

University of North Carolina (UNC) Hospitals  
 Radiation Therapy Program (JRCERT 0906)  
 Assessment Plan: Analysis and Actions  
 Fall (1<sup>st</sup> semester) 2021 – Summer (3<sup>rd</sup> semester) 2022

Completed July, 2021

**Mission Statement: The UNC Hospitals Radiation Therapy Program will prepare competent, educated, and professional entry-level radiation therapists who will participate in scholarly activity and enhance overall patient care.**

**Goal 1: Students will be clinically competent.**

Outcome	Measures	Benchmarks	Assessment Schedule	Responsible Person(s)	Results	Metrics	Action Plans
Students will demonstrate acquisition of correct CT-Simulation skills.	1) Overall Radiation Therapy Clinical Evaluation Form: specifically overall clinical adaptability and clinical performance on the CT -Simulation rotation) (questions 1 &4)	1) 100% of students will have at least a 3 on a 5 point scale in the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters; and to demonstrate continuous improvement, average a 4 on a 5 point scale in the 3 <sup>rd</sup> semester	1) Formative: 1 <sup>st</sup> and 2 <sup>nd</sup> semesters; Summative 3 <sup>rd</sup> semester	Program Director (reported annually to the advisory committee)	2020: 4.9 2019: 4.8 2018: 4.8 2017: 4.7 2016: 4.7 2015: 4.6 2014: 4.5	100% of students 2014-2020 met benchmark goals. Average scores are increasing over the past 6 years. There were a total of 21 students over the past seven years; each student averages 280 total contact hours in the CT-Simulation clinical rotations.	Our clinical CT-Simulation clinical rotation scores continue to improve, even as set-ups continuously become more complicated. The program will continue to assess improved overall student conceptualization of clinical process and knowledge theory through faculty and staff feedback loops.
	2) Graduate survey (IIF)	2) 100% of students will have at least a 4 on a 5 point scale	Annually	Program Director reported annually to the advisory committee	2020: 4.9 2019: 4.9 2018: 4.9 2017: 4.9 2016: 4.9 2015: 4.8 2014: 4.7	100% of students 2014-2020 met benchmark goal. Average scores increasing over the past 6 years.	From 2014-2020 we received 15/25 graduate surveys. We have designed, implemented, and evaluated CT-Simulation didactic laboratory

							sessions. The program will assess if this course needs to expand to include emerging technology.
	3) Employer survey (IIG,H)	3) 100% of students will have at least a 4 on a 5 point scale	Annually	Program Director Reported to Advisory Committee	2020: 4.7 2019: 4.65 2018: 4.6 2017: 4.6 2016: 4.6 2015: 4.5	100% of students 2015-2020 met benchmark goal. Average scores increasing over the past 5 years.	From 2011-2020 we received 17/20 employer surveys. There were no explicit comments from employers given on CT-Sim areas that needed improvement . The program will continue to monitor.
	4) Student Program Exit Surveys	4)100% of students will pass the required CT-Simulation clinical competencies and will not exceed more than two failed competencies.	Annually	Program Director Reported to Advisory Committee	2020: 100% 2019: 100% 2018: 100% 2017: 100% 2016: 100% 2015: 100%	100% of students 2014-2020 met benchmark goal. Average scores increasing over the past 5 years.	Since 2015 we have evaluated 24/24 student program exit assessment surveys. From the 2016 survey, we designed and implemented additional CT laboratory sessions for our students. This is taught as part of the RTT 500 (Foundations of Radiotherapy ) course. The program will continue to monitor.
Students will evidence competency	1) Overall Clinical Treatment Competency Evaluation Form	1) 100% of students will score a mean of at least a 4 on a 5 point scale in the 1 <sup>st</sup>	1) Formative: 1 <sup>st</sup> and 2 <sup>nd</sup> semesters	Program Director (reported annually to	2020: 4.95 2019: 4.9 2018: 4.9 2017: 4.8	100% of students 2015-2020 met benchmark goal. Average scores	The program will continue to monitor emerging

