximately 38 treatments per unique patient).

**TABLE 7
APPLICANT'S CURRENT & PROJECTED PAYER MIX**

Payer	FY 2014		Projected									
			FY 2015		FY 2016		FY 2017		FY 2018		FY 2019	
	Patients	%										
Medicare*	72	53%	89	53%	66	53%	89	53%	89	53%	89	53%
Medicaid*	9	7%	11	7%	8	7%	11	7%	11	7%	11	7%
CHAMPUS & TriCare	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total Government	0	60%										
Commercial Insurers	54	40%	66	40%	50	40%	66	40%	66	40%	66	40%
Uninsured	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Workers Compensation	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total Non-Government	54	40%	66	40%	50	40%	66	40%	66	40%	66	40%
Total Payer Mix	135	100%	166	100%	125	100%	166	100%	166	100%	166	100%

*Includes managed care activity.

Please let me know if you need any additional information regarding NRRON's application. If you have additional questions, please do not hesitate to give me a call at (860) 533-3429.

Sincerely,

A handwritten signature in blue ink, appearing to read "D.P. McConville", with a long horizontal line extending to the left and a checkmark-like flourish on the right.

Dennis P. McConville
Chairman

CC: Daniel DeGallo, Executive Director

Greer, Leslie

From: Schaeffer-Helmecki, Jessica
Sent: Friday, June 26, 2015 2:51 PM
To: Greer, Leslie
Subject: FW: CON Application 15-32001
Attachments: 32001 deemed complete.pdf

Dear Ms. Greer, would you please do me the honor of adding the below correspondence to the record? Thank you!

From: Schaeffer-Helmecki, Jessica
Sent: Friday, June 26, 2015 2:50 PM
To: 'dmccconville@echn.org'
Cc: Carney, Brian; Riggott, Kaila
Subject: CON Application 15-32001

Dear Mr. McConville:

Attached please find a letter notifying NRRON that the Office of Health Care Access has deemed its application for the acquisition of a Linear Accelerator to be complete.

Thank you,

Jessica Schaeffer-Helmecki
Office of Health Care Access
Department of Public Health
410 Capitol Avenue, MS #13HCA
Hartford, CT 06134

(860) 509-8075



STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH
Office of Health Care Access

VIA EMAIL ONLY

June 26, 2015

Dennis P. McConville
Chairman
Northeast Regional Radiation Oncology Network, Inc.
71 Haynes Street
Manchester, CT 06040

RE: Certificate of Need Application, Docket Number 15-32001-CON
Northeast Regional Radiation Oncology Network, Inc.
Acquisition of a Linear Accelerator

Dear Mr. McConville:

This letter is to inform you that, pursuant to Section 19a-639a (d) of the Connecticut General Statutes, the Office of Health Care Access has deemed the above-referenced application complete as of June 26, 2015.

If you have any questions regarding this matter, please feel free to contact me at (860) 509-8075 or Brian Carney at (860) 418-7014.

Sincerely,


Jessica Schaeffer-Helmecki
Planning Analyst (CCT)

An Equal Opportunity Provider

(If you require aid/accommodation to participate fully and fairly, contact us either by phone, fax or email)

410 Capitol Ave., MS#13HCA, P.O.Box 340308, Hartford, CT 06134-0308
Telephone: (860) 418-7001 Fax: (860) 418-7053 Email: OHCA@ct.gov



STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH
Office of Health Care Access

July 27, 2015

IN THE MATTER OF:

An Application for a Certificate of Need filed
Pursuant to Section 19a-638, C.G.S. by:

Notice of Final Decision
Office of Health Care Access
Docket Number: 15-32001-CON

**Northeast Regional Radiation Oncology
Network, Inc. (NRRON)**

**Acquisition of a Linear Accelerator
("LINAC")**

Mr. Dennis P. McConville
Chairman, NRRON
ECHN
71 Haynes Street
Manchester, CT 06040

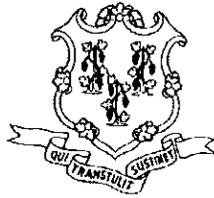
Dear Mr. McConville:

This letter will serve as notice of the approved Certificate of Need Application in the above referenced matter. On July 27, 2015, the Final Decision, attached hereto, was adopted and issued as an Order by the Department of Public Health, Office of Health Care Access.

