Environmental Scan of the Radiation Therapist's Workplace

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Background and Objectives

- Radiation therapy is the second-most common entry-level certification among ARRT registrants. With the recently completed *Environmental Scan of the Radiographer's Workplace*[1] in hand, the natural next step in the American Society of Radiologic Technologists' (ASRT) ongoing efforts to support work force development was to conduct an environmental scan of the radiation therapist's workplace.

- In April 2003, the Radiation Therapy Clinical Practice Advisory Panel[2] (RTCPAP) began the process of deciding the most helpful information to obtain for the profession at a meeting in Albuquerque, N.M. The panel reviewed a rough draft of a proposed questionnaire and agreed that providing data to help the profession plan its future would require feedback not just from radiation therapists, but from radiation therapy administrators, educators, radiation oncologists, medical physicists and dosimetrists. The present survey was addressed to therapists and administrators.

- With the help of additional feedback from the RTCPAP, fifth and final drafts of the questionnaires (one for staff and senior staff therapists and one for radiation therapy administrators) were agreed upon by early August 2003. The first 37 questions on the two surveys were identical except for minor differences in wording to address respondent type. The first questions inquired about the respondent's professional profile, the workplace profile of her or his primary facility and a practice profile of the activities engaged in by the therapist or by the administrator's radiation therapy staff. They also requested satisfaction ratings with 10 aspects of the primary workplace and 27 specific workplace attributes, as well as obtaining broad workplace preferences and dimensions such as urban vs. rural location, working in a hospital vs. some other setting and working as an administrator vs. as a therapist.

  The next session of each questionnaire addressed the issue of the relationship (if any) between type of radiation therapy education program and skill levels of graduates, as well as the impact of technological developments on patient throughput and on the quality of patient care. The final section of each questionnaire requested demographic information. The full text of each questionnaire is provided in Appendix B.

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[1] *Environmental Scan of the Radiographer's Workplace: Technologist vs. Administrator Perspectives, 2001;*
Environmental Scan of the Radiographer's Workplace: Technologist vs. Administrator Perspectives Phase 2, 2001; and Environmental Scan of the Radiographer's Workplace Phase 3, 2002:Subgroups of Radiographers and Types of Workplaces. All available at www.asrt.org by clicking on "Professional Dev."

[2] Present at that meeting, in addition to ASRT staff, were Alan Burns, R.T.(R)(T); Shaun Caldwell, M.S., R.T.(R)(T); Stephanie Eatmon, Ed.D., R.T.(R)(T), FASRT; Joanne Greathouse, Ed.S., R.T.(R), FASRT; Michelle Hutchings Medina, B.S., R.T.(T); Mark Ponto, R.T.(R)(N)(T); Jerry Reid, Ph.D.; Kevin L. Rush, B.S., R.T.(R)(T); Anne Marie Vann, M.Ed., R.T.(R)(T), CMD; and Charles M. Washington, B.S., R.T.(T).

Methodology

Sampling

Separate questionnaires were sent to all 7,566 radiation therapy-certified ARRT registrants and to all 1,970 ARRT registrants who, as of July 15, 2003, listed a managerial/supervisory job title and radiation therapy as their primary sphere of employment. An online version of the questionnaire also was made available on ASRT's Web site, www.asrt.org. As of October 6, 2003, ASRT had received 594 (30%) returns from administrators and 2,111 (28%) from staff therapists. This report is based on those returns.

These sample sizes provide 95% confidence intervals around overall percentages computed on the administrators' sample of ± 4.1% or tighter and ±2.2% around overall percentages computed on the staff therapists' sample. Further, when generalizing to the populations of radiation therapists who met the selection criteria for this study as of July 15, 2003, the fact that greater than one-fourth of the two target populations responded to the survey improves the confidence-interval widths to ± 3.4% and ±1.9% for radiation therapy administrators and staff/senior staff therapists, respectively.

How Representative Was the Sample

Thanks to the cooperation of the ARRT, data on several demographic variables for the two populations are available against which to generalize: certified staff and senior staff therapists and ARRT registrants who listed a managerial/supervisory job title and radiation therapy as their primary sphere of employment on the most recent ARRT renewal application. This facilitates checking the extent to which the samples are representative of the populations from which they were drawn and, where sizeable, statistically significant differences are found. It also allows appropriate weighting so that computed descriptive statistics are good estimates of what would have been obtained had the sample been fully representative in that respect.

Administrators

ARRT data on several demographic variables for radiation therapy administrators helps to generalize some characteristics, namely ARRT registrants who listed a managerial/supervisory job title and radiation therapy as their primary sphere of employment on their most recent ARRT renewal application. In addition to information that was provided in the electronic file of mailing addresses (state/province, employment status, job title and primary sphere of employment), data provided in a slightly later (August 30, 2003) download of renewal form information (e.g., number of radiation therapists in respondent's department and number of years employed in the radiologic sciences) could be narrowed to fit the study specifications, with only minor differences due to the difference in dates. Therefore, a good confidence level could be reached that this method produced a representative sample of radiation therapy administrators.

State/Province

There were no statistically significant differences between sample and population proportions from the various states, provinces and countries.

Number of Radiation Therapists in Department/Facility
No significant differences were found between the sample and population.

Employment Status
No significant differences were found between the sample and population.

Job Title
The checklist alternatives for this question on the ARRT renewal form vs. the Environmental Scan questionnaire did not exactly match. The most direct comparison is between the percent of the sample choosing chief radiation therapist (42.2%) and the percent of the population who checked chief technologist on their renewal form (42.5%). The next most meaningful comparison is between this questionnaire's department manager (25.9%) and director (13.2%) vs. the renewal form's administrator or manager title (35.8%). Overall, there were no grounds for suspecting that the sample was unrepresentative on this dimension, except for the 3.7% of the sample who chose staff or senior staff therapist. The administrator's questionnaire was not mailed to anyone who checked staff technologist or senior staff technologist on the ARRT renewal form. This probably reflects job migration between the time of the mailing and the time at which the annual renewal form had been completed.

Education Level
A significantly lower percentage of respondents than of the target population (27.5% vs. 35.2%) hold associate degrees, and a higher percentage hold baccalaureate (38.4% sample, 33.4% population) and postgraduate (9.4% vs. 7.1%) degrees. Overall chi-square for the difference between the sample and population distributions = 18.5 with 4 *df*, $P < .001$; chi-squares (each with 1 *df*) for the differences with respect to associate, baccalaureate, and postgraduate degrees = 21.47 [$P < .001$], 9.40 [$P < .001$], and 6.57 [$P = .01$], respectively.

While it is not the target population for this study, another interesting comparison is to the distribution of education level among members of the Society for Radiation Oncology Administrators (SROA). Of the 66% of SROA members who reported a degree on their membership form, 2.8% reported holding an associate degree, 25.6% a bachelor's degree, 33% a master's degree and 1.8% a doctoral degree. However, many of the 34% of SROA members who did not report a degree may have indeed held a degree but not considered it necessary to report, and reporting rates may be different for the various degrees. Therefore, it is difficult to compare these figures to the sample or to the target population for this study.

Tenure in Radiation Therapy
The administrators' sample mean of 15.75 years practicing in radiation therapy did not differ significantly from the corresponding population mean of 15.84 years. However, the sample included significantly fewer (0.8%) new administrator respondents than the population of ARRT-registered radiation therapy administrators (2.1%; chi-square for difference = 6.33 with 1 *df* after finite-population correction), as well as significantly fewer in the six to10 years' tenure category (19.7% of the sample vs. 23.1% of the population; chi-square = 5.66, 1 *df*).

Year of Birth
No statistically significant differences were found between the sample and population.

Gender
No statistically significant differences were found between the sample and population.

Adjustments
Given the above differences or lack of differences, results for any dependent variable that was affected significantly by education level and/or by tenure in radiation therapy were supplemented by weighted proportions and/or weighted averages that provide estimates based on those that would have been obtained if the full population or a fully representative sample had responded. This helped "equalize" responses from heavily or lightly represented states to more closely represent actual radiation therapist/administrator populations. If no weighted statistics are reported in a given section, weighing did not significantly affect the results; in other words, the sample and target population already closely matched.

Staff Therapists
Population values can of course be computed for variables that were included in the mailing address file: state or province, employment status, primary sphere of employment/discipline and job title. However, one of the variables that defined the target population to whom staff/senior staff questionnaires were mailed (radiation therapy certification) is not available in the ARRT demographic database, so population values for variables in the database but not in the mailing address file (e.g., gender and ethnicity) cannot be computed exactly. However, a "comparison population" consisting of ARRT registrants choosing staff or senior staff technologist as the most apt job title and radiation therapy as their primary or secondary sphere of employment was constructed. Since medical dosimetrist is not a job title option on the ARRT renewal form, the assumption was made that respondents who chose that job title chose staff or senior staff technologist on their ARRT renewal forms.

State/Province
While differences between the sample percentages from various states and the corresponding population percentages were not large, the overall chi-square for differences between population and sample proportions was statistically significant (156.27 with 53 df, $P < .001$).

Employment Status
No significant differences were found between the sample and population.

Sphere of Employment
No significant differences were found between the sample and population.

Job Title
There was an imperfect match between the checklist alternatives for this question on the ARRT renewal form and the Environmental Scan questionnaire. The most direct comparison is between the percent of survey respondents who chose staff therapist (85.5%) or medical dosimetrist (5.9%) and the percent of the population who checked staff technologist or senior staff technologist on their ARRT renewal form (100%). Overall, no grounds exist for suspecting that the sample was unrepresentative on this dimension, except for the 4.1% of the sample who chose some sort of administrative position (chief radiation therapist, education program director, clinic

director, department manager or director). This most likely reflects job migration between the time of the mailing and the time at which the annual renewal form had been completed.

Education Level

A significantly lower percentage of respondents than of the comparison population hold high school diplomas or equivalents (0.5% sample vs. 0.9% population), advanced certificate(s) (9.0% sample vs. 13.3% population), and associate degrees (35.6% sample, 38.1% population).

Year of Birth

The staff therapist sample had a significantly higher mean age (40.1 years) than the comparison population's mean age of 39.0 years ($t(9894) = 4.673$, $P < .001$).

Gender

A significantly lower percentage of respondents than of the comparison population is male (16.7% sample vs. 21.5% population), and a higher percentage is female (78.1% female vs. 75.5% population. Chi-square = 11.59 w 1 *df,* $P < .001$).

Marital Status

A significantly lower percentage of respondents than of the comparison population are single (25.9% vs. 32.5%. Chi-square = 17.82 w 1 *df,* $P < .001$).

Adjustments

Given the inability to extract demographic data from the ARRT database for exactly the same subpopulation as those to whom the staff/senior staff questionnaire was sent, together with the rather small differences between the sample and the comparison population, the data were compared across states and as a function of job title. Where such differences were found, estimated population percentages or means were computed by (a) weighting individual scores by the ratio between population and sample proportions of staff radiation therapists in each state, (b) computing the mean or percentage for those in the sample who chose staff therapist or medical dosimetrist as their current job title, or (c) computing a state-weighted mean or percentage for those currently considering themselves staff therapists or medical dosimetrists – the latter when the finding being examined was affected significantly by both home state and job title. If no weighted statistics are reported in a given section, weighing did not significantly affect the results; in other words, the sample and target population already closely matched.

Executive Summary

- Separate questionnaires were sent to 1,970 ARRT registrants who listed a managerial or supervisory job title and radiation therapy as their primary sphere of employment on their most recent ARRT renewal application and to 7,566 staff and senior staff therapists registered with the ARRT. As of October 6, 2003, the ASRT had received 594 returns (30%) from administrators and 2,111 (28%) from staff therapists.
- With a few exceptions, reports of the objective characteristics of their workplaces (e.g., staffing levels, workloads, services and facilities) by staff therapists and radiation therapy administrators are relatively consistent.
- About one-half of staff radiation therapists and one-half of radiation therapy administrators report that they obtained their first ARRT certificate in radiography. About one-third of both groups report that the radiation therapy certificate was their first ARRT certificate. About one-sixth report having received their first ARRT certificate in radiology or radiation oncology.
- About 60% of staff radiation therapists and radiation therapy administrators report having qualified for the registry exam in radiation therapy via a certificate program. Just fewer than 25% qualified via an associate degree program. A somewhat higher percentage of staff radiation therapists than administrators (17% vs. 12%) report having qualified via a bachelor's program of some sort. However, both groups report that about 33% of recent hires (within the past three years) have come from baccalaureate programs.

  The longer the administrator has been in the radiation therapy profession, the more likely to have qualified for the registry exam through a certificate program (and less likely to have qualified through a bachelor's program).
- The questionnaire reveals that 13% of radiation therapy administrators and 16% of staff radiation therapists are planning to leave the profession within the next five years, 34% and 35%, within the next 10 years respectively. Dosimetry is the most commonly cited career chosen for those who anticipate leaving the profession other than for retirement.
- Staff therapists report a mean age of 40.1 years, and administrators, about 43 years old.
- There is wide variation in the total number of services provided, with 53% of administrators reporting that their facilities provide five or fewer of the services but about 10% providing nine or more. Facilities also vary widely in patient throughput, with four to 2,000 patients treated per week. Comparing reported treatments and procedures to patient visits per week suggests that the average radiation therapy patient is treated only once in a given week.
- More than 35% of the administrators report that radiation therapy staff members they supervise perform "basic care duties (nursing)," such as venipuncture, laboratory procedures and contrast administration, at 4% to 7% each. About 40% perform student clinical education. More than 50% are involved in billing (charge capture). Percentages are reported for staff involvement in 26 other activities and procedures as well.
- Satisfaction with 10 components of the facility and the job (the primary facility, the department, the job, direct supervisors, radiation oncologists, physicists, coworkers, the

radiation therapy administration, overall administration and quality of patient care) is generally high (mean close to 4 on a 5-point scale) except for satisfaction with "the administration of the larger facility within which your department is located" (mean of 3.5 among staff therapists, 3.6 among administrators). The staff therapists' satisfaction with their radiation therapy administration was 3.5, while the administrator sample rated themselves and their colleagues at 3.9.

- Respondents rated 35 attributes of their workplaces on a scale from 1 (very poor) to 5 (very good). Staff and administrators both gave mean ratings at or above 4.2 to their facilities' reputations, how well therapists are educated in their jobs, compliance with occupational safety guidelines, safety of the workplace in terms of neighborhood and building security and to their ability to provide accurate treatment. Administrators also gave high marks to job security. Staff and administrators rated below 3.5 the extent to which personal needs (e.g., convenient location, daycare, senior care) are met. Staff also gave low marks to "wages for radiation therapy compared to other facilities in the area," the adequacy of internal, on-site training, communications within the department and reimbursement for professional activities. No mean rating was below 3.0 (the midpoint of the scale).
- The simple average of the ratings of the 35 specific attributes correlated positively with and accounted for 21% of the variation in administrators' overall satisfaction with their primary workplaces. Satisfaction was defined by averaging their ratings of 10 broad aspects of their workplaces. For radiation therapists, the correlation was .549, accounting for 30% of the variation in overall satisfaction. In addition, staff respondents' tendency to rate peer-related aspects of their workplaces higher than aspects dependent primarily on their supervisors and administrators was significantly related (correlation = .422, accounting for 18% of the variation in overall satisfaction) to the difference between their average rating of three specific workplace features reflecting their efforts and those of their coworkers, minus the average of their ratings of six aspects of the workplace that primarily reflect management styles and policies.
- The number of procedures indicated as "least prepared to perform when began first post certification job" ranged from zero to seven. Simulation was cited by far as most difficult, mentioned by 23% of staff therapists and 31% of administrators. The only other procedure mentioned by more than 9% of either group was IMRT (9.4% of administrators, but only 1% of staff therapists).
- About 33% of administrators attributed new graduates' lack of skills to a roughly equal combination of their education programs and their individual characteristics. Another 22% put the blame primarily on education programs, 13% primarily on individual characteristics and 19.5% considered the question irrelevant because they are fully satisfied with new graduates' skills.
- Only about one-third of administrators and staff therapists believe there is a difference in skills of students graduating from the various types of programs. About one-sixth of administrators and staff therapists believe that, while type of program doesn't affect skill level, there are nonetheless substantial differences among particular programs in the skill level of their graduates. Administrators were more likely to mention baccalaureate programs than any other type of program as producing more skilled graduates, but cited bachelor's and certificate programs about equally often as producing less skilled graduates.

- About 50% of staff radiation therapists and 60% of radiation therapy administrators believe that over the past five years technological developments have increased somewhat or greatly the number of patients who can be treated in a given week. In addition, 16% of staff and 22% of administrators feel that these developments have decreased patient throughput.

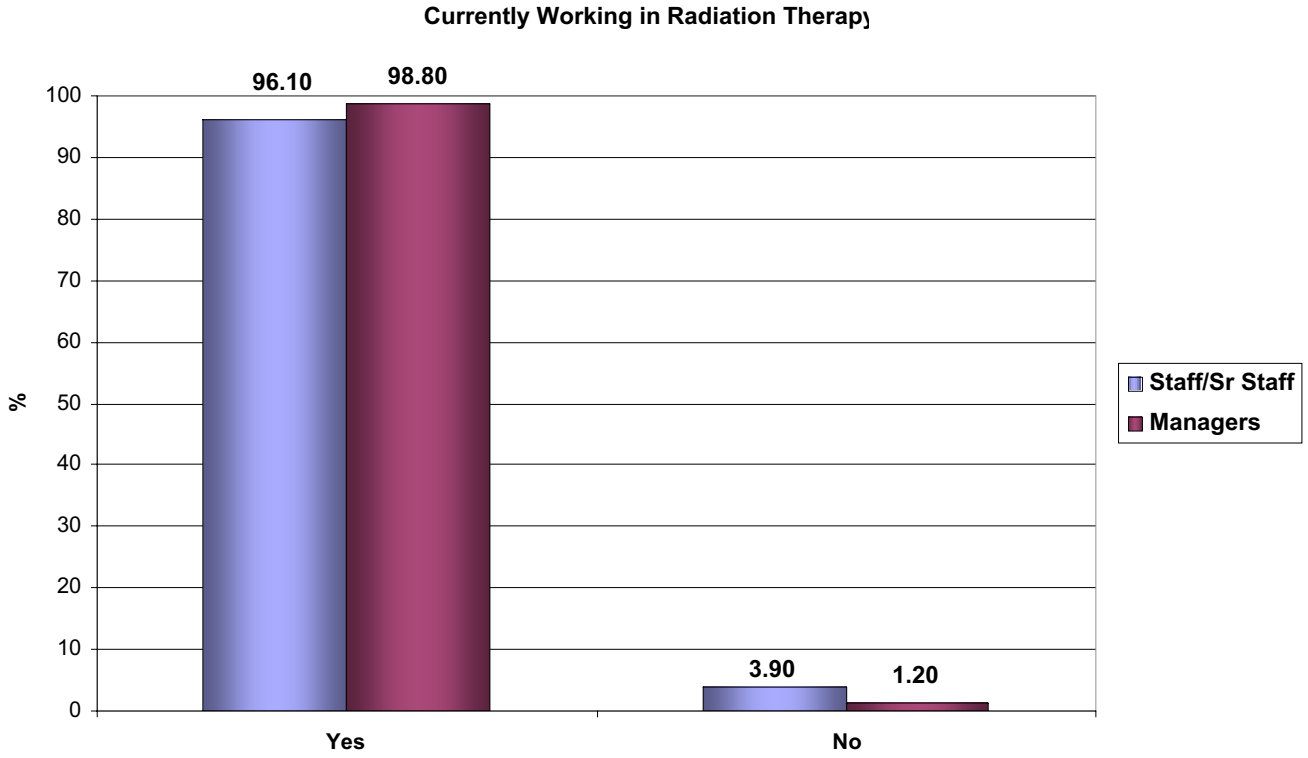
  About 80% of administrators and staff radiation therapists feel that technological developments have increased the quality of care. Only about 1% of administrators and less than 4% of staff radiation therapists feel that these developments have decreased the quality of care.

- Radiation therapy administrators are somewhat more likely than staff therapists to report "Caucasian" as their ethnic background (93% vs. 86%) and somewhat less likely to claim "Hispanic" background (2% vs. 9%).