in treatment delivery skills	(8,10,11,12,15,18,19,21,22): reproduces designed set-up, implements correct position, alignment, and wedges; rechecks set-up and downloads correct fields; implements treatment and visually monitors patient and computer; records and documents all information; evaluates that treatment was completed correctly.	and 2 <sup>nd</sup> semesters; and to demonstrate continuous quality improvement at least a 4.5 on a 5 point scale in the 3 <sup>rd</sup> semester	Summative: 3 <sup>rd</sup> semester	the advisory committee)	2016: 4.8 2015:4.8	have increased over the past 5 years. Moreover, students are demonstrating increased knowledge, skills, and abilities as he/she progresses through the program.	technology and that students have adequate knowledge to perform competency level treatments. New objectives for emerging tomotherapy and cyberknife rotations are now in the curriculum; these will continue to be monitored. Our students have 100% completed all required program clinical competencies.
	2) Graduate survey (IC,D)	2) 100% of students will have at least a 4 on a 5 point scale	Annually	Program Director reported annually to the advisory committee	2020: 4.9 2019:4.9 2018:4.9 2017:4.9 2016:4.9 2015: 4.9	100% of students 2015-2020 met benchmark goal. Average scores have consistently remained high over the past 5 years.	From 2015-2020 we received 19/24 graduate surveys. The students were satisfied with their overall competency based treatment delivery skills
	3) Employer survey (IC,D)	3) At least a 4 on a 5 point scale	Annually	Program Director reported	2020:4.9 2019:4.9 2018:4.9 2017:4.9 2016: 4.9 2015: 4.9	100% of students 2015-2020 met benchmark goal. Average scores iconistently remaining high over the past 5 years.	From 2015-2020 we received 19/24 employer surveys. Employers were satisfied with our graduates overall treatment delivery skills.
	4) Student program exit surveys.	4)At the completion of the academic year, upon graduation 100% of students will			2020: 100% 2019: 100%	100% of students 2015-2020 met benchmark goal.	

		record all required program clinical competencies and will not exceed more than two failed competencies.			2018: 100% 2017: 100% 2016: 100% 2015: 100%		Since 2015 we have evaluated 24/24 student program exit assessment surveys. Due to the surveys, we designed, implemented, and evaluated additional competency based clinical rotations in tomotherapy, cyberknife, and medical dosimetry treatment planning (UNC inhouse designed on-line learning modules). The program will continue to monitor.
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**Goal 2: Students will demonstrate effective communication skills.**

Outcome	Measures	Benchmarks	Assessment Schedule	Responsible Person(s)	Results	Metrics	Action Plans
Students will effectively communication skills with patients, therapists, faculty and staff.	1) Weekly Clinical Evaluation (III1) Professional Behavioral Skills Evaluation Component (affective domain)	1) At least a 3 on a 5 point scale in the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters, and a 4 on a 5 point scale in the 3 <sup>rd</sup> semester	1) Formative: 1 <sup>st</sup> and 2 <sup>nd</sup> semesters Summative: 3 <sup>rd</sup> semester	Program Director (reported annually to the advisory committee)	2020: 4.9 2019: 4.8 2018: 4.8 2017: 4.7 2016: 4.7 2015: 4.7	100% of students 2015-2020 met our <u>two</u> benchmark goals. Average scores increasing over the past 5 years.	We will continue to urge clinical instructors and faculty to work extra with our students on treatment and class exercises. We will continue to evaluate our interprofessional education class first, second, and third semesters.
	2) Treatment Competency Evaluation Patient Communication Section(3,4,5)	2) At least a 4 on a 5 point scale in the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters, and a 5 on a 5 point scale in the 3 <sup>rd</sup> semester		Program Director (reported annually to the advisory committee)	2020: 4.9 2019: 4.9 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.8		
	3) Graduate survey (IIIK)	3) At least a 4 on a 5 point scale	Annually	Program Director (reported annually to the advisory committee)	2020: 4.9 2019: 4.9 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.8	100% of our alumni met this benchmark from 2015-2020. Our graduates feel very comfortable in their communication skills.	We will continue to evaluate the interprofessional class. The RTT Program's start and graduation dates were changed to coincide with the UNC Medical Physics and Residencies programs, in 2015.
	4) Employer survey (IIIK)	4) At least a 4 on a 5 point scale	Annually	Program Director (reported annually to the advisory committee)	2020: 4.9 2019: 4.9 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.7	100% of our graduates met this benchmark goal from 2015-2020 with average scores increasing over the past 5 years.	Our employer surveys indicate strong communication skills. The program will need to continually assess how technology effects communication processes.

<p>Students will write at a proficient level by graduation.</p>	<p>1) UNC Research Paper Grading Rubric</p>	<p>1) That each student (100%) will have submitted a research paper for professional publication by the time of his/her graduation.</p>	<p>Formative: 1<sup>st</sup> and 2<sup>nd</sup> semester Summative: 3<sup>rd</sup> semester</p>	<p>Program Director  Reported annually to the advisory committee</p>	<p>2020: 100% 2019: 100% 2018: 100% 2017: 100% 2016: 100% 2015: 100%</p>	<p>100% of students 2015-2020 met benchmark goal for submitting his/her research paper for professional publication. Average scores have been continuous over the past 5 years.</p>	<p>Each student is required to design and write a research paper during the academic year. The grading rubric requires submission to professional publication in order to receive the grade of 'A'. During the past five years, our radiation therapy program has produced 11/24 students whose papers have been published in professional journals. 100% of our graduating students have gone thru the process of submitting their research papers for professional publication. Plan is to continue assessing areas to create knowledge and link to the publications.</p>
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**Goal 3: Students will demonstrate critical thinking skills.**