Kimberly R. Martone
Director of Operations

Enclosure
KRM:bc

An Equal Opportunity Provider
(If you require aid/accommodation to participate fully and fairly, contact us either by phone, fax or email)
410 Capitol Ave., MS#13HCA, P.O.Box 340308, Hartford, CT 06134-0308
Telephone: (860) 418-7001 Fax: (860) 418-7053 Email: OHCA@ct.gov



**Department of Public Health
Office of Health Care Access
Certificate of Need Application**

Final Decision

Applicant: Northeast Regional Radiation Oncology Network, Inc.
100 Haynes Street
Manchester, CT 06040

Docket Number: 15-32001-CON

Project Title: Acquisition of a Linear Accelerator ("LINAC")

Project Description: Northeast Regional Radiation Oncology Network, Inc. d/b/a Community Cancer Care is proposing to acquire and operate a linear accelerator ("LINAC") at the Johnson Memorial Cancer Center at 142 Hazard Avenue, Enfield, with an associated capital cost of \$1,720,000.

Procedural History: The Applicant published notice of its intent to file a Certificate of Need ("CON") application in *The Journal Inquirer* (Manchester) on April 29, 30 and May 1, 2015. On May 27, 2015, the Office of Health Care Access ("OHCA") received the CON application from the Applicant for the above-referenced project and deemed the application complete on June 26, 2015. OHCA received no responses from the public concerning the proposal and no hearing requests were received from the public per Connecticut General Statutes ("Conn. Gen. Stat.") § 19a-639a(e). Deputy Commissioner Brancifort considered the entire record in this matter.

Findings of Fact and Conclusions of Law

To the extent the findings of fact actually represent conclusions of law, they should be so considered, and vice versa. *SAS Inst., Inc., v. S & H Computer Systems, Inc.*, 605 F. Supp. 816 (Md. Tenn. 1985).

1. Northeast Regional Radiation Oncology Network, Inc. (“NRRON” or “Applicant”) is a non-profit joint venture consisting of three members: Johnson Memorial Hospital, Rockville General Hospital and Manchester Memorial Hospital. Ex. A, p. 9; Docket Number: 14-31960-MDF.
2. NRRON provides community-based radiation therapy services for cancer patients at two licensed outpatient clinics: the John DeQuattro Community Cancer Center in Manchester and the Johnson Memorial Cancer Center in Enfield (“Enfield”). Ex. A, p. 9.
3. NRRON proposes to acquire a linear accelerator (“LINAC”) for the Enfield location. Ex. A, p. 8.
4. The existing Enfield LINAC, originally approved by OHCA on January 17, 1997 (Docket Number: 95-534), has been in operation since 1998 and is now aged past its useful life expectancy of eight to ten years. Ongoing age-related problems include increased frequency of downtime, lack of precision measurement, technological limitations and a high cost for repairs and replacement parts. Ex. A, pp. 8-9.
5. The existing LINAC will remain operational during the initial phase of renovations, but will be taken off-line and removed from service beginning October 1, 2015. Ex. A, p. 10.
6. The inconsistency of the LINAC’s functionality has had a negative impact on patient care resulting in the rescheduling of exams, delays in cancer treatment, and in certain circumstances, unnecessary radiation exposure to update patient treatment plans. Ex. A, p. 9.
7. The new LINAC will be able to provide specific treatments that cannot be currently performed on the existing machine. These treatments include: electron beam therapy, used to treat the chest wall after mastectomy or the treatment of superficial tumors like skin cancer; high energy radiation, used for large patients with centrally located tumors (chest, abdomen, or pelvis); stereotactic body radiation therapy (SBRT), used in early stage lung cancer; and rapid arc intensity modulated radiation therapy (RA-IMRT), used to treat many tumor types including prostate cancer, cancers of the head and neck, lung and pelvic malignancies. Ex. A, pp. 8, 17; Ex. C, pp. 209-210.

8. The majority (84%) of patients receiving radiation therapy at NRRON’s Enfield location resided in Enfield and surrounding towns.