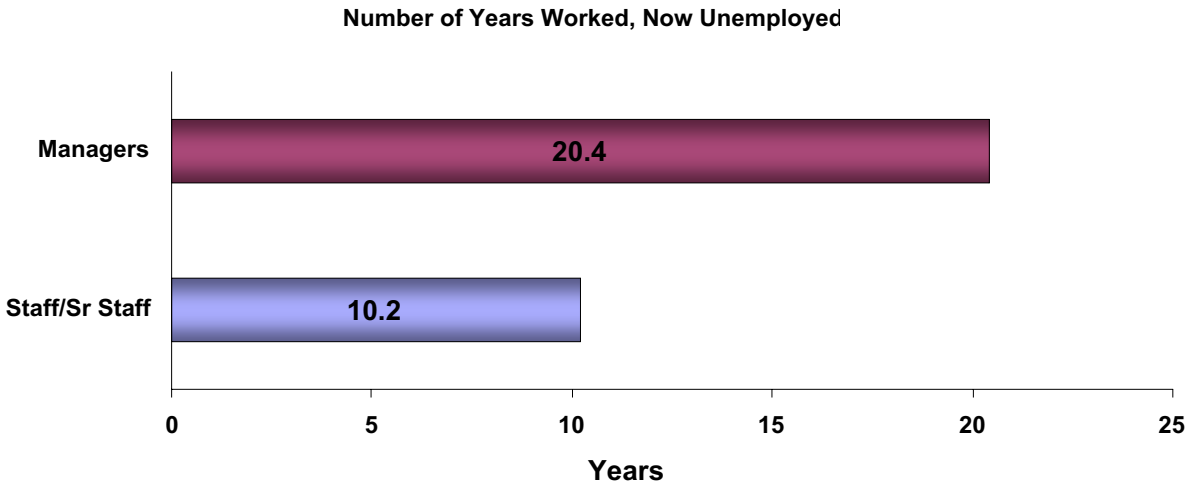
Illustrated Narrative

Professional Profile

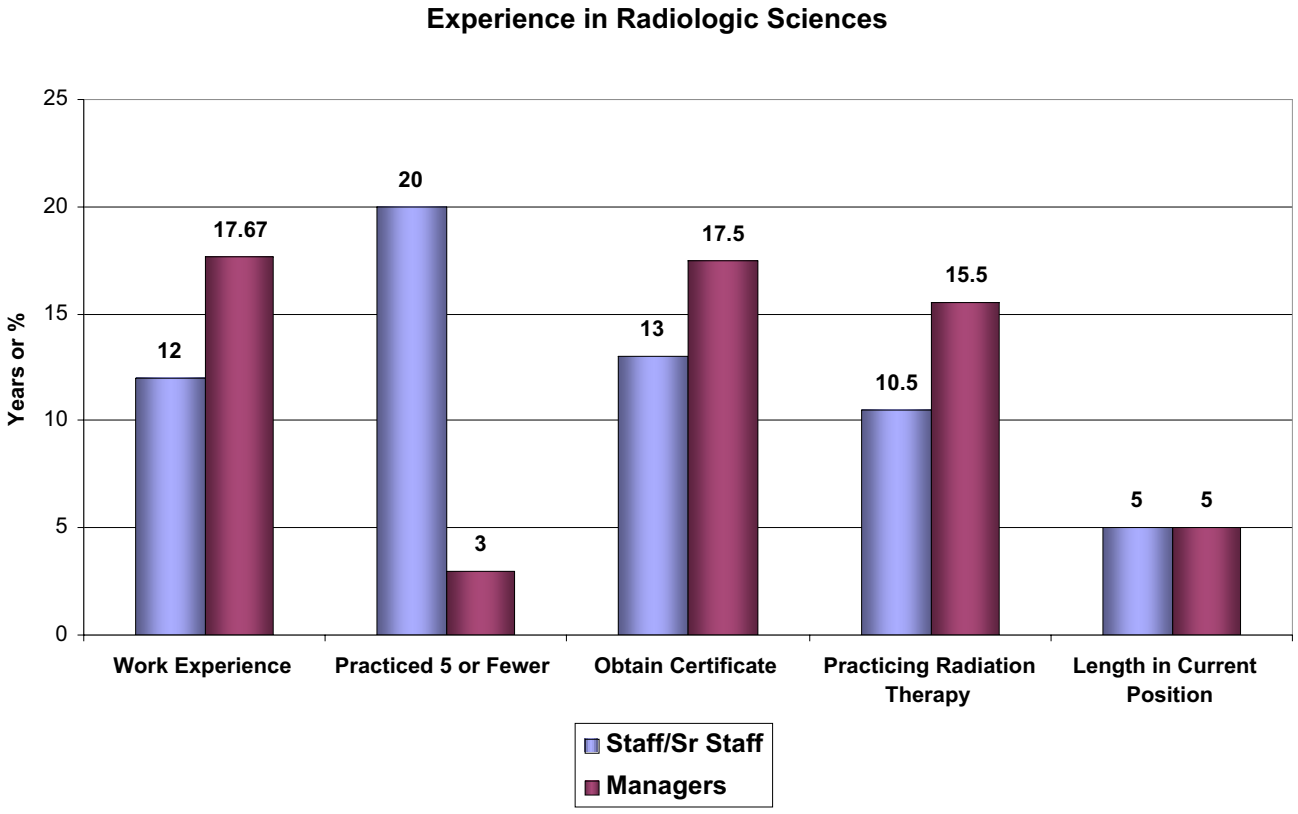
- About 4% of the staff and senior staff radiation therapists, but only 1% of radiation therapist managers is not currently working in radiation therapy.



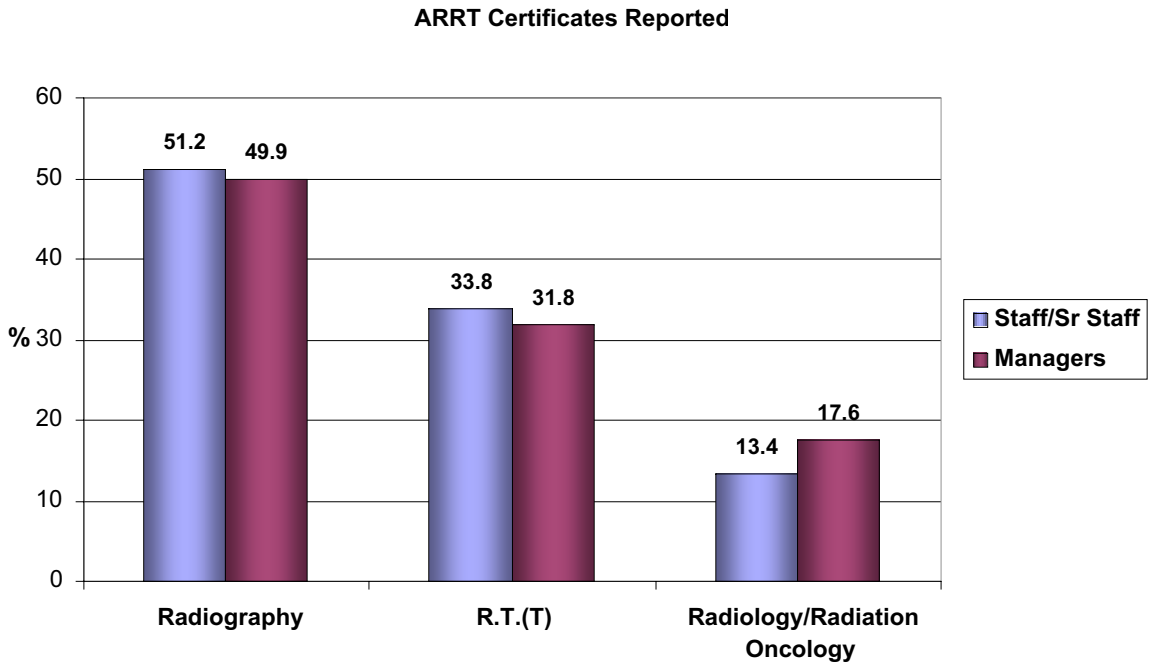
- Currently unemployed staff therapists have an average of 10 years of work experience in radiation therapy, vs. the five unemployed administrators' average of 20 years of radiation therapy work experience. The primary reason staff therapists checked or cited for not being employed in radiation therapy was career change (34.5% of those who answered the question, estimated population percentage 42%), while three of the five unemployed administrators who answered the question had retired. Further, 47% of the staff therapists who are currently not employed in the profession and three of the seven administrators (43%) in that situation are planning to return to the profession.



- The "typical" (median) staff therapist has about 12 years of work experience in the radiologic sciences; the typical radiation therapy administrator, 17 years. About 20% of staff therapists but less than 3% of administrators have practiced in the radiologic sciences for five or fewer years. The typical staff therapist obtained her or his first ARRT certificate almost 13 years ago, the typical administrator, 17.5 years ago. The typical staff therapist has been practicing radiation therapy for close to 10.5 years and the administrator, more than 15.5 years. The typical staff therapist has been in her or his current position for about five years, as has the typical radiation therapy administrator.

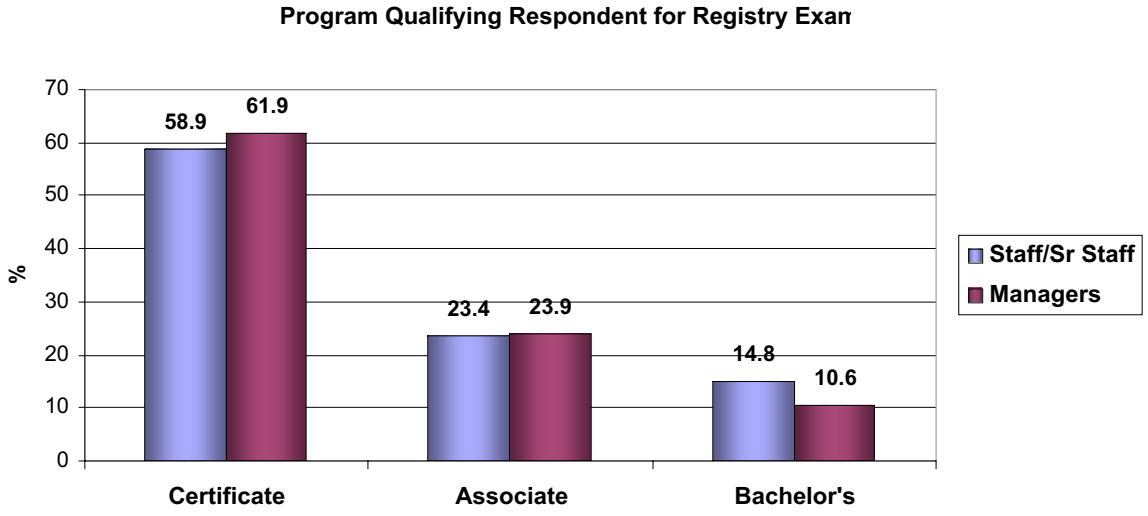


- About one-half of staff radiation therapists and radiation therapy administrators reported they obtained their first ARRT certificate in radiography (though the specific terminology used to designate that certificate was highly variable, with the most common alternative designations of radiologic technology and diagnostic). About one-third of both groups reported that the radiation therapy certificate was their first ARRT certificate. About one-sixth reported receiving their first ARRT certificate in radiology or radiation oncology.

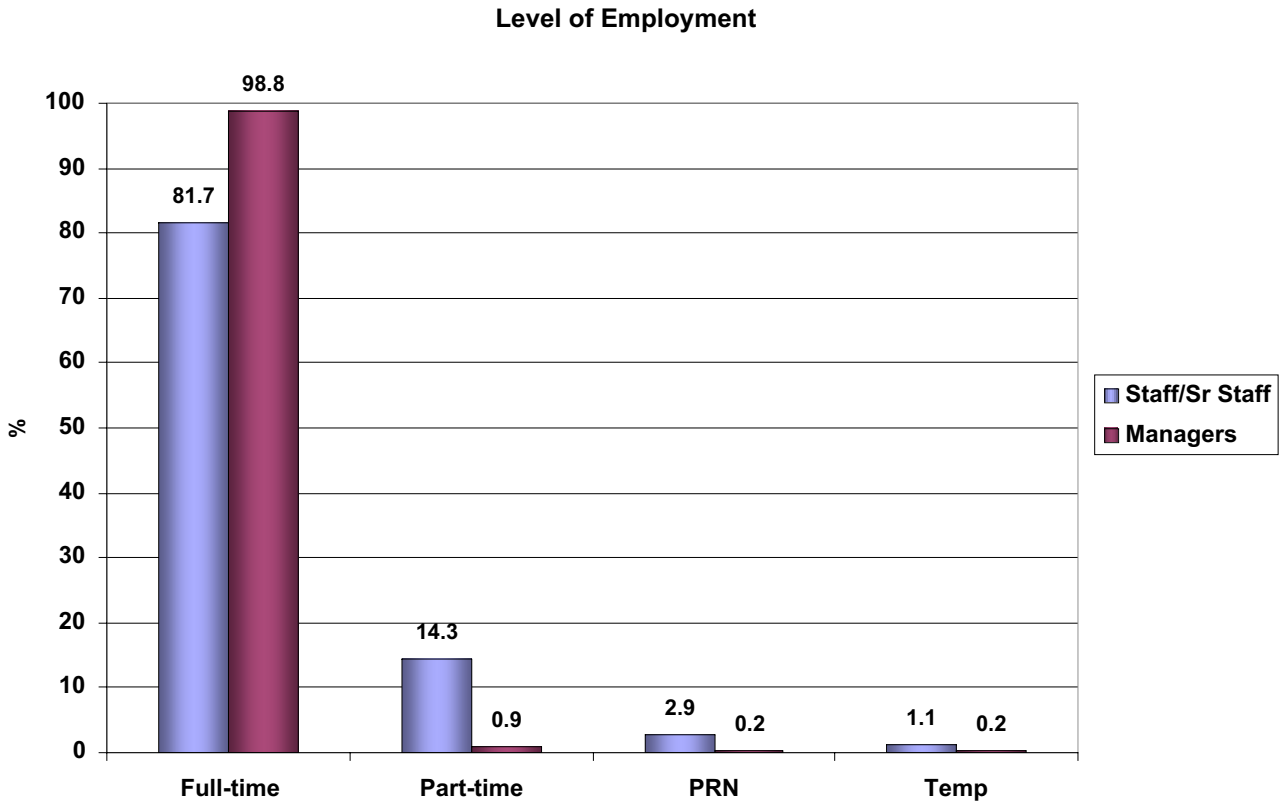


- About 60% of both staff radiation therapists and radiation therapy administrators report having qualified for the registry exam in radiation therapy via a certificate program. Fewer than 25% qualified via an associate degree program. A somewhat higher percentage of staff therapists than administrators (16% vs. 11%) report having qualified for the radiation therapy certification exam via a bachelor's program.

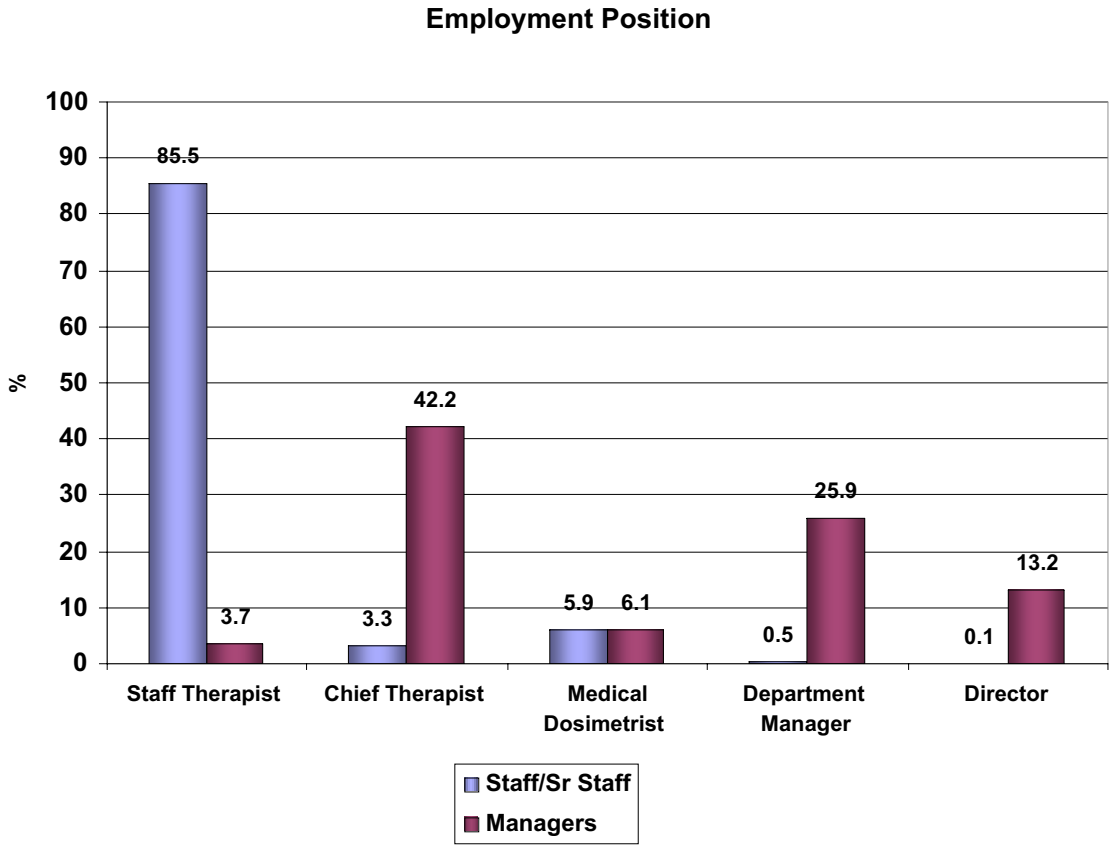
- The longer the administrator has been in the radiation therapy profession, the more likely to have qualified for the registry exam through a certificate program (and less likely to have qualified through a bachelor's program). For example, 40% of administrators with five or fewer years in radiation therapy graduated from a certificate program and 40% from a bachelor's program in radiation therapy, while among those with more than 20 years in radiation therapy, 77% graduated from a certificate program and only 3% from a bachelor's radiation therapy program.



- Administrators in radiation therapy facilities work almost exclusively full time (99%). The staff therapists they supervise work also predominantly (82%) full time, with fewer than 3% employed on a PRN basis and only about 1% temporary staff.

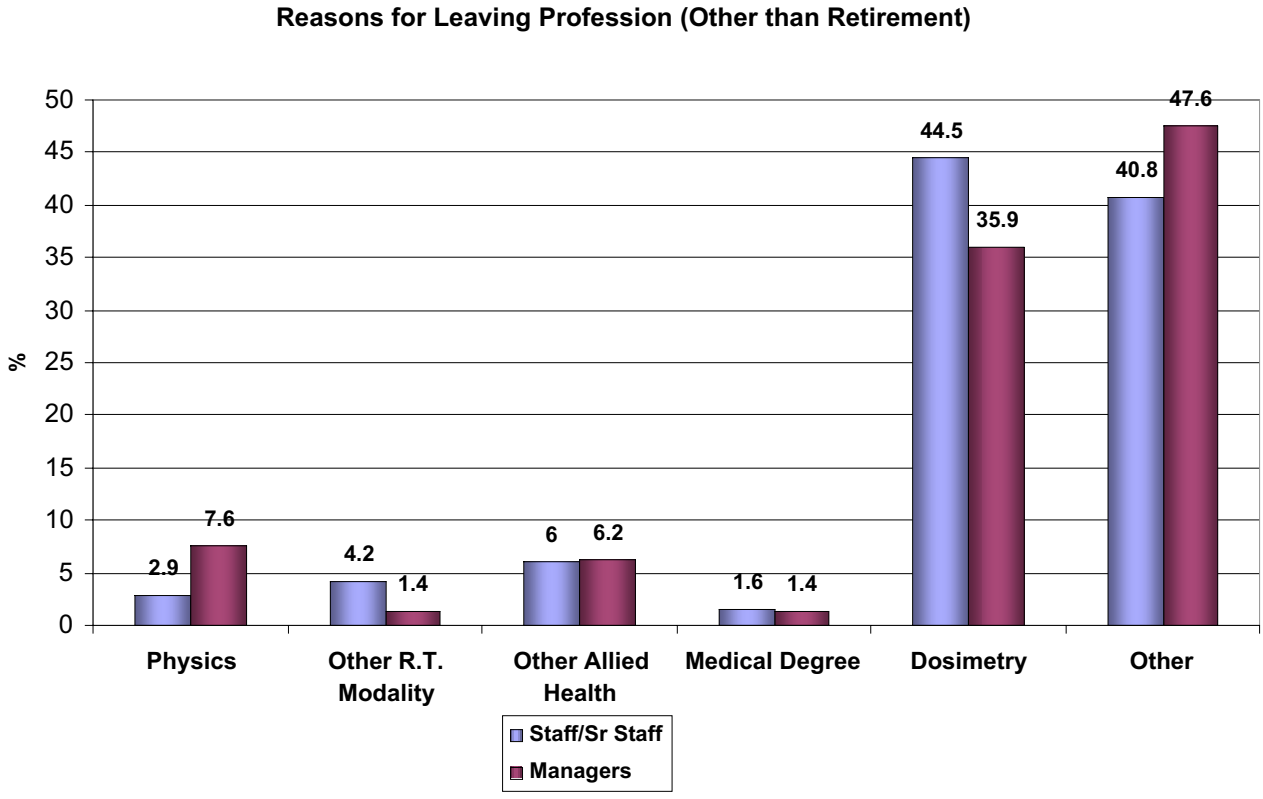


- Since the sample of staff radiation therapists had checked staff or senior staff technologist on their most recent ARRT registration renewal form, it's not surprising that less than 1% of them chose department manager or director as the most apt title, and 3.5% chose chief radiation therapist. Conversely, only 3.7% of the radiation therapy administrator sample now considers staff radiation therapist the most apt job title. An additional 6% consider themselves medical dosimetrists.