Outcome	Measures	Benchmarks	Assessment Schedule	Responsible Person(s)	Results	Metrics	Action Plans
Students apply didactic concepts and information into the clinical setting.	1) Weekly Clinical Evaluation, application of knowledge section	1) Students will average at least a 3 on a 5 point scale in the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters, and a 4 on a 5 point scale in the 3 <sup>rd</sup> semester	Formative: 1 <sup>st</sup> and 2 <sup>nd</sup> semesters Summative: 3 <sup>rd</sup> semester	Program Director (reported annually to the advisory committee)	2020: 4.9 2019: 4.8 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.8	100% of our students met this goal from 2015 until 2020. The program continues to maintain a high standard in this area.	With continuous changing technologies and treatments, the program will continue to design curriculum to change with complex clinical changes. This assessment will come from our communities of interest.
	Average of actual scores of all clinical evaluations	2) At least a 4 on a 5 point scale in the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters, and a 4.5 on a 5 scale in the 3 <sup>rd</sup> semester	Formative: 1 <sup>st</sup> and 2 <sup>nd</sup> semesters, Summative: 3 <sup>rd</sup> semesters	Program Director reported annually to the advisory committee.	2020: 4.9 2019: 4.8 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.8	100% of our students met this goal from 2015 until 2020.	Our program will continue to monitor knowledge theory with application theory. A program research interest is the educational theory of this style of knowledge transformation.
Students will conceptualize current patient safety radiation therapy Lean A3 engineering principles	Design, implementation and evaluation of an individual A3 radiation therapy safety problem.	To meet minimal patient safety engineering standards when completing a radiation therapy safety problem and have this accepted for submission to the UNC Departmental Radiation Therapy Human Factors Engineering Division	Completed by graduation	Program Director Reported annually to the advisory committee.	2020: 100% 2019: 100% 2018: 100% 2017: 100% 2016: 100% 2015: 100%	100% of our students have met this goal since its development and implementation with the Class of 2018. Moreover, we have two students submit their A3 to the ASTRO 2016 meeting for professional abstract submission. Our students continue to be involved with Lean Safety concepts and two students have published.	Patient safety standards and quantitative methodologies are an emerging concept in radiation therapy clinical practice. Our program should continue to develop leaders in emerging patient safety processes. Coupled with ASTRO APEx accreditation requirements the program will continue to

							expand these concepts into the curriculum.
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**Goal 4: Students will grow and develop professionally**

Outcome	Measures	Benchmarks	Assessment Schedule	Responsible Person(s)	Results	Metrics	Action Plans
Students will demonstrate professional behaviors.	1) Weekly Clinical Evaluation (III1,2) 2) Overall Clinical Evaluation (2,3)	1,2) At least a 4 on a 5 point scale in the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters, and a 5 on a 5 point scale in the 3 <sup>rd</sup> semester	Formative: 1 <sup>st</sup> and 2 <sup>nd</sup> semesters Summative: 3 <sup>rd</sup> semester	Program Director (reported annually to the advisory committee)	2020:4.95 2019: 4.9 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.8	100% of our graduates met both measures during the past five years.	The issue of health care professional behavior continues to be challenging in a changing social culture. Our students come into the program with various perceptions of professional behavior. During orientation midsemester and post semester conferences, the program director utilizes the outcome metrics to reinforce behavior patterns. The program will continue to monitor and develop methods to increase professional behavior.
	3) Graduate survey (IIIL)	3) At least a 4 on a 5 point scale	Annually	Program Director reported annually to the advisory committee.	2020: 4.9 2019: 4.9 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.8	100% of our graduates met this measure during the past five years.	Our program will continue to integrate professional behavior, dress and appearance as a correlation with earning respect from patients and co-workers.
	4) Employer survey (IIIL)	4) At least a 4 on a 5 point scale	Annually	Annually by program director to the	2020: 4.9 2019: 4.8 2018: 4.8 2017: 4.8	100% of our graduates met this	This demonstrates success to our

				advisory committee	2016: 4.8 2015: 4.7	measure during the past five years.	communities of interest.
Students will participate in continuing education.	1) Graduate survey (IVA,B,C,D)	1) At least a 4 on a 5 point scale	Annually	Annually by program director to the advisory committee	2020: 4.9 2019: 4.9 2018: 4.9 2017: 4.9 2016: 4.9 2015: 4.9	100% of our graduates met this measure during the past five years.	The program will continue assess new academic theories concerning professional education and development. This is an emerging higher education academic field.
	2) Employer survey (IIIO)	2) At least a 4 on a 5 point scale	Annually	Annually by program director to the advisory committee	2020: 4.9 2019: 4.8 2018: 4.8 2017: 4.8 2016: 4.8 2015: 4.8	100% of our graduates met this measure during the past five years.	Our students are taught that creating knowledge and educational inquiry are strong components of being a professional. The program will continue to develop academic theory models to emphasize professional development.