**TABLE 1
 SERVICE AREA TOWNS**

Town	Patient Town of Origin
Enfield	37%
Stafford/Union	9%
Windsor Locks	9%
Somers	8%
Suffield	6%
East Windsor	6%
Windsor	6%
Ellington	3%

Ex. A, pp. 33.

9. Using National Cancer Institute statistics (for all cancer types) as a basis for estimating the incidence and prevalence of cancer in the service area, there are approximately 6,800 patients that are currently living with cancer in the service area and approximately 700 new patients will be diagnosed with cancer each year. Ex. A, p. 15.
10. Historical volumes from FY 2012-2014 have averaged approximately 3,500 radiation therapy visits per year. FY 2015 volume is projected to increase based on year-to-date volumes from October 2014 through April 2015.

**TABLE 2
 ENFIELD SITE - HISTORICAL UTILIZATION BY SERVICE**

Service	Actual Volume (Last 3 Completed FYs)			CFY Volume
	FY 2012	FY 2013	FY 2014	FY 2015*
Radiation Therapy Visits	3,511	3,636	3,437	4,226
Total	3,511	3,636	3,437	4,226

*Volume was annualized using 10/1/2014 through 04/30/2015 historical volumes.

Ex. A, p. 35.

11. Projected radiation therapy volume at the Enfield location is expected to remain stable from FY 2016 through FY 2019.

**TABLE 3
 ENFIELD SITE - PROJECTED UTILIZATION BY SERVICE**

Service	Projected Volume			
	FY 2016*	FY 2017	FY 2018	FY 2019
Radiation Therapy Visits	3,170	4,226	4,226	4,226
Total	3,170	4,226	4,226	4,226

*FY 2016 projections assume that the Enfield site will be unavailable for three months to allow for the installation of the new LINAC.

Ex. A, p. 35.

12. The Applicant does not anticipate any changes in payer mix at its Enfield site as a result of this proposal.

**TABLE 4
 APPLICANT'S CURRENT & PROJECTED PAYER MIX**

Payer	FY 2014		Projected									
			FY 2015		FY 2016 ¹		FY 2017		FY 2018		FY 2019	
	Patients	%	Patients	%	Patients	%	Patients	%	Patients	%	Patients	%
Medicare*	72	53%	89	53%	66	53%	89	53%	89	53%	89	53%
Medicaid*	9	7%	11	7%	8	7%	11	7%	11	7%	11	7%
CHAMPUS & TriCare	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total Government	0	60%	0	60%	0	60%	0	60%	0	60%	0	60%
Commercial Insurers	54	40%	66	40%	50	40%	66	40%	66	40%	66	40%
Uninsured	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Workers Compensation	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total Non-Government	54	40%	66	40%	50	40%	66	40%	66	40%	66	40%
Total Payer Mix	135	100%	166	100%	125	100%	166	100%	166	100%	166	100%

*Includes managed care activity.

¹FY 2016 projections assume that the Enfield site will be unavailable for three months to allow for the installation of the new LINAC.

Ex. A, p. 27; Ex. C, p. 210.

13. Acquisition of the new LINAC will not require any changes in the existing price structure and no additional facility fees will be imposed as the result of this proposal. Ex. A, p. 19.

14. The proposal will have incremental losses in the first three full years of operation due to the acquisition costs (e.g., depreciation, interest) of the new LINAC and no additional revenue.

TABLE 5
PROJECTED INCREMENTAL REVENUES AND EXPENSES

	FY 2016 ¹	FY 2017	FY 2018	FY 2019
Revenue from Operations	\$1,116,790	\$1,512,673	\$1,537,373	\$1,562,815
Total Operating Expenses	\$1,208,514	\$1,581,191	\$1,208,514	\$1,595,499
Gain/Loss from Operations	(\$91,724)	(\$68,518)	(\$51,096)	(\$32,684)

FY 2016 projections assume that the Enfield site will be unavailable for three months to allow for the installation of the new LINAC.

Ex. A, p. 205.

15. Despite incremental losses, NRRON is projecting positive margins overall following the implementation of the proposal.