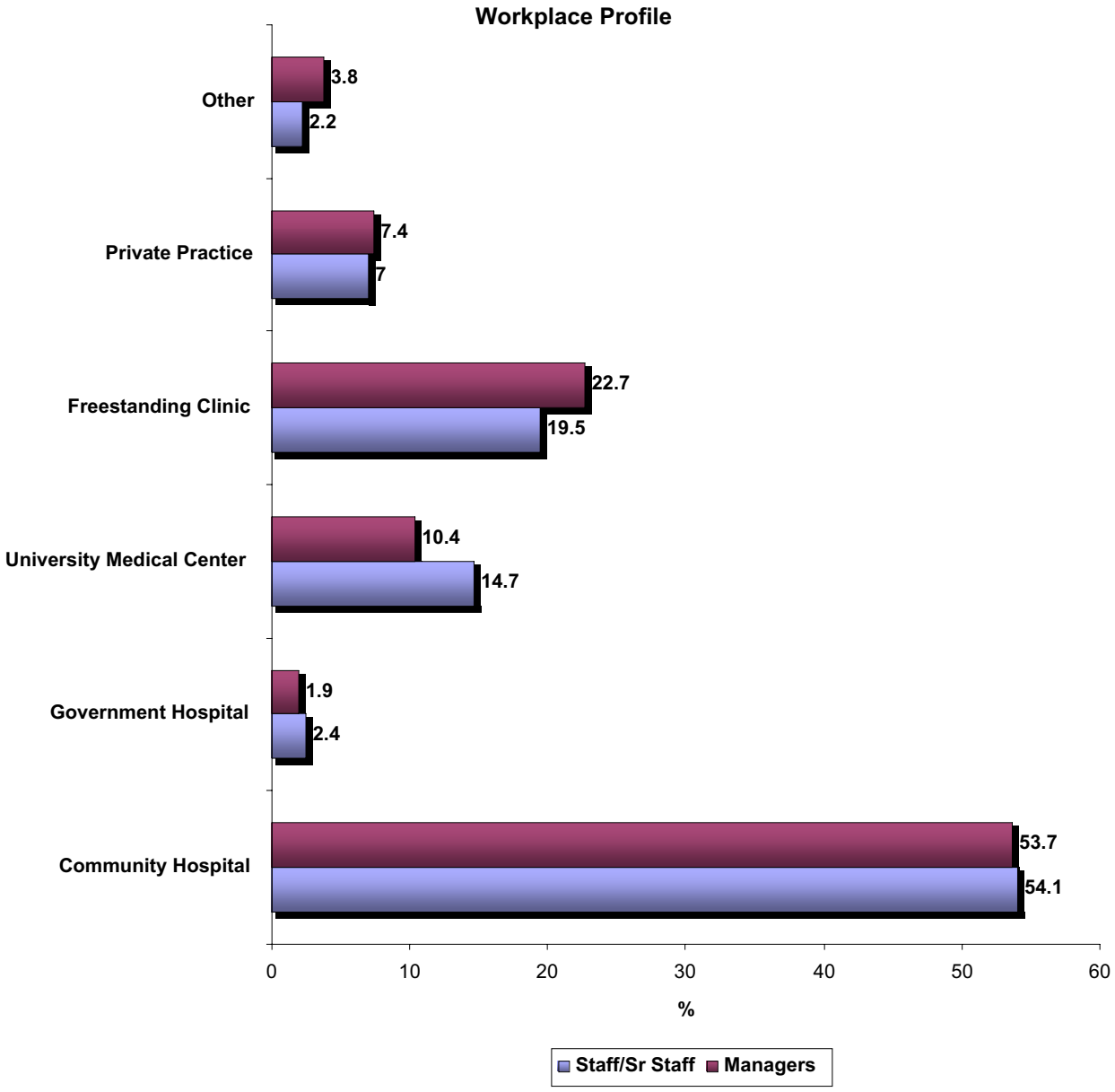
- About 13% of radiation therapy administrators and 16% of staff radiation therapists reported that they are planning to leave the profession within the next five years. Another 34% and 35%, respectively, said they plan to leave within the next 10 years.

- About 25% of administrators and 38% of staff radiation therapists report that they anticipate leaving the profession for some reason other than retirement. Dosimetry is the most commonly cited new career aside from "other," cited by 36% of administrators and 44% of staff radiation therapists who plan to leave the profession other than for retirement.



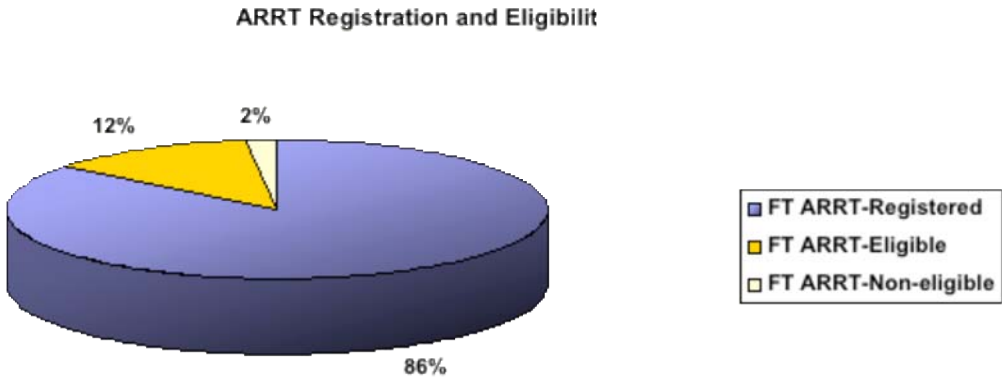
Workplace Profile

- Slightly more than 50% of both staff radiation therapists and administrators work in a community hospital setting. About 20% of both groups work in freestanding clinics, and 10% to 15%, in university medical centers.



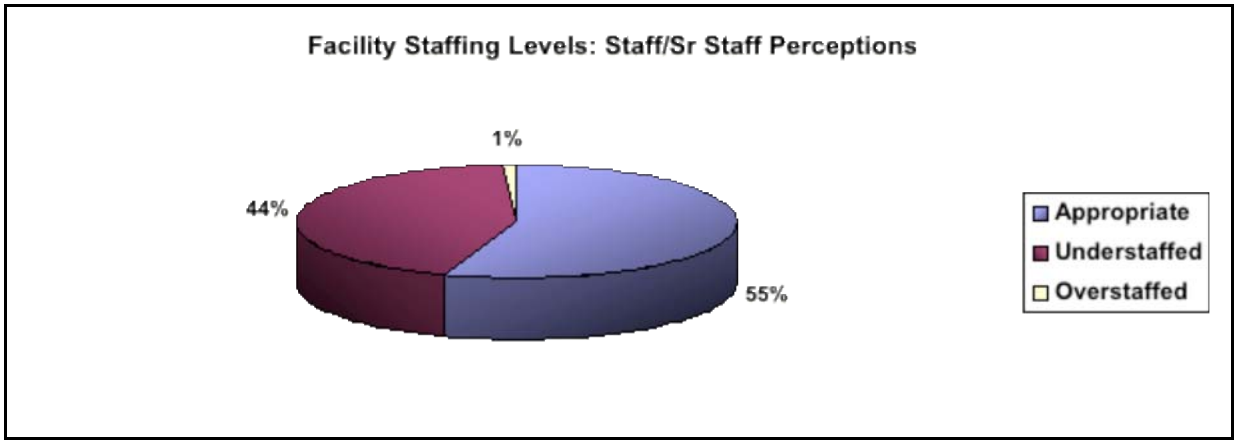
- Radiation therapy facilities vary enormously in their annual patient loads: from six to 36,000 patient starts per year (the latter consistent with a facility's report of 100 treatments or procedures daily). The number of treatments or procedures carried out daily shows a similarly broad range, is from two to 750.

- The number of full-time radiation therapists reported by staff therapists and by administrators varies from one to 100, with about 90% of the facilities having fewer than 12 full-time radiation therapists on staff. Among administrators, 86% report that all of the full-time radiation therapists who work at their facilities are ARRT-registered. In addition, 88% have no unregistered full-time therapists and 98% have no full-time therapists who are neither ARRT-registered or are eligible for the registry.

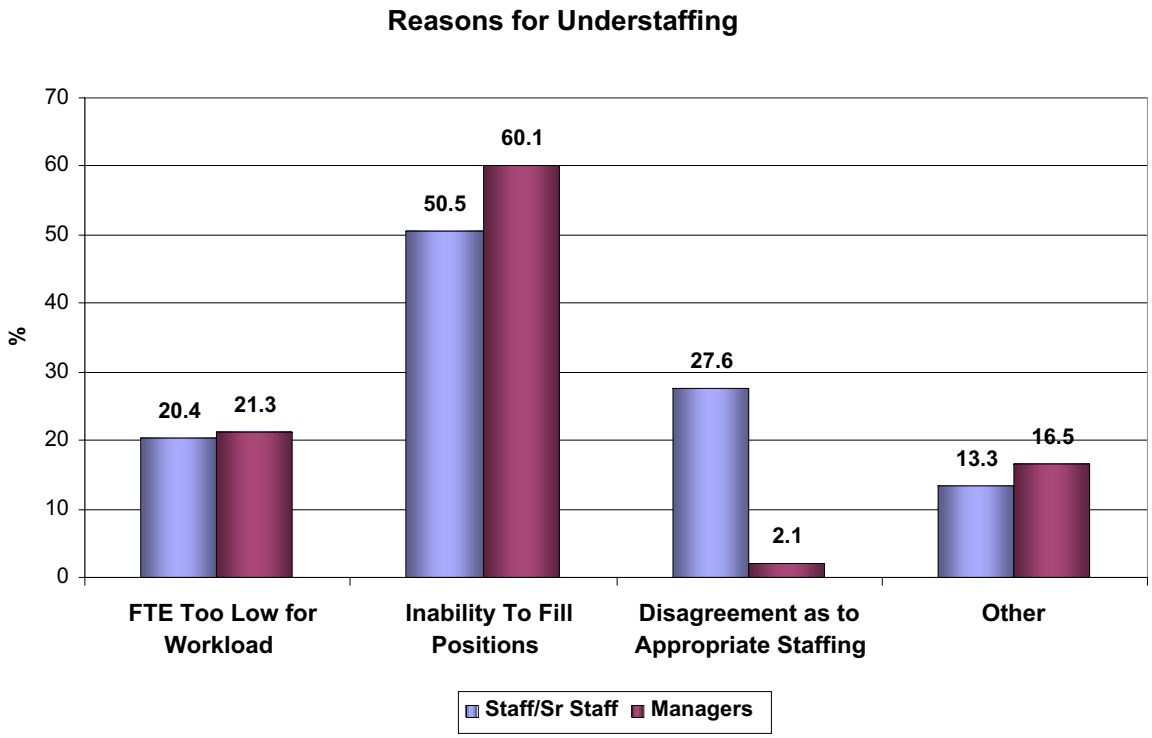


- More than 50% of all facilities have no part-time or PRN radiation therapists on staff, and 80% have no temporary/traveling/locum tenens therapists.

- Staff radiation therapists and administrators agree that about 40% of radiation therapy facilities are understaffed and only about 1% is overstaffed. The average level of understaffing reported by administrators who report any understaffing is 1.6 positions and by staff, 1.7 positions.



- Staff and administrators agree that inability to fill budgeted positions is the primary reason for the understaffing (about 50% of staff respondents and 60% of administrators cite this reason). However, disagreement as to appropriate staffing level for the department/facility was cited by 28% of the staff therapists but only 2% of the administrators who answered this question. About 20% of staff therapist and administrator respondents cited a budgeted FTE amount that is too low for the department's workload.

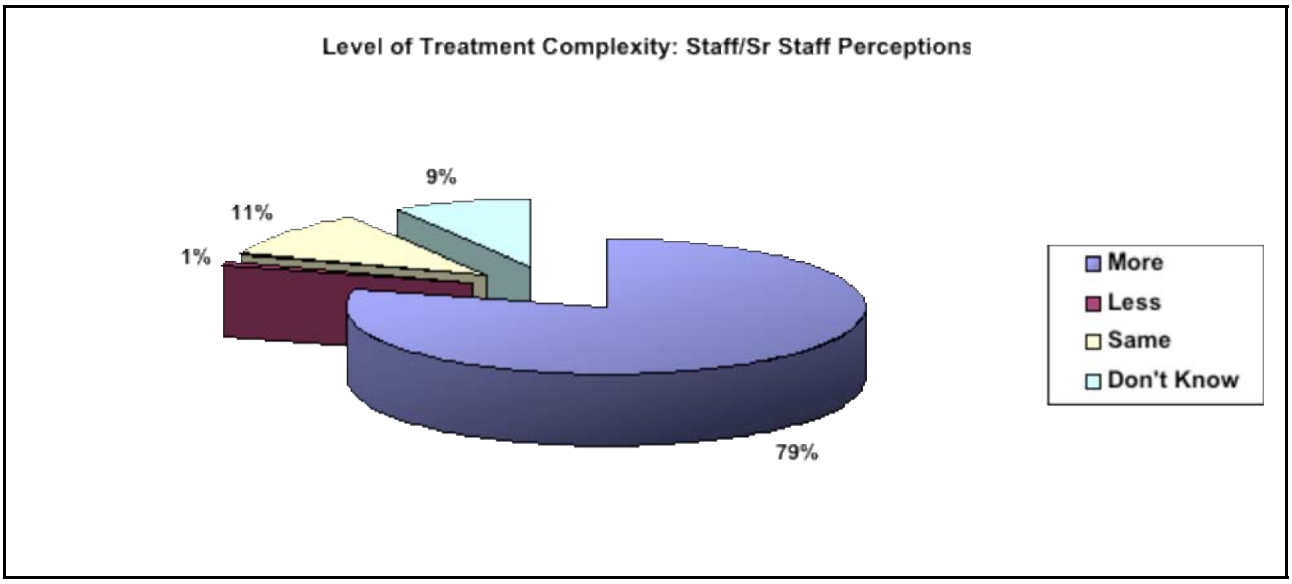


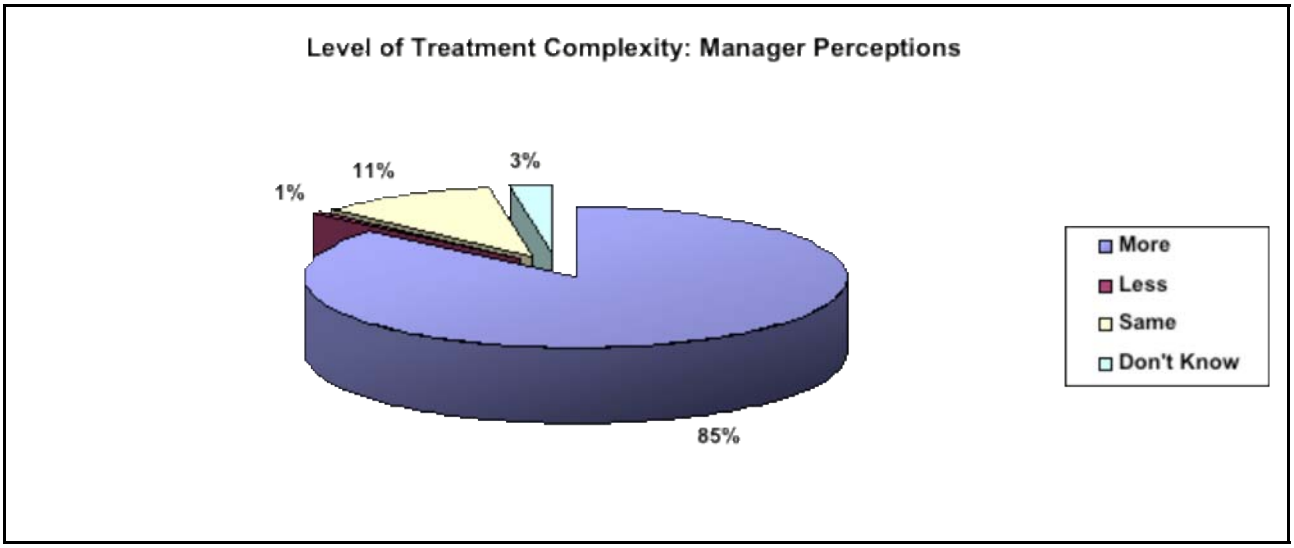
- The modal administrator reported that two therapists are assigned to each megavoltage unit and to each stereotactic unit per patient and one to each simulator, CT/simulation unit, block/mold unit or brachytherapy unit. This is true of their judgments of the ideal number of radiation therapists to be assigned to each unit as well, though nearly 40% of radiation therapy administrators feel that more than two therapists should be assigned to each megavoltage unit and mean ideal staffing level per machine is slightly higher than actual staffing level for every type of unit.

- Staff and administrators agree as to services provided by their facilities, with the most common being conformal radiation therapy delivery (about 88%), CT/simulation (about 73% of facilities), and high-dose rate brachytherapy, or HDR (about 47%). However, 29% of administrators and 16% of staff therapists reported that their facilities provide low-dose rate brachytherapy, or LDR. Fewer than 10% of the services provided by facilities are intraoperative, gated delivery and hyperthermia. Further, the total number of services provided varies widely, with 53% of administrators reporting that their facilities provide five or fewer of the services, but about 10% provide 10 or more, and one provides all 17 listed services plus one or more "other" services.

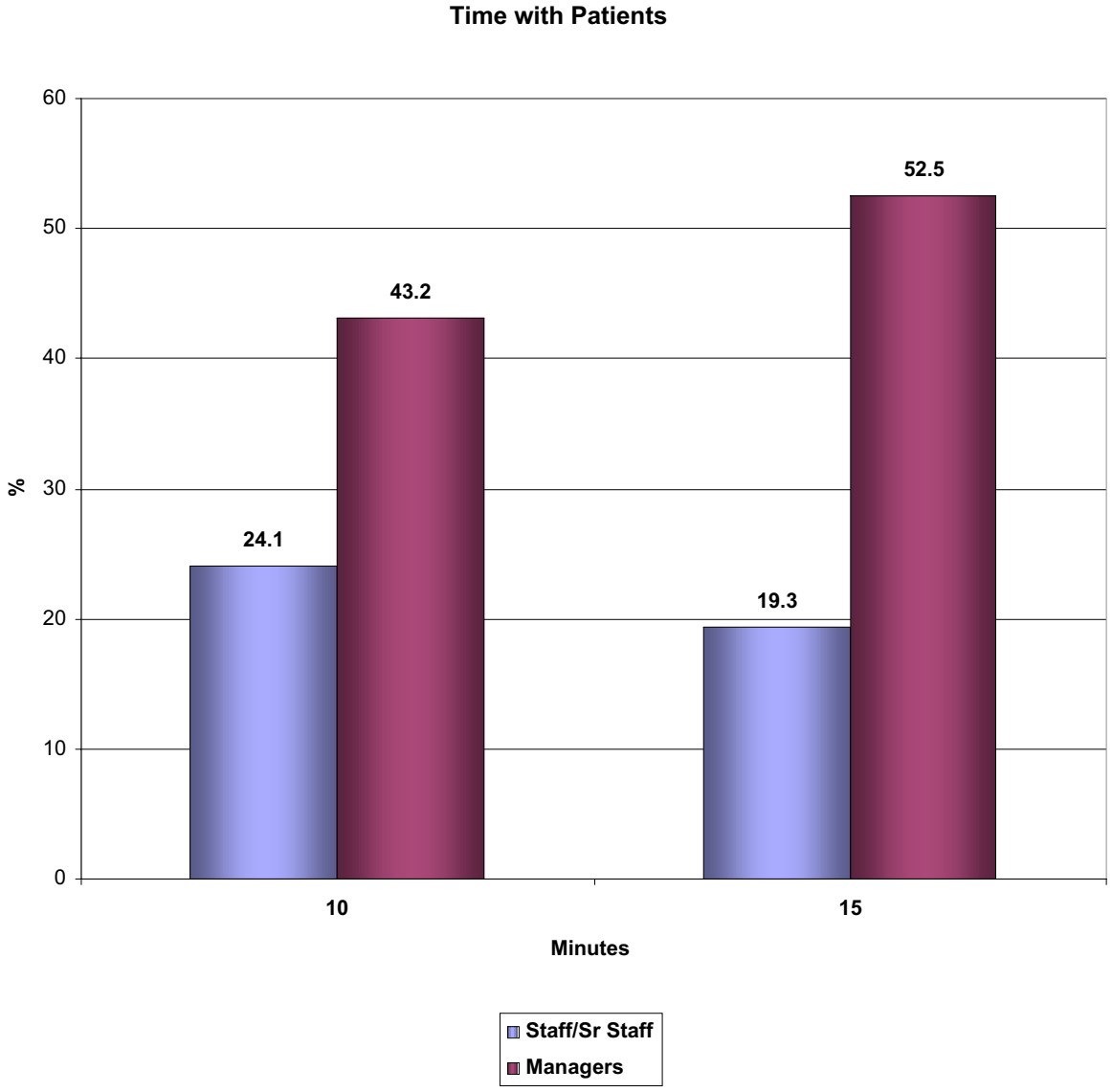
- More than 35% of the administrators report that the radiation therapy staff members they supervise perform "basic care duties (nursing)," such as venipuncture, laboratory procedures, and contrast administration at 4% to 7% each. About 40% perform student clinical education. More than 50% are involved in billing (charge capture). Percentages are reported for staff involvement in 26 other activities and procedures as well.

- Most administrators (85%) and staff therapists (79%) feel that treatments at their facilities have become more complex over the past five years. About 10% of each group said they have stayed at about the same level of complexity, and fewer than 1% feels they have become less complex.