TABLE 6
PROJECTED REVENUES AND EXPENSES WITH CON

	FY 2016	FY 2017	FY 2018	FY 2019
Total Operating Revenue	\$6,534,161	\$6,665,993	\$6,774,822	\$6,886,917
Total Operating Expenses	\$6,431,931	\$6,649,349	\$6,721,700	\$6,794,778
Gain/Loss from Operations	\$102,230	\$16,644	\$53,122	\$92,139

Ex. A, p. 205.

16. OHCA is currently in the process of establishing its policies and standards as regulations. Therefore, OHCA has not made any findings as to this proposal's relationship to any regulations not yet adopted by OHCA. (Conn. Gen. Stat. § 19a-639(a)(1))
17. This CON application is consistent with the overall goals of the Statewide Health Care Facilities and Service Plan. (Conn. Gen. Stat. § 19a-639(a)(2))
18. The Applicant has established that there is a clear public need for the proposal. (Conn. Gen. Stat. § 19a-639(a)(3))
19. The Applicant has demonstrated that the proposal is financially feasible. (Conn. Gen. Stat. § 19a-639(a)(4))
20. The Applicant has satisfactorily demonstrated that the proposal will maintain quality, accessibility and cost effectiveness of health care delivery in the region. (Conn. Gen. Stat. § 19a-639(a)(5))
21. The Applicant has shown that there would be no adverse change in the provision of health care services to the relevant populations and payer mix, including access to services by Medicaid recipients and indigent persons. (Conn. Gen. Stat. § 19a-639(a)(6))

22. The Applicant has satisfactorily identified the population to be affected by this proposal. (Conn. Gen. Stat. § 19a-639(a)(7))
23. The Applicant's historical provision of radiation therapy services in the area supports this proposal. (Conn. Gen. Stat. § 19a-639(a)(8))
24. The Applicant has satisfactorily demonstrated that this proposal would not result in an unnecessary duplication of existing services in the area. (Conn. Gen. Stat. § 19a-639(a)(9))
25. The Applicant has demonstrated that there will be no reduction in access to services by Medicaid recipients or indigent persons. (Conn. Gen. Stat. § 19a-639(a)(10))
26. The Applicant has satisfactorily demonstrated that the proposal will not have a negative impact on the diversity of health care providers in the area. (Conn. Gen. Stat. § 19a-639(a)(11))
27. The Applicant has satisfactorily demonstrated that the proposal will not result in any consolidation that would affect health care costs or accessibility to care. (Conn. Gen. Stat. § 19a-639(a)(12))

DISCUSSION

CON applications are decided on a case by case basis and do not lend themselves to general applicability due to the uniqueness of the facts in each case. In rendering its decision, OHCA considers the factors set forth in § 19a-639(a) of the Statutes. The Applicant bears the burden of proof in this matter by a preponderance of the evidence. *Jones v. Connecticut Medical Examining Board*, 309 Conn. 727 (2013).

Northeast Regional Radiation Oncology Network, Inc. (“NRRON” or “Applicant”) is a non-profit joint venture consisting of three members: Johnson Memorial Hospital, Rockville General Hospital and Manchester Memorial Hospital. *FF1* NRRON provides community-based radiation therapy services for cancer patients at two licensed outpatient clinics: the John DeQuattro Community Cancer Center in Manchester and the Johnson Memorial Cancer Center in Enfield (“Enfield”). *FF2* NRRON has operated a single LINAC at its Enfield location since 1998 and the machine has now surpassed its useful life expectancy of eight to ten years. Ongoing age-related problems include frequency of downtime, lack of precision measurement, technological limitations and high cost for repairs and replacement parts. *FF4* In addition, the LINAC’s age-related functionality has had a negative impact on patient care, causing exams to be rescheduled, delayed treatments, and in certain circumstances, unnecessary radiation exposure to update patient treatment plans. *FF6* As a result, NRRON has requested approval to acquire a new LINAC. *FF3*

NRRON’s Enfield location primarily serves patients in Enfield and surrounding towns. *FF8*. The service area is estimated to have 6,800 patients that are currently living with cancer and 700 new patients that will be diagnosed with cancer each year. *FF9* In serving this population, the Enfield location has averaged approximately 3,500 radiation therapy visits per year. *FF10* The new LINAC will provide patients in the area access to electron beam therapy, high energy radiation, stereotactic body radiation therapy (SBRT) and rapid arc intensity modulated radiation therapy (RA-IMRT) treatments that are not currently available at the Enfield location. *FF7*

Acquisition of the new LINAC will not result in any changes to the payer mix or the existing price structure and no additional facility fees will be imposed. *FF12-13* Although the Applicant is projecting incremental losses from operations as a result of the proposal, overall positive margins will still be achieved. *FF14-15* Thus, the Applicant has demonstrated that the proposal is financially feasible.

As a result of these combined factors, the Applicant has satisfactorily demonstrated that there is a clear public need for the proposal and that quality of care will improve through increased access to a greater array of radiation therapy treatments. Therefore, the Applicant has demonstrated that the proposal is consistent with the goals of the Statewide Health Care Facilities and Services Plan.

Order

Based upon the foregoing Findings and Discussion, the Certificate of Need application of Northeast Regional Radiation Oncology Network, Inc. d/b/a Community Cancer Care for the acquisition of a linear accelerator at its Enfield location is hereby **APPROVED**.

All of the foregoing constitutes the final order of the Office of Health Care Access in this matter.

By Order of the
Department of Public Health
Office of Health Care Access

July 27, 2015
Date

Janet M. Brancifort
Janet M. Brancifort, MPH, RRT
Deputy Commissioner

* * * COMMUNICATION RESULT REPORT (JUL. 28. 2015 12:01PM) * * *

FAX HEADER:

TRANSMITTED/STORED : JUL. 28. 2015 11:59AM
FILE MODE OPTION

ADDRESS

RESULT

PAGE

194 MEMORY TX

98606476860

OK

10/10

REASON FOR ERROR
E-1) HANG UP OR LINE FAIL
E-3) NO ANSWERE-2) BUSY
E-4) NO FACSIMILE CONNECTION

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH CARE ACCESS

FAX SHEET

TO: Mr. Dennis P. McConville
Chairman, NRRON

FAX: (860) 647-6860

AGENCY: Northeast Regional Radiation Oncology Network, Inc.

FROM: Brian A. Carney, OHCA, (860) 418-7014

DATE: 7/28/2015 TIME: _____

NUMBER OF PAGES: 10
(including transmittal sheet)

Comments: 15-32001-CON
NRRON acquisition of a LINAC: Final Decision

PLEASE PHONE IF THERE ARE ANY TRANSMISSION PROBLEMS.

Phone: (860) 418-7001

Fax: (860) 418-7053

410 Capitol Ave., MS#13HCA
P.O.Box 340308
Hartford, CT 06134

Huber, Jack

From: Huber, Jack
Sent: Tuesday, July 28, 2015 5:02 PM
To: dmconville@echh.org
Cc: Roberts, Karen
Subject: Notice of CON Expiration Date for the Final Decision Rendered under Docket Number: 15-32001-CON

Dear Mr. McConville:

On July 27, 2015, in a final decision under Docket Number: 15-32001-CON, the Office of Health Care Access authorized a Certificate of Need ("CON") to Northeast Regional Radiology Oncology Network, Inc. d/b/a Community Cancer Center for the acquisition and operation of a linear accelerator at Johnson Memorial Cancer Center in Enfield. Pursuant to Section 19a-639b of the Connecticut General Statutes ("C.G.S."), *"a certificate of need shall be valid for two years from the date of issuance by this office."*

With this letter, please be advised that pursuant to Section 19a-639b, C.G.S., the current CON authorization issued under Docket Number: 15-32001-CON will expire on July 27, 2017. Please contact me at (860) 418-7069 or Karen Roberts, Principal Health Analyst at (860) 418-7041, if you have any questions regarding this notification.

Sincerely,

Jack A. Huber

Jack A. Huber
Health Care Analyst
Department of Public Health | Office of Health Care Access | 410 Capitol Avenue
P.O. Box 340308 MS #13HCA | Hartford, CT 06134 | Ph: 860-418-7069 | Fax: 860-418-7053 | email: Jack.Huber@ct.gov