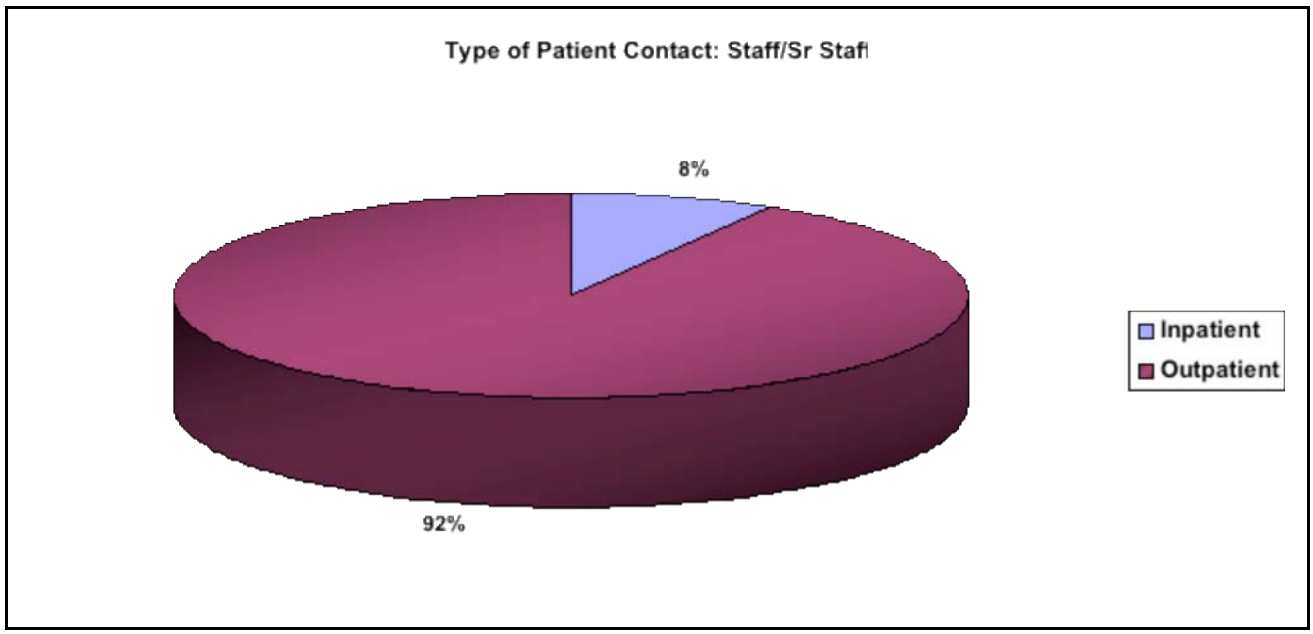


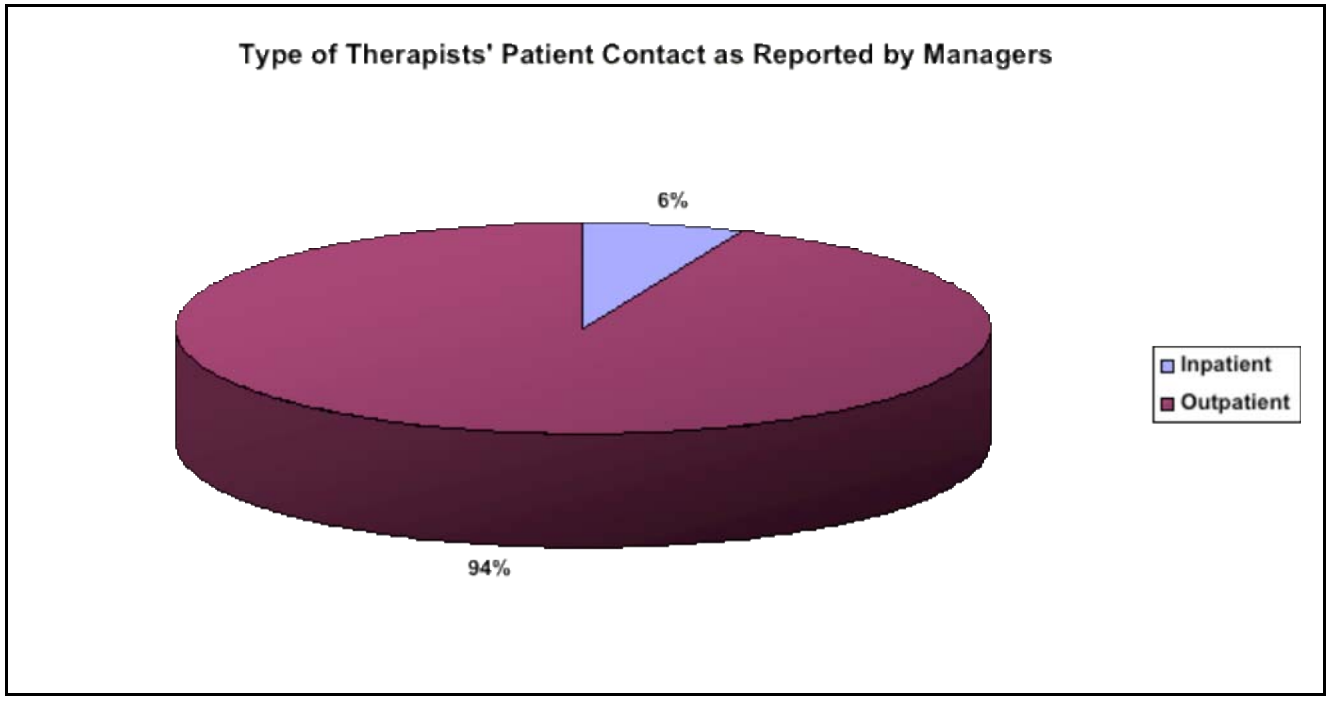
- About 45% of staff therapists and 50% of their administrators reported that radiation therapists spend an average of 15 minutes with each patient. Another 25% of the staff and 20% of the administrators said the average is 10 minutes and the mean is around 14 minutes.



- There are large differences in patient "throughput," with staff radiation therapists reporting from two to 2,000 patients treated by their radiation therapy staff per week. The median ratio between patients treated per week and number of daily patient visits was 5.0, suggesting that the typical patient receives one treatment per week.

- Radiation therapy is primarily outpatient work; staff and senior staff therapists estimated that about 8% of their work is inpatient work, while administrators estimated that only about 6% of their staff therapists' work is inpatient care.





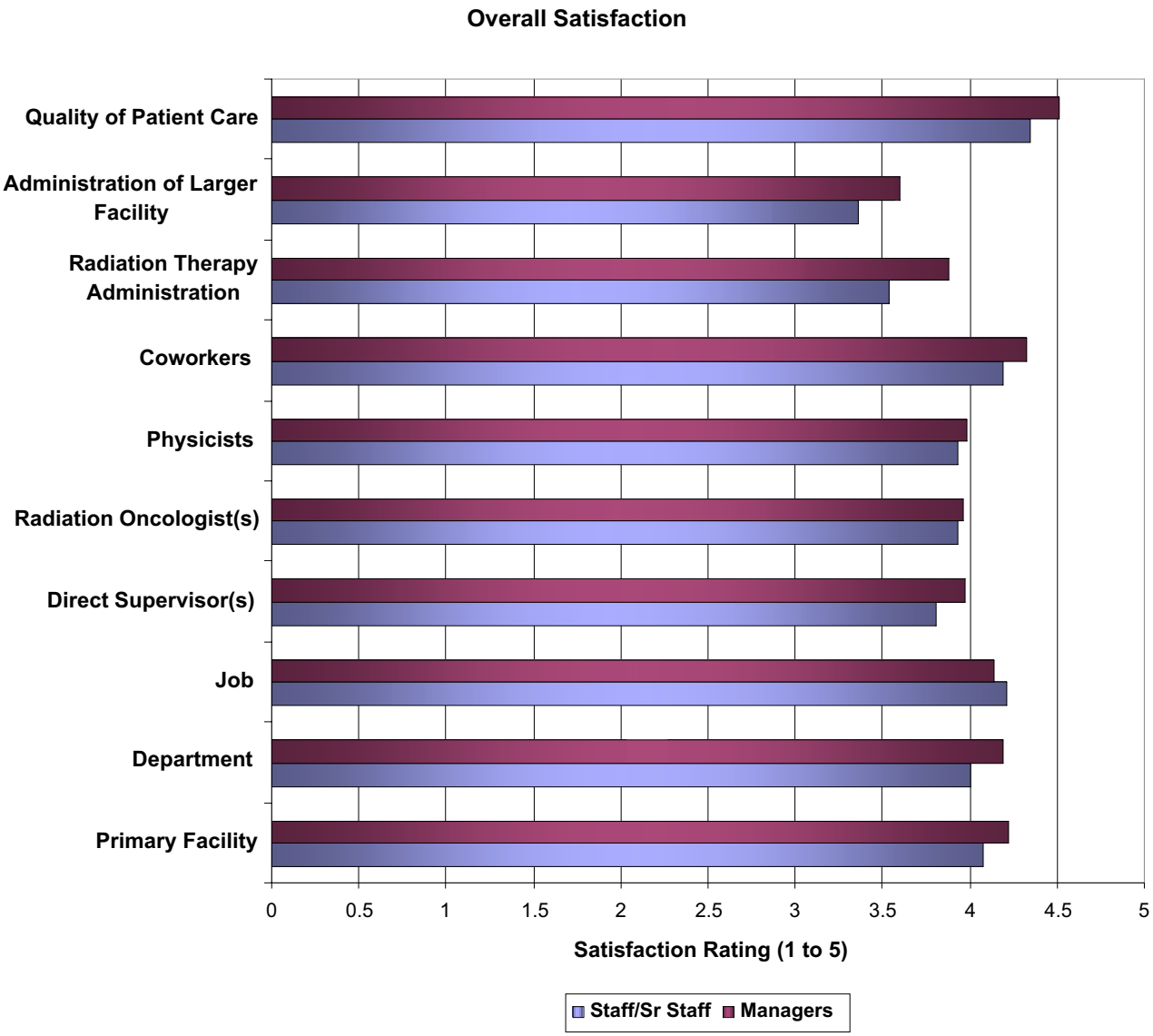
- Nearly all administrators (97%) and radiation therapists (95.5%) work the day shift more than one-half the time. About 2% of staff therapists and only 1% of administrators put in more than one-half their time on the swing/rotating shift.

- Commute times range from one minute to 125 minutes (each way), with the median being about 22 minutes for administrators and 24 minutes for staff therapists.

- About 63% of administrators and 75% of staff therapists work between 36 and 45 hours per week in radiation therapy. Only about 6% of staff therapists, but more than 33% of their supervisors, work more than 45 hours per week.

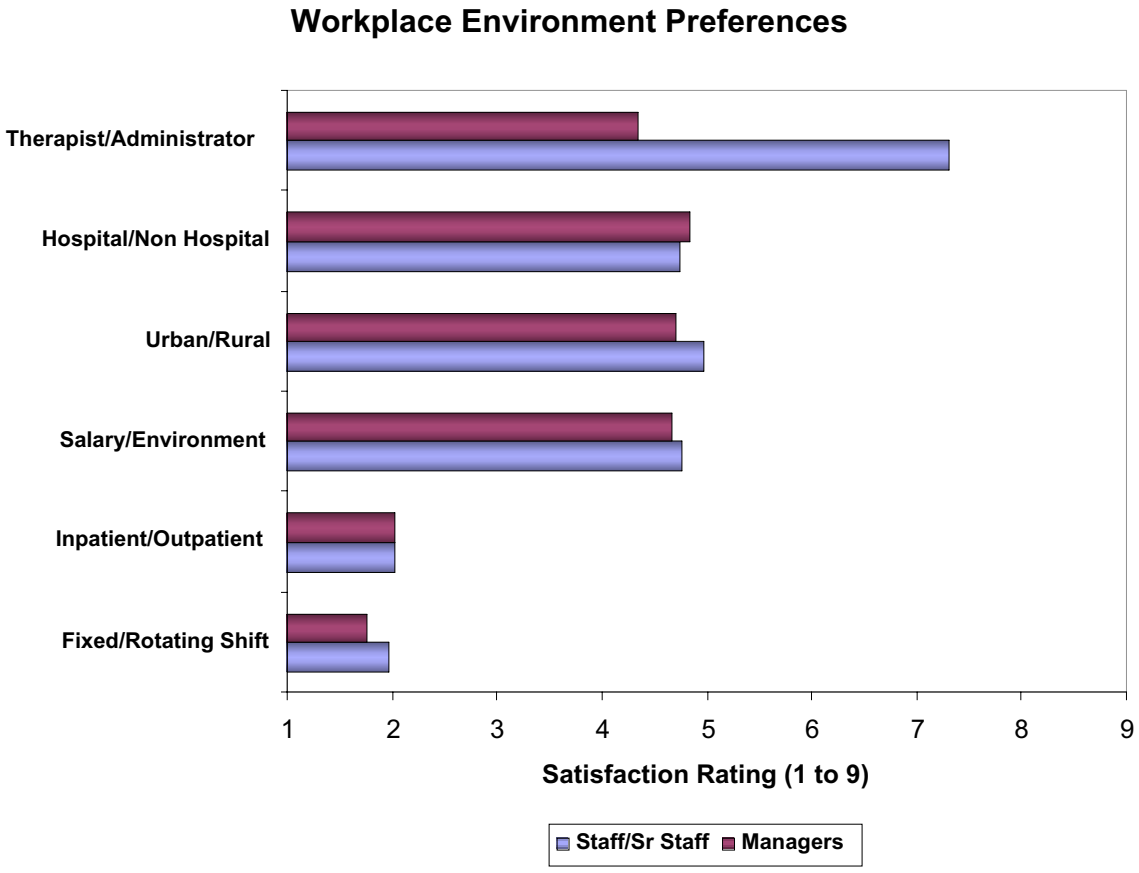
Overall Satisfaction

- Satisfaction with 10 components of the facility and the job (the primary facility, the department, the job, direct supervisors, radiation oncologists, physicists, coworkers, the radiation therapy administration, overall administration and quality of patient care) is generally rather high (mean close to 4 on the 5-point scale). An exception is with "the administration of the larger facility within which your department is located" (mean of 3.4 among staff therapists, 3.6 among administrators). The radiation therapists' satisfaction with their radiation therapy administration is rated 3.5, yet administrator respondents rate themselves and their colleagues at 3.9.



Broad Workplace Environment Preferences

- Staff and administrators expressed fairly strong preferences for working on the same shift all the time and for working with outpatients. They are also split nearly equally between great salary and great work environment, between urban and rural settings, and between working in a hospital or a non hospital setting. However, while administrators show a slight preference for being an administrator rather than a radiation therapist, staff therapists express a fairly strong preference in the opposite direction.



Note: The closer the mean is to 9.0 ("Very satisfied"), the stronger the preference for the first-named alternative. The closer it is to 1.0 ("Very dissatisfied"), the stronger the preference for the second-named alternative. The midpoint of the scale ("Equal preference") is 5.0.

Detailed Evaluation of Current Workplace

- Respondents rated 29 attributes of their workplaces on a scale from 1 (very poor) to 5 (very good).

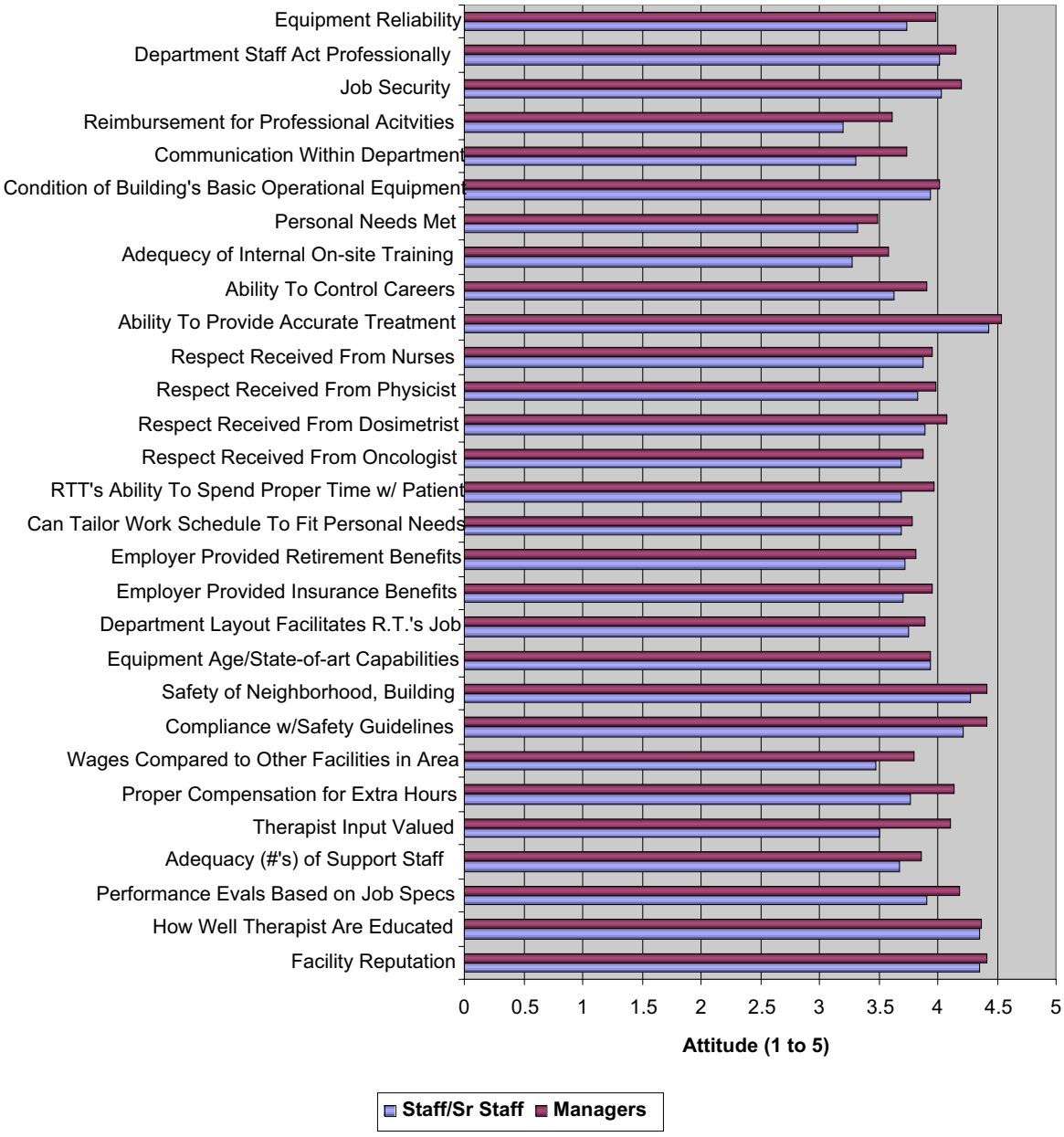
- Staff radiation therapists gave mean ratings above 4.2 (on a 1-to-5 scale) to their facilities' reputations, how well therapists are educated in their jobs, compliance with occupational safety guidelines, safety of the workplace in terms of neighborhood and building security and their ability to provide accurate treatment. They gave ratings below 3.5 to wages for radiation therapy compared to other facilities in the area, adequacy of internal, on-site training, the extent to which personal needs (e.g., convenient location, daycare, senior care) are met and reimbursement for professional activities. No mean rating was below 3.0 (the midpoint of the scale).

- Radiation therapy administrators joined staff therapists in giving mean ratings above 4.2 to their facilities' reputations, how well therapists are educated in their jobs, compliance with occupational safety guidelines, safety of the workplace and therapists' ability to provide accurate treatment. They also rated job security at a mean of 4.2. The only aspect to which they assigned a mean rating at slightly below 3.5 is the extent to which personal needs are met.

- The simple average of the ratings of the 29 specific attributes correlated positively with and accounted for 21% of the variation in administrators' overall satisfaction with their primary workplaces. This was defined by averaging their ratings of 10 broad aspects of their primary workplaces. This correlation was .549 (accounting for 30% of the variation in overall satisfaction) for staff radiation therapists. The percentage increases to 26% for administrators and 36% for staff therapists when the optimal (weighted) linear combination of the specific-attribute ratings is considered.

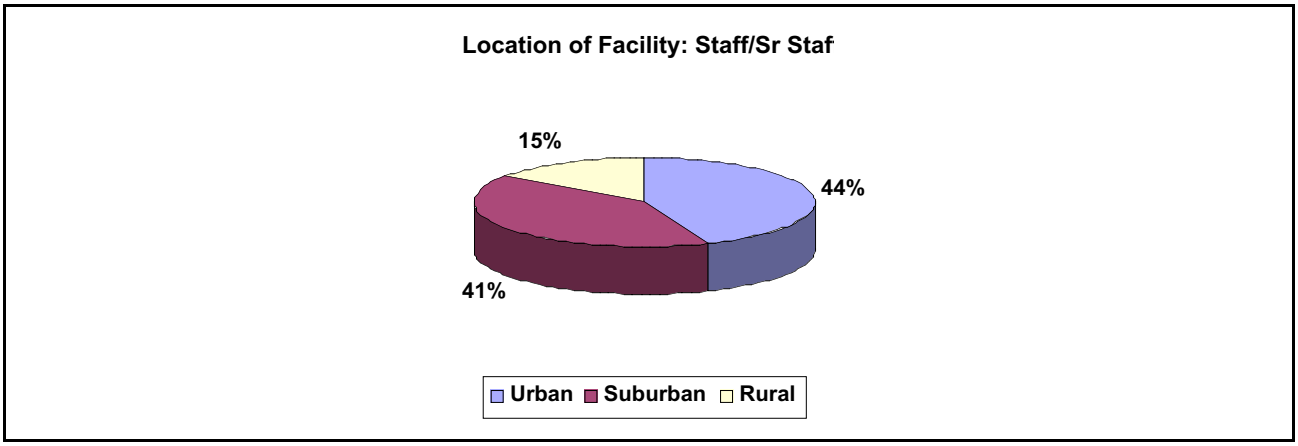
- In addition, radiation therapist respondents' tendency to rate peer-related aspects of their workplaces higher than aspects dependent primarily on their supervisors and administrators was significantly related (correlation = .422, accounting for 18% of the variation in overall satisfaction) to the difference between their average rating of respect received from radiation oncologists, physicists and overall quality of patient care, minus the average of several ratings. These include their ratings of the extent to which their performance evaluations are based on job specifications, the extent to which therapists' input is valued, wages at their facility compared to others in the area, their ability to control their careers, and the adequacy of internal, on-site training and communication within the department. The optimal combination of predictors of this peers-vs.-supervisors variable accounted for 24% of its variance.

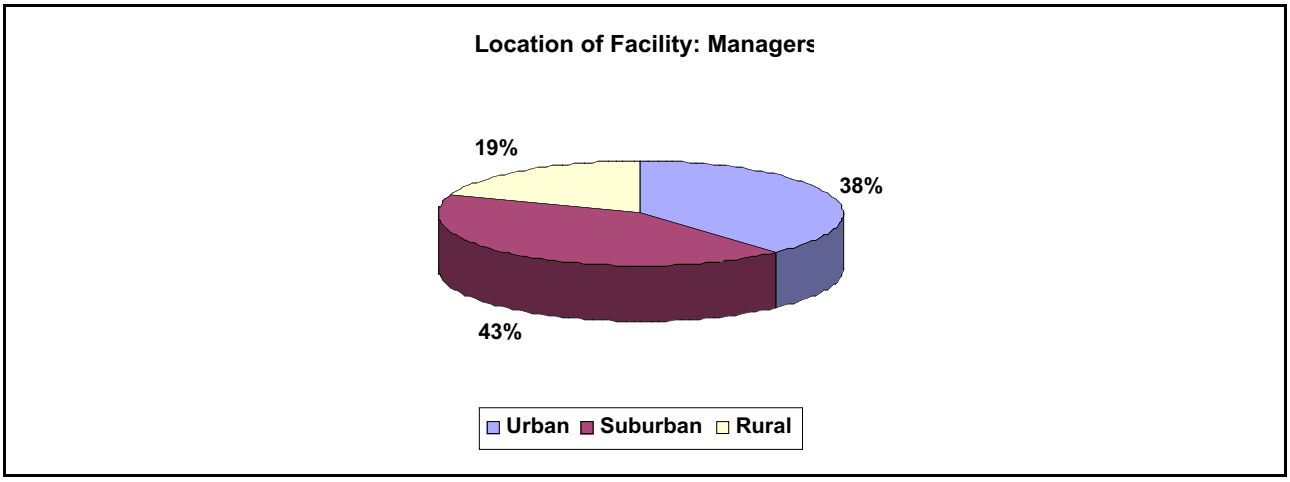
Workplace Environment



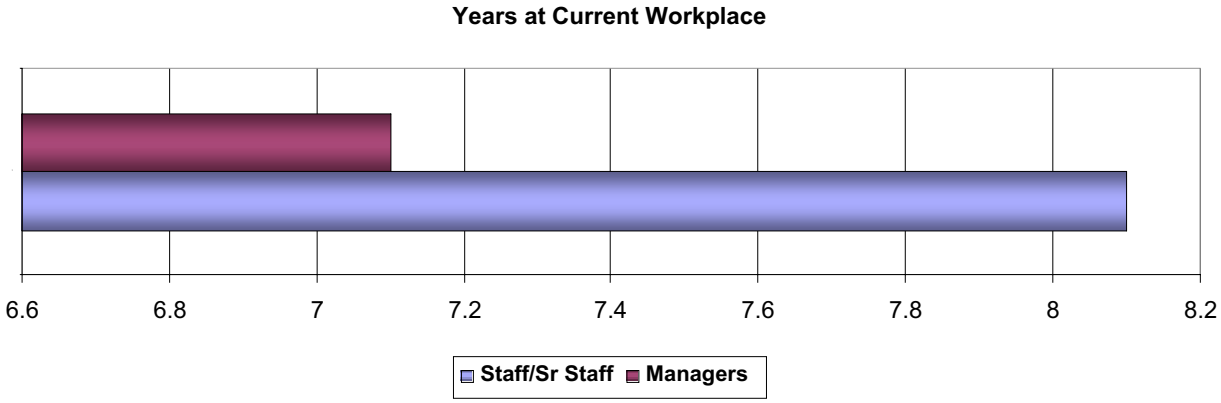
Note: The closer the mean is to 5.0 (“Very good”), the stronger the feeling of their workplace being good in respect to that variable. The closer it is to 1.0 (“Very poor”), the stronger the feeling of their workplace being poor in respect to that variable. The midpoint of the scale (“Fair”) is 3.0.

- Both staff and administrators are about evenly split between urban and suburban work settings (38% to 44%). About 15% of staff radiation therapists and 19% of radiation therapy administrators work in rural settings.





- Staff therapists reported that the radiation therapy staff members have worked an average of 8.1 years at their current workplace; administrators report an average staff tenure of 7.1 years.

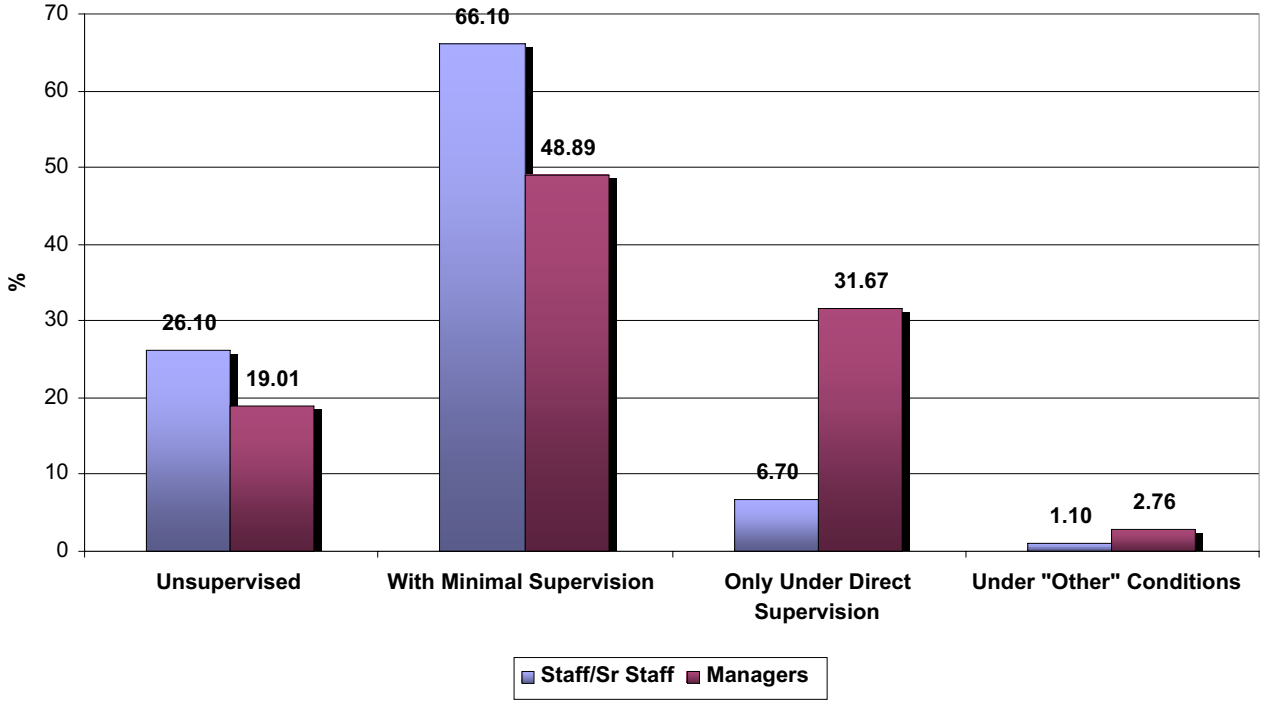


Issues in Radiation Therapy

- Of radiation therapy administrators, 19% estimated that new graduates are prepared to work unsupervised and 62% said none of the new graduates are prepared to work unsupervised. However, they judge another 49% prepared to work with minimal supervision.

- Staff radiation therapists were somewhat more confident about their preparation to work unsupervised as new graduates (26%) than administrators. Further, 92% of staff therapists said they required at most minimal supervision as a new graduate, versus the 78% of administrators who feel confident about new graduates they have hired recently.

Levels of Supervision Under Which New Graduates Are Prepared to Work



- About 80% of radiation therapists recall having been able to perform (with appropriate supervision) all or almost all of the department's procedures as new graduates, but only 55% of administrators assess current new graduates' abilities at the same level.

- The number of procedures nominated as "least prepared to perform" ranged from zero to seven. By far the most commonly cited was simulation, which was mentioned by 23% of staff therapists and 31% of administrators. The only other procedure mentioned by more than 9% of either group was IMRT (9.1% of administrators, but only 1% of staff therapists).

- About one-third of administrators attributed new graduates' lack of skills to a roughly equal combination of their education programs and their individual characteristics, (22% primarily on education programs, 13% on individual characteristics). Another 19.5% considered the question irrelevant because they are fully satisfied with the new graduates' skills.

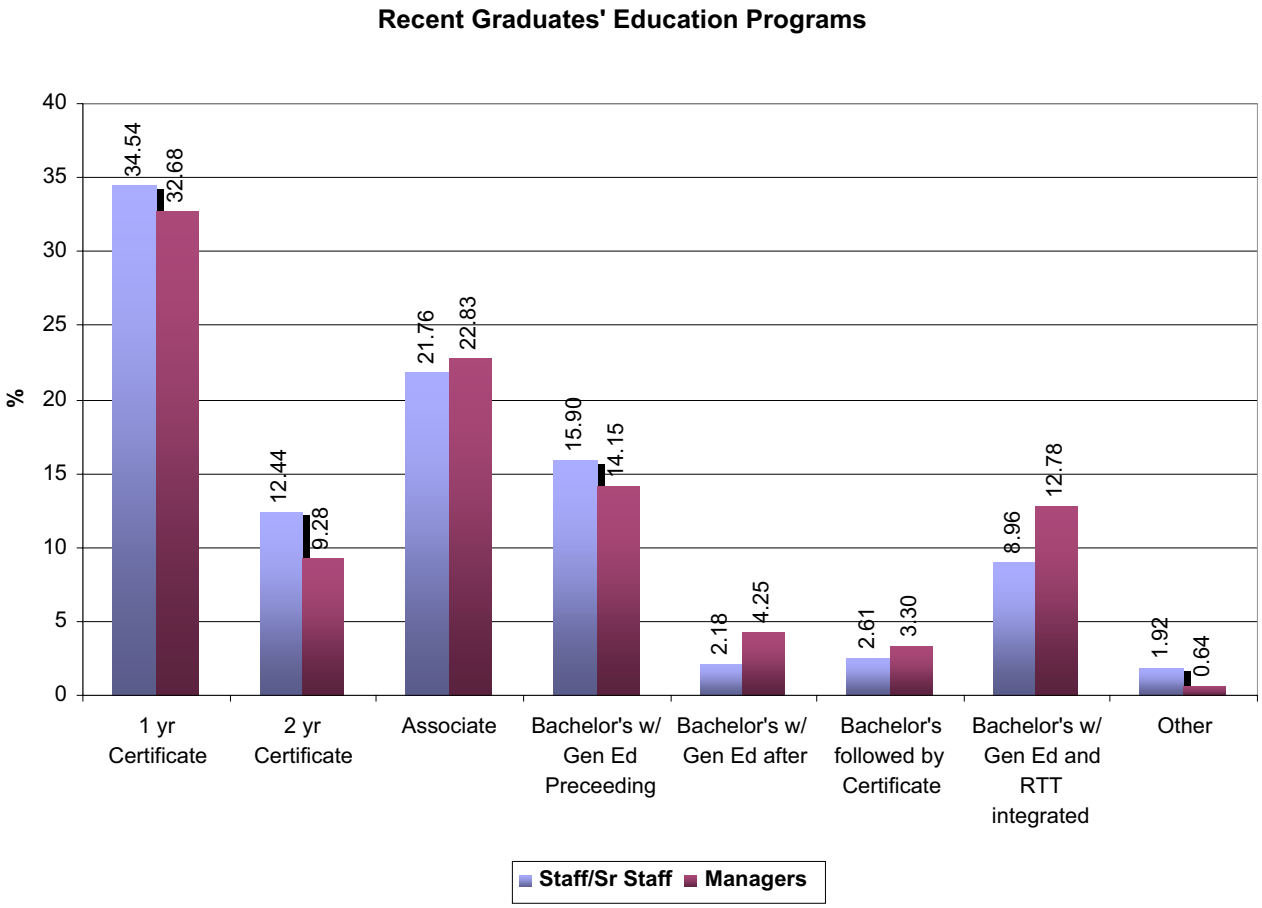
- Only about 11% of administrators feel that new graduates are "sharper" at detecting procedure errors than other therapists in their departments; about 50% feel that they're about equally good at this. Slightly more than 33% feel that the new graduates are less skilled at detecting procedure errors.

- Of those who feel newly hired graduates detect procedure errors less often than other therapists, about 40% believe there are particular kinds of errors that new graduates are particularly likely to miss.

- Radiation therapy administrators are about equally split between those who do and those who do not report that they use assessment tools to evaluate the new graduates they hire.

- Administrators report that greater than 40% of their new hires the past three years have come from one- and two-year certificate programs, 23% from associate degree programs and 34% from baccalaureate programs. The most common type of baccalaureate program involves general education courses taken before radiation therapy clinical and didactic work and those in which general education and radiation therapy work are integrated.

- Radiation therapists responded that slightly less than 50% of new radiation therapy program graduates they've worked with over the past three years came from one- and two-year certificate programs, 22% from associate degree programs and about 30% from baccalaureate programs. About one-half of baccalaureate programs involved general education requirements being satisfied first.



- Only about one-third of administrators and staff therapists believe that there is a difference in skills of students graduating from the various types of programs. About one-sixth of administrators and staff therapists believe that, while type of program doesn't affect skill level, there are nonetheless substantial differences among particular programs in the skill level of their graduates.

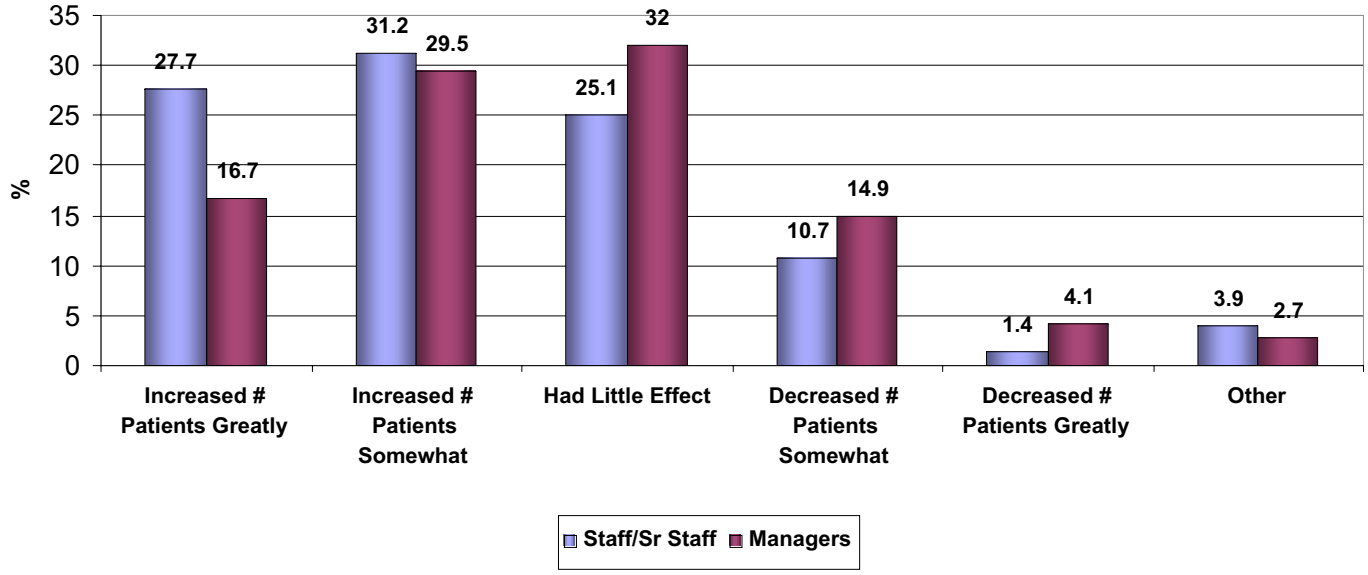
- Among administrators who feel that type of program affects graduates' skill level, about three-fourths specifically mentioning certificate or baccalaureate programs did so

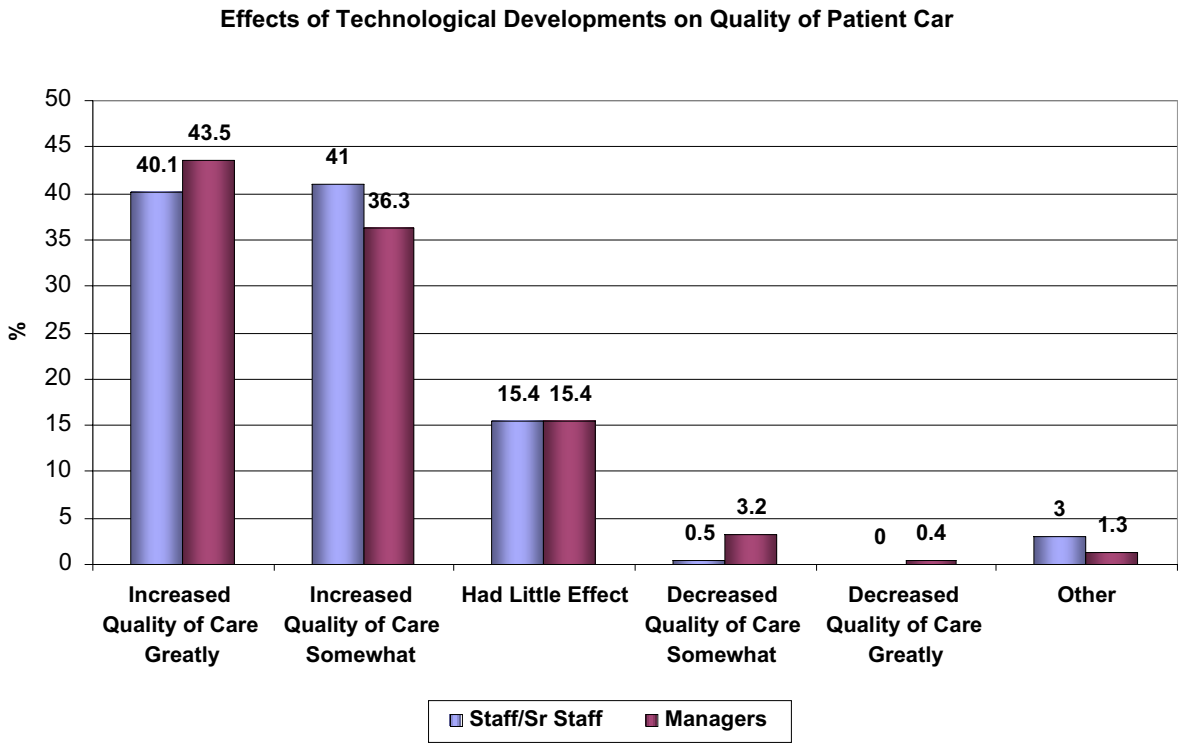
favorably. Of the 78 mentions of a particular type of education program as producing more skilled graduates, 56% were of baccalaureate programs, 35% were of certificate programs, and 65% were of degree (associate or bachelor's) programs. Of the 32 mentions of a type of program as yielding less skilled graduates, 11 (34%) were of certificate programs, 12 (37.5%) were of baccalaureate programs, 13 (41%) were of degree programs and 7 (22%) were of online programs.

- In general, radiation therapy administrators consider new graduates less skilled than radiation therapists with three years' experience, the difference being from .5 to 1.5 units on the 6-unit scale. The primary exceptions are computer skills and comfort level, in which new graduates are rated as essentially equal to therapists with three and five years of experience.

- About 50% of staff radiation therapists and 60% of administrators believe that over the past five years technological developments have increased the number of patients who can be treated in a given week somewhat or greatly. Yet 16% of staff and 22% of administrators feel that these developments have decreased patient throughput. About 80% of administrators and staff radiation therapists feel that technological developments have increased the quality of care. Only about 1% of administrators and fewer than 4% of radiation therapists feel that these developments have decreased the quality of care.

Effects of Technological Developments on Patient Throughput





- Radiation therapy administrators feel that therapists with three to five years of work experience are best able to adapt to and use technological developments than any other "professional age" subgroup.

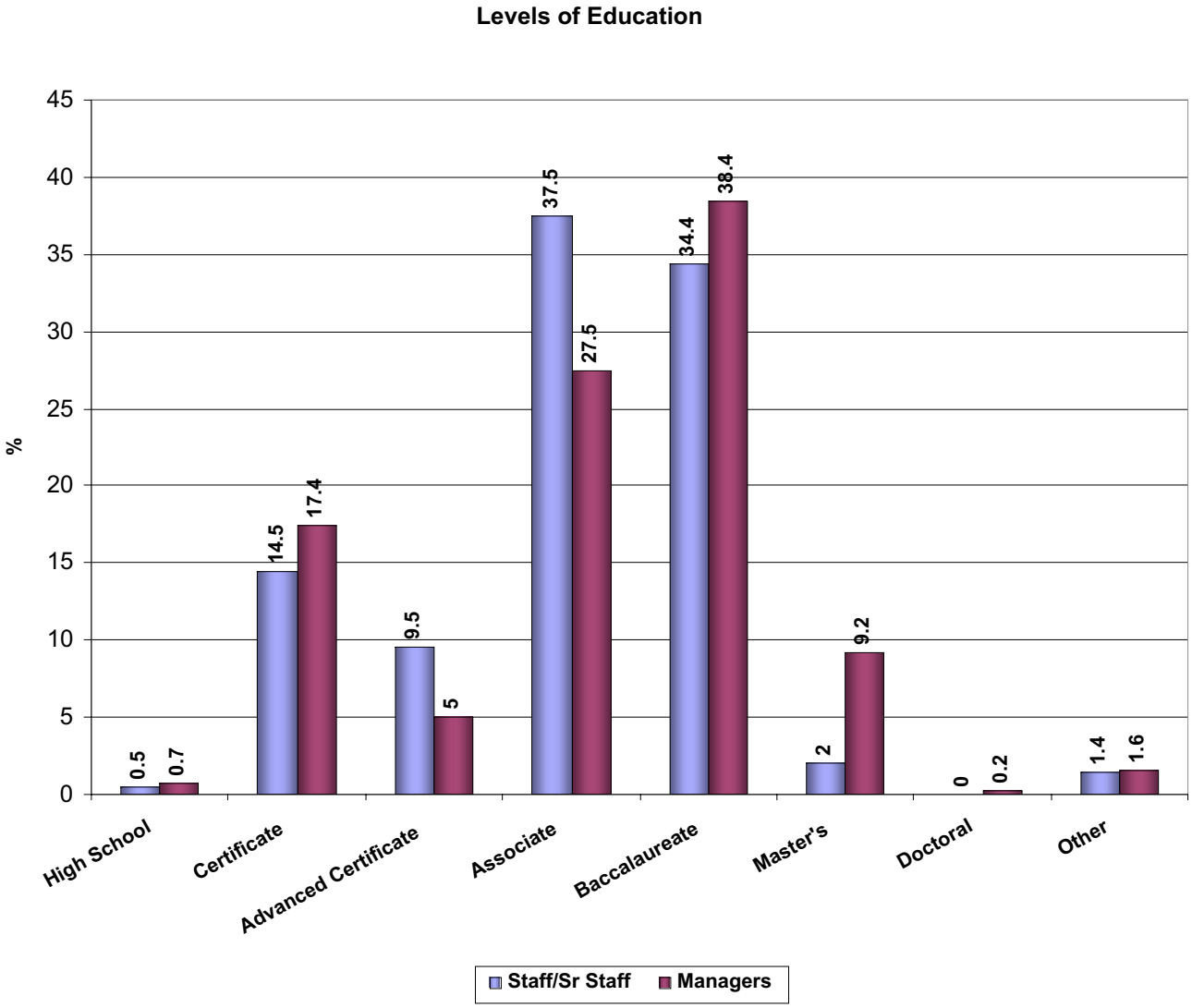
- A plurality (49.7%) of staff therapists report that they eagerly seek out and quickly get "up to speed" in the use of new technology. Only about 15% of them report that learning to use new technology is difficult or very difficult. An obvious analysis would be to see how this eagerness relates to years of work experience.

- When asked what additional information they would like new graduates to know, 30% of the administrators who commented mentioned a general area of knowledge or skill (i.e., treatment planning) and 17%, a specific procedure or skill (e.g., brachytherapy or CT/simulation). Another 24% said a general approach to the profession (e.g., that there are several ways of accomplishing a given treatment outcome or that they need to be silent learners). When asked what they themselves would like to have known when they were new graduates, 44% of radiation therapists who commented mentioned negative working conditions (e.g., the physical demands of the job or "politics" in the workplace), 6% added positive working conditions (i.e., appreciation of their work by patients or physicians) and 23% a general area of knowledge or skill. Another 27% commented on the profession or on education for the profession.

Demographics

- Staff therapists report an average age of 40.5 years and administrators, about 43.5 years.

- Radiation therapy administrators are somewhat less likely than staff therapists to hold an associate degree (28% vs. 35%), but somewhat more likely to hold a master's or doctoral degree (11% vs. 3%). The percent of administrators whose highest level of education is a certificate increases with tenure in radiation therapy. Likewise, the percentage of bachelor's degree holders decreases as tenure in radiation therapy increases. Further, administrators born in 1953 or earlier – roughly, those 50 years of age or older – are much more likely (45%) to have no post-high school degree than those born between 1954 and 1958 (25% certificate-only) or those born in 1959 or later (16%).



- Administrators are somewhat more likely than staff to report “Caucasian” as their ethnic background (93% vs. 90%) and somewhat less likely to claim “Hispanic” background (2% vs. 3.5%).

- About 87% of females but only 80% of males who indicated on their most recent ARRT renewal form that they were a staff or senior staff therapist still held that position by the time they received the questionnaire. This is consistent with the higher percentage of females in the staff sample as a whole (82%) vs. in the administrator sample (71%).

Detailed Findings

Professional Profile

1. State in which primary workplace is located

Staff

	State/Prov	Frequency	Percent
U.S. States and D.C.	AK	1	.0
	AL	19	.9
	AR	20	1.0
	AZ	33	1.6
	CA	153	7.3
	CO	39	1.9
	CT	34	1.6
	DC	4	.2
	DE	6	.3
	FL	128	6.1
	GA	41	2.0
	HI	9	.4
	IA	41	2.0
	ID	9	.4
	IL	99	4.7
	IN	70	3.3
	KS	31	1.5
	KY	29	1.4
	LA	40	1.9
	MA	48	2.3
	MD	29	1.4
	ME	14	.7
	MI	89	4.2
	MN	50	2.4
	MO	47	2.2
	MS	15	.7
	MT	8	.4
	NC	56	2.7
	ND	11	.5
	NE	21	1.0
	NH	11	.5
	NJ	53	2.5
	NM	4	.2
	NV	18	.9
	NY	83	4.0
	OH	117	5.6
	OK	19	.9
	OR	31	1.5
	PA	146	7.0
	RI	6	.3
	SC	26	1.2
	SD	5	.2
	TN	43	2.0
	TX	108	5.1
	UT	11	.5
	VA	60	2.9
	VT	5	.2
	WA	43	2.0
	WI	75	3.6
	WV	17	.8
	WY	4	.2
	Total States and DC	2079	98.5
APO & Affiliated	PR	1	.0
Canada	Alberta	1	.0
	BC	2	.1
	Canada	1	.0
	MB	1	.0
	NS	1	.0
	ON	12	.6
	Total Canada	18	.9
Other countries	GB	1	.0
Total Assign-able		2099	99.4
Other	Blank	9	.4
	Locum	1	.0
	?O	1	.0
	PA & NJ	1	.0
	Total Other	12	5.7
Total		2111	100.0

All 50 states, Washington D.C., at least five Canadian provinces and one other foreign country (Great Britain) were represented in the sample. While the differences between the sample percentages from various states and the corresponding population percentages were not large, the overall chi-square for differences between population and sample proportions was statistically significant (156.27 with 53 *df*, $P < .001$). Iowa (1.2% of the population, 2.0% of the sample),

Neb. (0.6% of the population, 1.0% of the sample), Nev. (0.4% vs. 0.9%) and Wis. (2.3% vs. 3.6%) were significantly overrepresented ($P < .01$ in each case); while Ala. (1.7% vs. 0.9%), Canada (1.8% vs. 0.9%), and N.Y. (6.6% vs. 4.0%) were underrepresented in the sample.

There were no significant differences across job title for staff radiation therapists.

Administrators

	Frequency	Percent
Blank	1	.2
AK	1	.2
AL	8	1.3
AR	5	.8
AZ	12	2.0
CA	39	6.6
CO	7	1.2
CT	8	1.3
DC	3	.5
DE	2	.3
FL	38	6.4
GA	12	2.0
HI	2	.3
IA	3	.5
ID	6	1.0
IL	24	4.0
IN	12	2.0
KS	8	1.3
KY	5	.8
LA	7	1.2
MA	21	3.5
MD	10	1.7
ME	2	.3
MI	20	3.4
MN	14	2.4
MO	18	3.0
MS	7	1.2
MT	3	.5
NC	17	2.9
ND	2	.3
NE	7	1.2
NH	5	.8
NJ	15	2.5
NM	2	.3
NV	2	.3
NY	35	5.9
OH	22	3.7
OK	11	1.9
OR	13	2.2
PA	38	6.4
RI	2	.3
SC	5	.8
SD	1	.2
TN	17	2.9
TX	37	6.2
UT	2	.3
VA	20	3.4
WA	13	2.2
WI	18	3.0
WV	5	.8
WY	4	.7
ON	3	.5
Total	594	100.0

Administrators responded from 49 of the 50 states (Vermont was not represented) and from Ontario (3= 0.5%). The differences between the percentages of respondents from the various states, Canada, and other countries and the corresponding percentages for all 1,970 radiation

therapy administrators in the population were nonsignificant (chi-square = 57.19 with 50 *df*, $P > .10$).

2. Are you currently working in radiation therapy?

Staff

		Frequency	Percent	Cumulative Percent
Valid	No	81	3.9	3.9
	Yes	2003	96.1	100.0
	Total	2084	100.0	
Missing	System	27	1.3	
	Total	2111	100.0	

There also was a statistically significant difference (chi-square = 97.060 with 1 *df*, $P<.001$) across job type. Staff radiation therapists and medical dosimetrists reported a significantly higher percentage of respondents currently working in radiation therapy (99.2%) compared to the "other" respondents, who replied with only 89.1% currently working in radiation therapy. This test was performed using weighted averages, since the sample was not evenly represented for state. Thus the best estimate of the population percentage currently working in radiation therapy is 99.2%. The population is ARRT-registered radiation therapists who considered staff or senior staff technologist the most apt job description on the renewal form, and the assumption that this includes those who checked staff therapist or medical dosimetrist on the questionnaire.

Administrators

		Frequency	Percent	Cumulative Percent
Valid	No	7	1.2	1.2
	Yes	587	98.8	100.0
	Total	594	100.0	

Of the radiation therapist sample, 4% are not currently working in radiation therapy. Only 1% of staff therapists, medical dosimetrists and radiation therapy managers in the population are not currently working. Interestingly, three of the four administrators not currently working in radiation therapy had master's or doctoral degrees ($P = .002$ by Fisher's exact test).

Questions 3-5, for those answering "No" to question 2:

3. How many years did you work in radiation therapy?

Staff

N	Valid	137
	Missing	1974
Mean		10.34
Std. Error of Mean		.706
Median		8.00
Std. Deviation		8.259
Minimum		0
Maximum		36

Figures weighted for state

N	Valid	143
	Missing	1956
Mean		10.20
Std. Error of Mean		.668
Median		8.00
Std. Deviation		7.992
Minimum		0
Maximum		36

Administrators

Currently unemployed staff therapists have an average of 10 years of work experience in radiation therapy, vs. the five unemployed administrators' average of 20 years of radiation therapy work experience.

4. Reasons unemployed or employed outside radiation therapy

Staff

		Frequency	Valid Percent	Cumulative Percent
Valid	Retirement	4	4.8	4.8
	Career Change	29	34.5	39.3
	Job Unavailability	11	13.1	52.4
	Other	40	47.6	100.0
	Total	84	100.0	
Missing	-9.00	2027	96.0	
Total		2111	100.0	

Figures weighted for state

		Frequency	Valid Percent	Cumulative Percent
Valid	Retirement	4	4.2	4.2
	Career Change	33	37.5	41.7
	Job Unavailability	11	12.8	54.5
	Other	39	45.5	100.0
	Total	87	100.0	
Missing	-9.00	2012	95.9	
Total		2099	100.0	

Some "other" reasons cited: career change (10), switch to child/home care (8), lost job (3), disability/cancer (4), stress/burnout/disliked job (3).

Administrators

No response: 2
Retirement: 3
Job unavailability: 1
Sabbatical to determine if I'll stay in the field: 1 (the person with 11 years work experience in radiation therapy).

The primary reason staff radiation therapists cited for not being employed in radiation therapy was career change (47.5% of those who answered the question), while three of the five unemployed administrators who answered the question had retired.

5. Are you planning on returning to radiation therapy?

Staff

		Frequency	Valid Percent	Cumulative Percent
Valid	No	42	53.2	53.2
	Yes	37	46.8	100.0
	Total	79	100.0	
Missing	System	2032	96.3	
Total		2111	100.0	

Figures weighted for state

		Frequency	Valid Percent	Cumulative Percent
Valid	No	44	53.4	53.4
	Yes	38	46.6	100.0
	Total	82	100.0	
Missing	System	2017	96.1	
Total		2099	100.0	

Administrators

Yes: 3 No: 4

About 47% of staff radiation therapists who currently are not employed in the profession and three of the seven administrators (43%) in that situation are planning to return to the profession.

Those Employed in or Planning to Return to Radiation Therapy

6. How many years (not necessarily consecutively) have you practiced in the radiologic sciences?

Staff

		Staff	Administrators
N	Valid	2058	586
	Missing	53	8
Mean		13.53	18.48
Median		12.00	17.67
Std. Deviation		8.710	8.099
Minimum		1	1
Maximum		45	43

Figures weighted for state

N	Valid	2051
	Missing	48
Mean		13.45
Median		12.00
Std. Deviation		8.762
Minimum		1
Maximum		45

		Staff, Sr. Staff Therapists			Administrators		
		Frequency	Valid Percent	Cumulative Percent	Frequency	Percent	Cumulative Percent
Valid	1-5	418	20.3	20.3	17	2.9	2.9
	6-10	473	23.0	43.3	87	14.8	17.7
	11-15	430	20.9	64.2	132	22.5	40.2
	16-20	310	15.1	79.3	134	22.9	63.1
	21-25	221	10.7	90.0	95	16.2	79.3
	26-30	116	5.6	95.6	76	13.0	92.3
	31-35	61	3.0	98.6	34	5.8	98.0
	36-40	24	1.2	99.8	8	1.7	99.6
	41-60#	5	.2	100.0	3	.5	100.0
	Total Valid	2058	100.0		586	100.0	
Missing	System	53	2.5		8	1.3	
Total		2111			594	100.0	

#Maximum reported years of service for staff therapist was 45 years.

Figures weighted for state

		Frequency	Percent	Cumulative Percent
Valid	1-5	419	20.4	20.4
	6-10	484	23.6	44.0
	11-15	424	20.7	64.7
	16-20	304	14.8	79.5
	21-25	216	10.5	90.1
	26-30	115	5.6	95.6
	31-35	56	2.8	98.4
	36-40	24	1.1	99.5
	41-60#	9	.5	100.0
	Total	2051	100.0	
Missing	System	48	2.3	
Total		2099	100.0	

The "typical" (median) respondent in the staff sample has about 12 years of work experience in the radiologic sciences. The typical radiation therapy administrator has about 17 years of experience. About 20% of radiation therapists but fewer than 3% of administrators have practiced in the radiologic sciences for five or fewer years.

The radiation therapist sample also demonstrated a statistically significant difference (F=8.316 with 3, 2004 df, P<.001) in work experience across job type (staff radiation therapist vs. chief radiation tech/department manager/director vs. educational instructor/educational program director/clinical director vs. medical dosimetrist). The mean number of years for staff (12.95) was lower than for the other three groups (15.67 for chief therapist/department manager/director,

16.20 for educational instructor/program director/clinical director and 15.13 for medical dosimetrist). This test used weighted averages, since the sample was not evenly represented for state. Thus the estimated population mean years in radiation therapy is the average of the staff and medical dosimetry means, or 13.1 years.

Administrators whose highest education level is a certificate or an advanced certificate have been working in the radiologic sciences longer (22.5 years) than those holding a baccalaureate or postgraduate degree (16.7 to 18.8 years), $F(1,550) = 7.46$, $P < .001$. Inevitably – since years as a radiation therapist can't exceed total years in the radiologic sciences – mean years in radiologic sciences increases steadily with years in radiation therapy, from 9.4 years for those with 10 or fewer years' tenure in radiation therapy through 30.9 years for those with 26 or more years' tenure. Adjusting to the population proportions in the various combinations education level and tenure as a radiation therapist yields a revised mean (median) of years in the radiologic sciences of 17.9 (16.95) years.

7. In what year did you obtain your first ARRT certificate?

		Staff	Admin
N	Valid	2049	590
	Missing	62	4
Mean		1989.13	1984.52
Std. Error of Mean		.197	.355
Median		1991.00	1985.30
Std. Deviation		8.897	8.322
Minimum		1957	1961
Maximum		2003	2002

Figures weighted for state

N	Valid	2042
	Missing	57
Mean		1989.22
Std. Error of Mean		.198
Median		1991.00
Std. Deviation		8.941
Minimum		1957
Maximum		2003

The typical radiation therapist respondent obtained her or his first ARRT certificate 13 years ago, while the typical administrator respondent obtained a certificate 18.5 years ago.

As with years in the radiologic sciences, year in which the first radiologic certificate was obtained is further in the past for administrators whose highest level of education is a certificate than administrators with higher education levels and is of course longer ago for those who have been in radiation therapy longer. Adjusting the administrators' statistics to the population

proportions of education level and years in radiation therapy yields an estimated population mean (median) year of first certificate of 1985.1 (1986.2).

Radiation therapist respondents show a statistically significant difference across job title for year first ARRT certificate was obtained (F=7.026 with 3, 2010 df, P<.001). More specifically, the year the first staff ARRT certificate was obtained (1989.70) was significantly higher than the year the first ARRT certificate was obtained for the three other groups (1987.05 for chief therapist/department manager/director, 1986.66 for educational instructor/program director/clinical director and 1987.73 for medical dosimetrist). This test was performed using weighted averages, since sample was not evenly represented for state. The best estimate of the population mean year in which first certificate was obtained by staff and senior staff therapists (including dosimetrists) is 1989.57 (14.2 years ago).

7. In what radiologic specialty did you obtain your first certification?

	Staff		Admin	
Specialty	Frequency	Percent	Frequency	Percent
DIAGNOSTIC, DIAGNOSTIC IMAGING, DIAGNOSTIC RADIOGRAPHY, DIAGNOSTIC RADIOLOGY, DIAGNOSTIC X-RAY, IMAGING, RADIOGRAPHER, RADIOGRAPHY, RT(R), X-RAY, X-RAY TECHNOLOGY	680	33.5	201	34.6
RADIOLOGIC TECHNOLOGY/DIAGNOSTIC	14	0.7	1	0.2
GENERAL, R.T., RAD TECH, RADIOLOGIC TECH, RADIOLOGIC TECHNOLOGIST, RADIOLOGIC TECHNOLOGY, RADIOLOGY TECHNOLOGY	344	17.0	88	15.1
MAMMOGRAPHY	4	0.2	0	0.0
NUCLEAR MEDICINE	2	0.1	1	0.2
RAD THERAPY, RADIATION THERAPIST,RADIATION THERAPY, RADIATION THERAPY TECHNOLOGY, RADIATION THERAPY VIA CANADA, RT(T), THERAPY	686	33.8	185	31.8
RADIATION, RADIATION ONCOLOGY, RADIATION SCIENCES/RADIOLOGY, RADIOLOGY, RADIOLOGY (DIAGNOSTIC)	271	13.4	102	17.6
RADIATION TECH,TECHNOLOGIST	16	0.8	2	0.3
RADIOGRAPHY & CT	1	0.0	0	0.0
RADIOGRAPHY & RADIATION THERAPY, X-RAY & THERAPY	2	0.1	2	0.3
OTHER (R, Oncology therapy, No specialty)	7	0.3	0	0.0
Total valid	2027	100.0	581	100.0
Blank or ??? or illegible	84	4.0	13	2.2
Total	2111		594	100.0

Figures weighted for state

	Staff	
Specialty	Frequency	Percent
DIAGNOSTIC, DIAGNOSTIC IMAGING, DIAGNOSTIC RADIOGRAPHY, DIAGNOSTIC RADIOLOGY, DIAGNOSTIC X-RAY, IMAGING, RADIOGRAPHER, RADIOGRAPHY, RT(R), X-RAY, X-RAY TECHNOLOGY	658	31.4
RADIOLOGIC TECHNOLOGY/DIAGNOSTIC	15	0.7
GENERAL, R.T., RAD TECH, RADIOLOGIC TECH, RADIOLOGIC TECHNOLOGIST, RADIOLOGIC TECHNOLOGY, RADIOLOGY TECHNOLOGY	32	15.6
MAMMOGRAPHY	3	0.1
NUCLEAR MEDICINE	2	0.1
RAD THERAPY, RADIATION THERAPIST,RADIATION THERAPY, RADIATION THERAPY TECHNOLOGY, RADIATION THERAPY VIA CANADA, RT(T), THERAPY	736	35.1
RADIATION, RADIATION ONCOLOGY, RADIATION SCIENCES/RADIOLOGY, RADIOLOGY, RADIOLOGY (DIAGNOSTIC)	257	12.2
RADIATION TECH,TECHNOLOGIST	16	0.7
RADIOGRAPHY & CT	1	0.1
RADIOGRAPHY & RADIATION THERAPY, XRAY & THERAPY	2	0.1
OTHER (R, Oncology therapy, No specialty)	6	0.3
Total valid	1322	100.0
Blank or ??? or illegible	75	3.6
Total	2099	

About one-half of staff radiation therapists and administrators reported that they obtained their first ARRT certificate in radiography, though the specific terminology used to designate the certificate varied. Respondents most commonly listed alternative designations of radiologic technology and diagnostic. About one-third of both groups reported that the therapy certificate

was their first ARRT certificate. And about one-sixth reported receiving their first ARRT certificate in radiology or radiation oncology. However, it seems safe to assume that those who gave an ambiguous response (radiation, radiation oncology, radiology, etc.) and who reported being in radiation therapy for at least as many years as they have been in the radiologic sciences obtained their first certificate in radiation therapy, while those who gave an ambiguous response but who have been in radiation therapy for less than 100% of their sojourn in the radiologic sciences obtained their first certificate in radiography. Making this reassignment increases the percentage of administrators whose first certificate was in radiation therapy to 36.2%. This does not differ significantly for administrators with different education levels or with varying numbers of years in radiation therapy. A similar adjustment for radiation therapists raises the percentage of staff therapists whose first certificate was in radiation therapy to 38.5%.

8. What type of radiation therapy educational program did you graduate from to qualify for the radiation therapy registry exam?

	Staff		Administrators		
	Frequency	Percent	Frequency	Percent	Estimated Population Percent
1-year certificate program	1008	49.3	298	50.7	49.3
2-year certificate program	218	10.7	66	11.2	11.1
Assoc degree program	448	21.9	142	23.9	24.7
Bachelor's w gen ed before RTT	170	8.3	31	5.2	5.7
Bachelor's w gen ed after RTT	13	0.6	4	0.7	.7
Bachelor's w gen ed, RTT integrated	87	4.3	16	2.7	3.3
Bachelor's followed by 1- or 2-year certificate program	50	2.4	12	2.0	2.0
Other (please specify)	51	2.5	19	3.2	3.1
Total non-missing	2045	100.0	588	100.0	100.0
Missing	66	3.1	6	1.0	
Total	2111	100.0	100.0		

Figures weighted for state

Staff	Frequency	Valid Percent	Cumulative Percent
1-yr certificate	963	47.2	47.2
2-yr certificate	238	11.7	58.9
Associate Degree	478	23.4	82.3
Bachelor with general education prior	159	7.8	90.2
Bachelor with gen ed after	11	.5	90.7
Bachelor with integrated gen ed	83	4.1	94.7
Bachelor followed by 1-2yr RTT certificate	49	2.4	97.2
Other	58	2.8	100.0
Valid Total	2039	100.0	
Missing	60	22.9	
Total	2099	100	

There were no significant differences across job title for staff.

About 60% of staff therapists and administrators reported having qualified for the registry exam in radiation therapy via a certificate program. A little less than 25% qualified via an associate

degree program. A somewhat higher percentage of staff therapists than administrators (16% vs. 11%) reported qualifying for the radiation therapy certification exam via a bachelor's program (chi-square for the difference is 8.33 with 1 *df*, $P < .01$). However, among administrators, type of education program varied as a function of tenure in radiation therapy:

Years as radiation therapist by education programs

Years as RTT		Type of Program to Qualify for RTT Registry Exam				
		Certificate program	Associate program	Bachelor's program	Other	Total
5 or fewer years	Count	10	5	10	0	25
	%	40.0%	20.0%	40.0%	.0%	100.0%
6-10 years	Count	56	38	20	1	115
	%	48.7%	33.0%	17.4%	.9%	100.0%
11-15 years	Count	92	41	14	3	150
	%	61.3%	27.3%	9.3%		100.0%
16-20 years	Count	67	32	14	4	117
	%	57.2%	27.4%	12.0%	3.4%	100.0%
21-25 years	Count	77	12	4	4	97
	%	79.3%	12.4%	4.1%	4.1%	100.0%
26 or more years	Count	61	14	1	7	83
	%	73.5%	16.9%	1.2%	8.4%	100.0%
Total	Count	297	142	63	19	587
	%	50.6%	24.2%	10.7%	3.2%	100.0%

The percentage of radiation therapy administrators whose registry exam-qualifying program was a certificate program is higher the longer the administrator has been in the profession of radiation therapy. On the other hand, the percentage who qualified for the radiation therapy exam by graduating from a bachelor's program is lower the longer an administrator has worked in the radiation therapy profession (chi-square = 47.6 with 4 *df*, $P < .001$).

Because the sample of administrators somewhat over-represented radiation therapists with three or fewer years of tenure in the profession and those with six to10 years of tenure, the overall percentages of radiation therapists in the population who graduated from various types of programs is better approximated by weighted averages, yielding the estimates given in the last column of the Question 8 table.

9. How long have you practiced in radiation therapy (not necessarily consecutively but including preparatory education)?

	Staff			Administrators		
Years Practiced in Radiation Therapy	Frequency	Valid Percent	Cumulative Percent	Frequency	Valid Percent	Cumulative Percent
3 years or less	345	16.8	16.8	5	0.8	0.8
4 or 5	171	8.3	25.1	20	3.4	4.2
6-10	560	27.2	52.3	116	19.7	23.9
11-15	421	20.5	72.7	150	25.4	49.3
16-20	282	13.7	86.4	118	20.0	69.3
21-25	167	8.1	94.6	97	16.3	85.6
26-30	81	3.9	98.5	57	9.7	95.3
31-35	20	1.0	99.5	25	4.2	99.7
36-40	11	0.5	100.0	2	.3	100.0
Total Valid	2058	100.0		590	100.0	
Missing	53	2.5		4	.7	
Total	2111			594	100.0	
Mean (Median)	11.56	(10.00)		16.74	(15.75)	

The typical staff therapist has been practicing radiation therapy for 10 years, the typical administrator, for more than 15.75 years. The administrators' sample mean did not differ significantly from the corresponding population mean of 15.84 years. However, the questionnaire sample included significantly fewer (0.8%) new tenure respondents than the population of ARRT-registered administrators reflects (2.1%; chi-square for difference = 6.33 with 1 *df* after finite-population correction), as well as significantly fewer in the six to 10 years' tenure category (19.7% of sample vs. 23.1% of the population; chi-square = 5.66, 1 *df*).

Tenure in radiation therapy was significantly higher (mean of 20 years) for certificate-only administrators than for those who have achieved higher levels of education (15.7 years). Adjusting the sample statistics to population proportions for education level leads to an estimated population mean and median of 16.68 and 15.58.

Among staff therapist respondents, there was a statistically significant difference across job title for length of time practicing in radiation therapy (F=7.507 with 3, 2021 *df*, P<.001). More specifically, the mean length of time the staff radiation therapist had been practicing (11.13 yrs) was significantly lower than the length of time spent practicing in radiation therapy for the other three groups (13.07 for chief therapist/department manager/director, 13.67 for education instructor/education program director/clinical director and 13.43 years for medical dosimetrist). This test was performed using weighted averages, since the sample was not evenly represented for state. The best estimate of the population mean tenure in radiation therapy is 11.28 years.

From reported years in radiation therapy and reported years in the radiologic sciences, the proportion of each respondent's radiologic science career spent in radiation therapy can be computed. Administrators' proportions are affected significantly by two slightly misrepresented variables: the longer the administrator has practiced in radiation therapy, the higher the proportion of her or his total radiologic science career therapy represents, from 88% for those who have been in the modality for zero to10 years to 96% of total career for those who have been practicing radiation therapy for 26 or more years (overall $F(4,450) = 7.02$, $P < .001$). Certificate-only and postgraduate administrators have spent about 89% of their radiologic

science careers in radiation therapy, as compared to 93% for those holding associate or bachelor's degrees ($F(1,550) = 9.33$, $P < .001$). Adjusting to the population proportions in the various education-level and tenure combinations yields the following estimated populated statistics for proportion of radiologic sciences career spent in radiation therapy:

Years of radiation therapy as proportion of years in radiologic sciences

Statistic		Admin	Staff
N	Valid	570	1999
	Missing	5	00
Mean		.9111	.8545
Median		.9595	1.0000
Mode		1.00	1.00
Std. Deviation		.13641	.21537
Minimum		.16	0.00
Maximum		1.11	1.00

Years of radiation therapy as proportion of years in radiologic sciences

	Administrators			Staff		
Years as RTT/ Years in rad sci	Frequency	Valid Percent	Cumulative Percent	Frequency	Valid Percent	Cumulative Percent
.16-.25	4	.7	.7	25	1.3	1.3
.26-.50	10	1.	2.4	159	8.2	9.5
.51-.75	43	7.5	9.9	279	14.4	24.0
.76-.90	127	22.1	32.0	291	15.1	39.0
.90-.95	98	17.1	49.1	134	6.9	45.9
.96-1.00	290	50.4	99.5	1032	53.4	99.3
1.01-1.15	3	0.5	100.0	13	0.7	100.0
Total	575			1933	100.0	

10. How long have you practiced in your current position (consecutive years)?

	Staff			Administrators		
Years in Current Position	Frequency	Percent	Cumulative Percent	Frequency	Percent	Cumulative. Percent
3 or fewer	846	41.5	41.5	198	33.3%	33.6%
4 or 5	249	12.2	53.7	93	15.7%	49.3%
6-10	417	20.4	74.1	120	20.3%	69.6%
11-15	303	14.8	88.9	100	16.8%	86.4%
16-20	133	6.5	95.4	44	7.5%	93.9%
21-25	56	2.7	98.2	21	3.6%	97.5%
26-30	25	1.2	99.4	13	2.2%	99.7%
31-40	12	0.6	100.0	1	0.2	100.0%
Total Valid	1331	100.0		590	100.0	
Missing	53	3.3		4	.7	
Total	1384	100.0		594	100.0	

Mean and (median) = 7.21 (5.00) for staff therapists; 7.99 (5.81) for administrators
None of the staff population estimates (adjusting for state population proportions) differed from the sample percentages by more than 0.4%, and the estimated population median was 4.84 years.

Administrators whose highest level of education is high school plus certificate (advanced or not) have been in their current position longer (mean of 10.6 years) than have those with an associate or higher degree (7.2 years), $F(1,570) = 24.35$, $P < .001$. Inevitably, since years in current position can't exceed total years in the discipline, mean years in position increase steadily with years in the profession, from 2.8 years in current position for those with five or fewer years' tenure in radiation therapy through 14.1 years in current job for those with 26 or more years' tenure. Adjusting to the population proportions in the various combinations of years of education and tenure as a radiation therapist yields a revised mean and (median) of years in current position of 7.17 (4.87) years.

Based on population estimates, the typical staff therapist has been in her or his current position for about five years, as has the median administrator.

11. Employment status

		Staff		Administrators	
		Frequency	Percent	Frequency	Percent
Valid	Full-time	1650	81.0	575	98.8
	Part-time	306	15.0	5	.9
	PRN	57	2.8	1	.2
	Temporary staff	23	1.1	1	.2
	Total	2036	100.0	582	100.0
Missing	-9.00	75	3.6	12	2.0
Total		2111		594	100.0

Figures weighted for state

Staff		Frequency	Valid Percent	Cumulative Percent
Valid	Full-time	1658	81.7	81.7
	Part-time	291	14.3	96.1
	PRN	58	2.9	98.9
	Temporary Staff	21	1.1	100.0
	Total	2029	100.0	
Missing	-9.00	70	3.3	
Total		2099		

Administrators in radiation therapy facilities work almost exclusively full time (99%). The staff therapists they supervise also work predominantly full-time (82%), with fewer than 3% employed on a PRN basis and only about 1% temporary staff. The administrators' 98.8% full-time employment percentage is not significantly different from the corresponding population percentage of 98.2%. There was a statistically significant difference across job title for full-time, part-time, PRN or temporary radiation therapist employment. Specifically, a significantly lower percentage of staff therapists were employed full-time (80%) compared to nonstaff (92.0%), chi-square = 24.700 with 3 *df*, $P<.001$. This test was performed using weighted averages, since the

sample was not evenly represented for state. The best estimate of the percentage of the population employed full-time is 80.8%.

12. Which of the following most aptly describes your current position?

	Staff		Administrators		
Job Title	Frequency	Percent	Frequency	Sample Percent	Estimated Population %
Staff radiation therapist	1735	85.5	22	3.7	4.1
Chief radiation therapist	67	3.3	249	42.2	44.7
Educator/instructor	10	0.5	1	0.2	0.1
Medical dosimetrist	119	5.9	36	6.1	6.5
Educational program director	3	0.1	1	0.2	0.1
Clinic director	2	0.1	14	2.4	2.3
Dept manager (please specify dept)	10	0.5	153	25.9	24.2
Director of (please specify)	3	0.1	78	13.2	12.0
Other (please specify)	81	4.0	36	6.1	6.1
Total non-missing	2030	100.00	590	100.0	100.0
Missing	81	4.0	4		
Total	2111	100.0	100.0		

Estimated staff population percentages differ from the above-reported sample percentages by no more than 0.1%. There were no significant differences across job title for staff. Since staff respondents had indicated staff or senior staff technologist on their most recent ARRT-registration renewal, it's not surprising that fewer than 1% would now choose department manager or "director of …" as the most apt title, and 3.4% would choose chief radiation therapist. Conversely, only 3.7% of the administrator sample now consider staff radiation therapist the most apt job title. An additional 6% consider themselves medical dosimetrists.

The proportion of radiation therapy administrators who hold the title of chief radiation therapist decreases and the proportion of department managers or directors increases as either education level or tenure in the profession increases. For instance, 50.3% of certificate-holding and associate-degree administrators but only 37.6% of bachelor's-level and 19% of postgraduate (master's or doctorate) administrators are currently chief radiation therapists. The corresponding decline is from 53.9% to 32.1% as years in the profession increase from zero to three to 26 or more years. Conversely, 29% of certificate and associate-level administrators but 50% of bachelor's-or higher-degree administrators, are either managers or directors. The corresponding increase is from 27% to 56% as a function of tenure in the profession. Correcting the sample percentages for the slight misrepresentation of education levels and years in the discipline yields the estimated population percentages given in the last column of the above table.

13. In how many years do you plan to retire or leave the profession?

	Staff			Admin		
Years to Departure from Profession	Frequency	Valid Percent	Cumulative Percent	Frequency	Valid Percent	Cumulative Percent
0	10	.5	.5	3	.5	.5
1	34	1.8	2.4	3	.5	1.1
2	50	2.7	5.1	15	2.7	3.8
3	44	2.4	7.5	10	1.8	5.7
4	15	.8	8.3	4	.7	6.4
5	138	7.5	15.8	35	6.4	12.8
6-10	350	19.0	34.8	117	21.4	34.2
11-15	296	16.1	50.9	111	20.3	54.6
16-20	404	21.9	72.8	132	24.2	78.8
21-25	180	9.8	82.6	61	11.2	89.9
26-30	195	10.6	93.2	42	7.7	97.6
31-35	72	3.9	97.1	12	2.2	99.8
36-40	39	2.1	99.2	0	0.0	99.8
41-65	15	0.8	100.0	1	.2	100.0
Total Valid	1842	100.0		546	100.0	
Missing	269	12.7		48	7.9	
Total	2111	100.0		594	100.0	

About 12.8% of administrators plan to leave the profession within the next five years, 34% in the next 10 years. About 15.8% of staff therapists plan to leave in five years and 35% in 10 years. Adjusting staff percentages to state population proportions yields estimates that differ from the sample by no more than 0.4%. Administrators' percentages do not differ significantly among education levels, but naturally the average number of years to anticipated retirement declines as years in the profession increases, from 19.7 years in the future for administrators with zero to 10 years in radiation therapy to only 7.9 years off for those with 26 or more years (overall F (4,512) = 24.5, $P < .001$). Adjusting to the known population distribution of tenure yields population estimates of 12.6% of administrators planning to retire within five years and 33.7% in the next 10 years.

13b. If leaving profession other than for retirement, what will be your new career?

	Staff		Administrators	
	Frequency	Percent	Frequency	Percent
Dosimetry	306	44.5	52	35.9
Medical physics	20	2.9	11	7.6
Other radiologic technology modality	29	4.2	2	1.4
Other allied health profession	41	6.0	9	6.2
Medical degree	11	1.6	2	1.4
Other new career	281	40.8	69	47.6
Total leaving profession for reason other than retirement	688	38.1	145	26.6
Implied # leaving profession for retirement	1154	62.6	401	73.4
Total who answered question 13	1842	100.0	546	100.0
No answer to question 13	269	14.2	48	8.1
Total	2111	100.0	594	100.0

Estimated population percentages for staff, adjusting for state proportions, differed from the sample percentages by no more than 0.2%. About 25% of administrators and 38% of staff therapists report they anticipate leaving the profession for some reason other than retirement, with the most commonly cited new career of dosimetry. About 36% of administrators anticipate a nonretirement exit and 44% of staff therapists plan to leave the profession other than for retirement.

Workplace Profile

14. Which best describes your radiation therapy dept/facility?

	Staff		Administrators	
Institution Type	Frequency	Percent	Frequency	Percent
Community hospital	1110	55.2	314	53.7
Government hospital	45	2.2	11	1.9
University medical center	278	13.8	62	10.4
Freestanding clinic	386	19.2	133	22.7
Private physician practice	135	6.7	43	7.4
Other facility type	56	2.8	22	3.8
Total Valid	2010	100.0	585	100.0
Blank	101	4.8	9	1.5
Total	2111	100.0	594	100.0

Figures weighted for state and current job title

Staff		Frequency	Estimated Population Percent	Cumulative Percent
Valid	Community Hospital	1069	54.1	54.1
	Government Hospital	45	2.4	56.5
	University Medical Center	292	14.7	71.2
	Freestanding Clinic	390	19.5	90.7
	Private Physician Practice	148	7.0	97.8
	Other	55	2.2	100.0
	Total	1999	100.0	
Missing	-9.00	100	4.8	
Total		2099		

Slightly more than 50% of staff radiation therapist and administrator respondents work in a community hospital setting. About 20% work in freestanding clinics and 10% to 15% in university medical centers.

Administrators' distribution among the various employment settings was not significantly affected by education level. However, the group of administrators with the greatest experience in the profession (26-plus years) is significantly less likely than their less experienced colleagues to be found in freestanding clinics (10.7%) and more likely to work in university medical centers (23.8%), chi-square with 1 df = 18.29, $P < .001$ and 7.75, $P < .01$, respectively. Adjusting to the population proportions at the various levels of tenure changes none of the above percentages by more than 0.3%.

A statistically significant difference occurs across job title for radiation therapist employer type, specifically between staff/medical dosimetrist and other positions. The "other" radiation therapists are less likely to work in a community hospital (54.1% staff/medical dosimetrist vs. 47.3% other positions), university medical center (14.7% vs. 12.1%) or government hospitals (2.4% vs. 1.2%). However, they are more likely to work in a private physician practice (7.0% vs. 12.1%), a freestanding clinic (19.5% vs. 20.0%) or "other" facilities (2.2% vs. 7.3%). Chi-square

=23.022 with 5 *df*, *P*<.001. Adjusting for state population proportions and to the 100% population proportion of staff therapists and medical dosimetrists yields the estimated population percentages given in the last two columns of the above table.

15. Please estimate how many patient starts your dept/facility had in past year.

		Staff	Admin#
N	Valid	1493	524
	Missing	618	70
Mean		816.367	539.3053
Std. Error of Mean		59.9486	387.5000
Median		400.00	300.00
Std. Deviation		2316.3745	533.02805
Minimum		20	6.00
Maximum		36000	4900.00

These statistics omit a zero-start corporation and a 40,000-start facility. Including the "megafacility" would raise the administrator mean to 614.47 starts per year per facility.

Figures weighted for state

Staff		
N	Valid	1489
	Missing	610
Mean		851.921
Std. Error of Mean		60.9375
Median		400.000
Std. Deviation		2351.5349
Minimum		20.0
Maximum		36000.0

Radiation therapy facilities vary enormously in their annual patient loads – from six to 36,000 patient starts per year. The high number reflects a facility's report of 138 treatments or procedures daily. Because of the few extremely high-load facilities, mean number of annual patient starts (816 as reported by staff, 851 reported by administrators) is much higher than median starts of 400 and 300 respectively.

16. What is the total number of treatments/procedures (on average) carried out daily in your facility?

		Staff#	Admin##
N	Valid	1901	539
	Missing	210	55
Mean		64.553	61.70
Std. Error of Mean		1.4175	2.263
Median		50.00	45.67
Std. Deviation		61.8032	54.669
Minimum		2	2.50
Maximum		750	500.00

These statistics omit the response of 15,000 treatments carried out daily because this respondent also reported only 175 patient starts in that facility in the past year. The same holds for the report of 20,000 treatments daily but only 450 patient starts annually.

#Omitted the following two values: 15,000 and 20,000 reported by staff. See box.
##Omitted the following five values: 6,000 treatments or procedures daily (carried out by 5 radiation therapists); 10,000 (3); 10,500 (4); 22,000 (7); and 0 treatments or procedures reported by an administrator in a corporate facility.

Figures weighted for state

Staff		
N	Valid	1894
	Missing	205
Mean		67.183
Std. Error of Mean		1.5153
Median		50.000
Std. Deviation		65.9471
Minimum		2.0
Maximum		750.0

Number of treatments or procedures carried out daily shows a similarly broad range, from two to 750. There was a statistically significant difference in staff therapist responses across job title. Instructors, program directors, clinic directors reported a significantly higher mean number of total daily treatments or procedures per day. They reported a mean of 93.056 treatments/day, whereas staff, chief therapist/department managers and medical dosimetrists reported an average of 66.414, 51.720 and 69.572 treatments or procedures per day, respectively ($F=5.588$ with 3, 1870 df, $P<.01$). Adjusting for both state population proportions and population job title proportions yields an estimated population mean daily treatments or procedures of 66.62.

17. How many full-time radiation therapists work in your department?

Please enter the number of these full-time therapists who are ARRT-registered; who are not registered but are ARRT-eligible; and who are neither registered nor eligible.

Staff

		How many full time rad therapists work in your dept?	Full-time ARRT-Registered therapists work in your dept?	Full-time ARRT-eligible rad therapists work in your dept?	Full-time rad therapists who are not registered or eligible.
N	Valid	1865	1741	255	76
	Missing	246	370	1856	2035
Mean		6.95	6.22	2.64	.92
Estimated population mean*		7.56	same	same	same
Std. Error of Mean		.190	.139	.492	.115
Median		5.00	5.00	1.00	1.00
Std. Deviation		8.223	5.814	7.864	1.004
Minimum		0	1	0	0
Maximum		100	54	80	4
Percent zeroes		0.1%	3.9%	15.2%	36.6%

*Weighted for state and current job title

There was a statistically significant difference across job title for number of full-time radiation therapists. Specifically, there was a statistically significant difference between staff/chief radiation therapist/department manager/director and medical dosimetrist/other. Staff (7.38) and chief/department manager/director (5.71) had significantly less full-time radiation therapists than educational instructor/program directors/clinic directors (10.10) or medical dosimetrists (10.12), F=4.354 with 3 df, P<.01. This test was performed using weighted averages, since the sample was not evenly represented for state. The resulting estimated population mean number of radiation therapists is 7.56.

ARRT-registered, eligible, and neither as proportion of total, excluding facilities for whom #ARRT-registered + #ARRT-eligible + #Neither ARRT nor eligible > total # of full-time radiation therapists.

Staff

		Proportion of full-time RTTs who are ARRT-registered	Proportion of full-time RTTs who aren't ARRT but are eligible	Proportion of full-time RTTs who are neither ARRT nor ARRT-eligible
N	Valid	1737	243	71
	Missing	0	1494	1666
Mean		.9584	.2330	.1633
Std. Error of Mean		.00295	.01200	.02187
Median		1.0000	.2000	.1667
Std. Deviation		.12275	.18702	.18430
Minimum		.10	.00	.00
Maximum		1.00	1.00	1.00
Percent zeroes		0.1%	14.6%	34.7%
Percent 1.0's		85.4%	2.4%	2.7%

Figures weighted for state

		Proportion of full-time RTTs who are ARRT-registered	Proportion of full-time RTTs who aren't ARRT but are eligible	Proportion of full-time RTTs who are neither ARRT nor ARRT-eligible
N	Valid	1729	246	68
	Missing	0	1483	1661
Mean		.9546	.2438	.1495
Std. Error of Mean		.00322	.01260	.02187
Median		1.0000	.2000	.0945
Std. Deviation		.13402	.19770	.17987
Minimum		.10	.00	.00
Maximum		1.00	1.00	1.00
Percent zeroes		0.0%	13.6%	37.5%
Percent 1.0's		84.9%	2.2%	1.9%

Proportions were not significantly affected by current job title.

Administrators

		How many full-time RTTs in your dept,facility ?	# full-time therapists who are ARRT-registered	# full-time therapists who aren't ARRT but are ARRT-eligible	# full-time therapists who are neither ARRT nor ARRT-eligible
N	Valid	586	548	536	530
	Missing	8	46	58	64
Mean		6.1589	5.8684	.2491	.0677
Median		4.4535	4.3049	.1238	.0284
Std. Deviation		5.93433	5.54456	2.24358	.81599
Minimum		.00	.00	.00	.00
Maximum		60.00	60.00	51.00	18.00
Percent zeros		0.3%	0.5%	79.5%	97.2%

These statistics omit one facility reported to have "12/24" full-time radiation therapists, of whom 12 are ARRT-registered.

Note: If # full-time left blank but nonzero entries for # ARRT, # eligible, or # neither, set # full-time to sum of subcategory entries.

ARRT-registered, eligible, and neither as proportion of total, excluding 13 facilities for whom #ARRT-registered + #ARRT-eligible + #Neither ARRT nor eligible > total # of full-time therapists.

Administrators

		Proportion of full-time RTTs who are ARRT-registered	Proportion of full-time RTTs who aren't ARRT but are eligible	Proportion of full-time RTTs who are neither ARRT nor ARRT-eligible
N	Valid	544	539	538
	Missing	50	55	56
Mean		.9358	.0278	.0064
Std. Error of Mean		.9900	.0076	.0035
Median		1.00	.00	.00
Std. Deviation		.18939	.09263	.04767
Minimum		.00	.00	.00
Maximum		1.00	.93	.50
Percent zeroes		2.4%	87.9%	98.0%
Percent 1.0's		82.7%	0.0%	0.0%

*Not included in computation of other statistics.

The number of full-time radiation therapists reported by staff therapists and by radiation therapy administrators varied from one to 100 with about 90% of the facilities having fewer than a dozen full-time radiation therapists on staff.

Among administrators, 83% report that all of the full-time radiation therapists who work at their facilities are ARRT-registered, 88% have no ARRT-eligible but unregistered full-time therapists, and 98% have no full-time therapists who are neither ARRT-registered nor eligible for the registry.

18. How many part-time and PRN radiation therapists work in your department?

Please enter the number of these part-time therapists who are ARRT-registered; who are not registered but are ARRT-eligible; and who are neither registered nor eligible.

Staff

		How many part-time or PRN RTTs work in your dept/facility?	# part-time, PRN therapists who are ARRT-registered	# part-time, PRN therapists who aren't certified but are ARRT-eligible	# part-time, PRN therapists who are neither ARRT-registered nor eligible
N	Valid	1904	1022	76	46
	Missing	207	1089	2035	2065
Mean		1.56	2.35	1.22	.98
Std. Error of Mean		.067	.074	.269	.401
Median		1.00	2.00	1.00	.00
Std. Deviation		2.906	2.365	2.343	2.720
Minimum		0	0	0	0
Maximum		54	45	18	18

Figures weighted for state

		How many part-time or PRN RTTs work in your dept/facility?	# part-time, PRN therapists who are ARRT-registered	# part-time, PRN therapists who aren't certified but are ARRT-eligible	# part-time, PRN therapists who are neither ARRT-registered nor eligible
N	Valid	1896	1010	74	47
	Missing	203	1089	2025	2052
Mean		1.62	2.33	1.35	1.15
Std. Error of Mean		.072	.070	.299	.424
Median		1.00	2.00	1.00	.00
Std. Deviation		3.114	2.214	2.577	2.906
Minimum		0	0	0	0
Maximum		54	45	18	18

Staff

		Proportion of part-time RTTs who are ARRT-registered	Proportion of part-time RTTs who aren't ARRT but are eligible	Proportion part-time RTTs who are neither ARRT nor ARRT-eligible
N	Valid	983	46	17
	Missing	0	937	966
Mean		.9691	.3317	.3725
Std. Error of Mean		.00411	.03791	.06932
Median		1.0000	.3333	.5000
Std. Deviation		.12900	.25714	.28583
Minimum		.00	.00	.00
Maximum		1.00	1.00	1.00
Percent zeros		0.3%	18.3%	22.2%
Percent 1.0's		93.1%	21.7%	29.6%

Figures weighted for state

		Proportion of part-time RTTs who are ARRT-registered	Proportion of part-time RTTs who aren't ARRT but are eligible	Proportion part-time RTTs who are neither ARRT nor ARRT-eligible
N	Valid	973	45	17
	Missing	0	928	956
Mean		.9645	.3363	.3677
Std. Error of Mean		.00460	.04158	.06960
Median		1.0000	.3333	.5000
Std. Deviation		.14364	.27855	.28926
Minimum		.00	.00	.00
Maximum		1.00	1.00	1.00
Percent zeros		0.6%	19.6%	21.1%
Percent 1.0's		92.6%	23.3%	30.9%

Administrators

		How many part-time and PRN RTTs in your dept,facility?	# part-time therapists who are ARRT-registered	# part-time therapists who aren't ARRT but are ARRT-eligible	# part-time therapists who are neither ARRT nor ARRT-eligible
N	Valid	559	542	540	540
	Missing	35	52	54	54
Mean		1.2737	1.1568	.0350	.0333
Median		.6984	.5792	.0195	.0186
Mode		.00	.00	.00	.00
Std. Deviation		1.87113	1.73374	.41698	.40726
Minimum		.00	.00	.00	.00
Maximum		1200.00#	19.00	9.00	9.00

#Not included in other statistics. Second-lowest was 19. This administrator reported 8 full-time and 1200 part-time/PRN radiation therapists.

Statistic		Proportion of part-time RTTs who are ARRT-registered	Proportion of part-time RTTs who aren't ARRT but are eligible	Proportion of part-time RTTs who are neither ARRT nor ARRT-eligible
N	Valid	286	286	286
	Missing	308	308	308
Mean		.9543	.0169	.0204
Median		.9823	.0060	.0083
Mode		1.00	.00	.00
Std. Deviation		.18788	.10333	.13562
Minimum		.00	.00	.00
Maximum		1.00	1.00	1.00
Percent zeroes		2.8%	96.5%	97.6%
Percent 1.0's		93.4%	0.7%	1.7%

The number of part-time radiation therapists reported by administrators varied from zero to 19 with almost one-half (48%) of the facilities having no part-time therapists and about 85%, two or fewer part-time radiation therapists on staff.

A large number (93%) of radiation therapy administrators who have part-time therapists on staff reported that all of them are ARRT-registered; 96% have no ARRT-eligible but unregistered part-time therapists, and 98% have no part-time therapists who are neither ARRT-registered nor eligible for the registry.

19. How many traveling/temporary/locum tenens radiation therapists work in your dept?

19a. How many FTEs are accounted for by these temporary radiation therapists?

		Administrators			Staff		
		How many temp,traveling, locum RTTs in your dept,facility?*	# FTE accounted for by these temps*	Mean FTE per temp RTT*	How many temp,traveling, locum RTTs in your dept,facility?	# FTE accounted for by these temps	Mean FTE per temp RTT
N	Valid	552	532	92	1901	627	266
	Missing	42	62	502	210	1484	1845
Mean		.3161	.4586	.9473	.392	.8914	1.0193
Median		.2160	.0520	.9896	.0239	.05101	1.000
Mode		.00	.00	1.00	.000	.0000	1.00
Std. Deviation		.77399	1.82930	1.17104	1.0427	1.27724	.65099
Minimum		.00	.00	-9.00	.0	.00	0.00
Maximum		6.00	33.00	4.00	15.0	6.00	6.00
Percent zeroes		79.9%	79.3%	1.1%	78.3%	50.6%	5.6%
Percent 1.0's		13.2%	9.4%	82.6%	12.7%	23.8%	75.9%
Percent > 1.0		6.9%	9.4%	7.6%	8.9%	22.2%	7.9%

*Omits one report of 120 FTEs accounted for by 3 traveling/temp/locum tenens radiation therapists.

Staff population estimates adjusted for state population proportions differed only trivially from the observed sample percentages.

Of the radiation therapy administrators who answered this question, 80% reported that their facilities employ no traveling/temporary/locum tenens radiation therapists, and 93% reported, no more than one. Of the 92 radiation therapists who reported that their facilities employ temps and who answered the question as to how many FTEs those temps account for, 83% reported 1.0 FTE per temp and 7.6% reported more than 1.0 FTE per temp.

20. Would you describe your radiation therapy facility as ...?

		Staff		Administrators	
		Frequency	Percent	Frequency	Percent
Valid	Appropriately staffed	1104	55.6	347	59.6
	Understaffed by __ positions	843	42.4	226	38.8
	Overstaffed by __positions	24	1.2	8	1.4
	Don't know	16	0.8	1	.2
	Total	1987	100.0	582	100.0
Missing	-9.00	124	5.9	12	2.0
Total		2111	100.0	594	100.0

Figures weighted for state

Staff		Frequency	Valid Percent	Cumulative Percent
Valid	Appropriately Staffed	1082	54.8	54.8
	Understaffed	853	43.2	98.0
	Overstaffed	23	1.1	99.1
	Don't Know	17	.9	100.0
	Total	1974	100.0	
Missing	-9.00	125	5.9	
Total		2099		

Staff therapists and radiation therapy administrators agree that about 40% of radiation therapy facilities are understaffed and only about 1% are overstaffed. The average level of understaffing reported by administrators who noted understaffing is 1.6 positions and by staff, 1.7 positions. The six administrators who reported an overstaffing level said they have a surplus of one position. Thus, counting “appropriately staffed” as zero positions understaffed and x positions overstaffed as -x positions overstaffed, the average administrator believes her or his facility to be understaffed by .6 positions.

21. If understaffed, what is it due to?

	Staff		Admin	
	Frequency	Percent	Frequency	Percent
Budgeted FTE too low for workload	169	20.4	40	21.3
Inability to fill budgeted positions	419	50.5	113	60.1
Disagreement as to appropriate staffing level for your dept	229	27.6	4	2.1
Other reason understaffed, including multiple reasons	110	13.3	31	16.5
Total nonblank	830	100.0	188	100.0
Missing	1281	64.8	406	68.4
Total	2111	100.0	594	100.0

Staff radiation therapists and administrators agree that inability to fill budgeted positions is the primary reason for understaffing – about 50% of staff respondents and 60% of administrators cite this reason. However, disagreement as to appropriate staffing level for the department/facility was cited by 27.6% of the staff therapists but only 2% of administrators who answered this question. About 20% of staff therapists and administrator respondents cited a budgeted FTE amount too low for the department's workload.

22. For each of the following types of treatment unit, please indicate the average number of radiation therapists assigned per patient per unit of that type [and] what you believe … would be the ideal number of radiation therapists per unit.

Staff (actual)

	# RTTs assigned per patient per other treatment unit	# RTTs assigned per patient per brachytherapy unit	# RTTs assigned per patient per stereotactic unit	# RTTs assigned per patient per block/mold unit	# RTTs assigned per patient per megavoltage unit	# RTTs assigned per patient per simulator	# RTTs assigned per patient per CT/Sim unit
N Valid	118	765	567	1254	1902	1577	1300
Missing	1993	1346	1544	857	209	534	811
Mean	1.5000	1.0800	1.4615	.9461	2.6301	1.3149	1.3106
Std. Error of Mean	.18695	.02866	.04336	.01837	.13148	.01570	.01917
Median	1.0000	1.0000	2.0000	1.0000	2.0000	1.0000	1.0000
Minimum	.00	.00	.00	.00	.00	.00	.00
Maximum	20.00	7.00	12.00	6.00	213.00	6.00	8.00
Percent “0”	9.3	19.0	16.2	15.9	0.3	2.1	4.8
Percent “1”	54.2	54.5	29.3	69.0	6.2	62.4	59.2
Percent “2”	21.2	19.0	45.3	7.0	62.7	25.9	27.3
# > 10	2	0	1	0	25	0	0
Mean w/out >10s	1.2672	Same	1.4429	Same	2.2645	Same	Same
# Non-numeric comments	59	603	740	329	47	172	372

Figures weighted for state (actual)

	# RTTs assigned per patient per other treatment unit	# RTTs assigned per patient per brachytherapy unit	# RTTs assigned per patient per stereotactic unit	# RTTs assigned per patient per block/mold unit	# RTTs assigned per patient per megavoltage unit	# RTTs assigned per patient per simulator	# RTTs assigned per patient per CT/Sim unit
N Valid	120	760	578	1241	1890	1568	1297
Missing	1979	1339	1521	858	209	531	802
Mean	1.5569	1.0827	1.5061	.9555	2.6621	1.3341	1.3227
Std. Error of Mean	.19731	.02922	.04406	.01924	.12728	.01631	.01992
Median	1.0000	1.0000	2.0000	1.0000	2.0000	1.0000	1.0000
Minimum	.00	.00	.00	.00	.00	.00	.00
Maximum	20.00	7.00	12.00	6.00	213.00	6.00	8.00
Percent “0”	8.8	19.3	16.2	16.1	0.3	2.1	4.9
Percent “1”	55.0	53.9	27.0	67.8	6.3	60.8	58.4
Percent “2”	19.6	19.2	46.3	7.6	61.1	26.7	27.1
# > 10	2	0	1	0	28	0	0
Mean w/out >10s	1.3291	Same	1.4879	Same	2.2609	Same	Same
# Non-numeric comments	59	600	725	335	46	168	366

Staff (ideal)

	# RTTs per patient per other treatment unit	# RTTs per patient per brachytherapy unit	# RTTs per patient per stereotactic unit	# RTTs per patient per block/mold unit	# RTTs per patient per megavoltage unit	# RTTs per patient per simulator	# RTTs per patient per CT/Sim unit
N Valid	107	698	531	1134	1785	1474	1209
Missing	2004	1413	1580	977	326	637	902
Mean	1.7827	1.2603	1.7260	1.0674	2.7193	1.7014	1.6160
Std. Error of Mean	.23615	.02936	.05093	.01747	.05306	.01644	.01971
Median	1.0000	1.0000	2.0000	1.0000	2.0000	2.0000	2.0000
Minimum	.00	.00	.00	.00	.00	.00	.00
Maximum	25.00	5.00	15.00	6.00	46.00	6.00	8.00
Percent “0”	7.5	12.2	11.7	7.4	0.2	1.2	1.2
Percent “1”	41.1	52.0	20.2	75.1	1.6	31.2	40.7
Percent “2”	31.8	28.5	54.0	10.9	53.6	59.9	49.4
# > 10	1	0	2	0	24	0	0
Mean w/out >10s	1.5637	Same	1.6815	Same	2.5400	Same	Same
# Non-numeric comments	37	315	411	175	28	103	193

Figures weighted for state (ideal)

	# RTTs per patient per other treatment unit	# RTTs per patient per brachytherapy unit	# RTTs per patient per stereotactic unit	# RTTs per patient per block/mold unit	# RTTs per patient per megavoltage unit	# RTTs per patient per simulator	# RTTs per patient per CT/Sim unit
N Valid	108	688	538	1118	1772	1462	1202
Missing	1991	1411	1561	981	327	637	897
Mean	1.7839	1.2660	1.7716	1.0772	2.7730	1.7196	1.6275
Std. Error of Mean	.24907	.03032	.05283	.01830	.05720	.01703	.02036
Median	1.0000	1.0000	2.0000	1.0000	2.0000	2.0000	2.0000
Minimum	.00	.00	.00	.00	.00	.00	.00
Maximum	25.00	5.00	15.00	6.00	46.00	6.00	8.00
Percent “0”	8.5	12.6	11.9	7.8	0.1	1.1	1.4
Percent “1”	40.8	51.2	19.1	73.5	1.6	30.3	40.1
Percent “2”	31.1	28.6	52.9	11.8	52.0	60.1	49.1
# > 10	1	0	2	0	27	0	0
Mean w/out >10s	1.5669	Same	1.7278	Same	2.5403	Same	Same
# Non-numeric comments	35	316	404	182	29	101	189

The modal staff radiation therapist reports that two therapists actually are assigned to each megavoltage unit and to each stereotactic unit per patient and one to each simulator, CT/simulator unit, block/mold unit or brachytherapy unit. Staff therapists see two as the ideal number of radiation therapists for stereotactic, megavoltage, simulator and CT/simulator unit, while one is ideal for brachytherapy, block/mold units and “other” types of units. Consequently,

the therapists' ideal staffing level is slightly higher than mean actual staffing level for every type of unit.

Two of the 14 variables were influenced by the staff respondents' current job title. Chief radiation therapist/department manager/director of reported a significantly lower ideal number of radiation therapists per simulator (1.46) and CT/simulator (1.28), whereas instructor/program director/clinic directors reported a significantly higher ideal number of radiation therapists per simulator (1.99) and CT/simulator (1.89). The ANOVA for simulator and CT/simulator was F=7.696 with 3, 1440 *df*, P<.001 and F=6.524 with 3, 1184 *df*, P<.001 respectively. This test was performed using weighted averages, since the sample was not evenly represented for state. The estimated staff population means for ideal number of radiation therapists per simulator and per CT/simulator unit are 1.72 and 1.63.

Administrators (actual)

		# RTTs assigned per patient per megavoltage unit	# RTTs assigned per patient per simulator*	# RTTs assigned per patient per CT/Sim unit	# RTTs assigned per patient per brachytherapy unit	# RTTs assigned per patient per stereo-tactic unit	# RTTs assigned per patient per block/mold unit	# RTTs assigned per patient per other treatment unit
N	Valid	564	455	356	214	154	336	27
	Missing	30	139	238	380	440	258	567
Mean		2.3633	1.2374	1.1639	.8292	1.2792	.8309	1.3241
Std. Error of Mean		.06184	.02682	.03226	.05112	.07323	.03581	.22401
Median		2.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000
Std. Deviation		1.46861	.57209	.60861	.74781	.90881	.65638	1.16399
Minimum		.00	.00	.00	.00	.00	.00	.00
Maximum		17.00	5.00	5.00	4.00	3.50	5.00	6.00
Percent "0"		0.7	2.9	5.9	30.4	25.3	19.6	11.1
Percent "1"		5.3	63.1	61.5	50.0	21.4	58.9	51.9
Percent "2"		62.2	21.3	18.3	8.4	46.1	5.4	11.1
# > 10		5	0	0	0	0	0	0
Mean w/out >10s		2.2377	Same	Same	Same	Same	Same	Same
# Non-numeric comments		5	6	7	11	3	23	11

*One respondent (not included in statistics) reported 200 radiation therapists assigned per simulator, but wrote in "What length of time? Per year?"

Administrators (ideal)

		# RTTs per patient per megavoltage unit	# RTTs per patient per simulator	# RTTs per patient per CT/Sim unit*	# RTTs per patient per brachytherapy unit	# RTTs per patient per stereotactic unit	# RTTs per patient per block/mold unit	# RTTs per patient per other treatment unit
N	Valid	526	424	344	210	145	321	28
	Missing	68	170	250	384	449	273	566
Mean		2.7661	1.5034	1.4254	1.0390	1.6000	.9340	1.6786
Std. Error of Mean		.10591	.03226	.05230	.05368	.09606	.03563	.21240
Median		2.0000	1.1000	1.0000	1.0000	2.0000	1.0000	1.0000
Std. Deviation		2.42901	.66426	.97006	.77791	1.15673	.63837	1.12393
Minimum		.00	.00	.00	.00	.00	.00	1.00
Maximum		25.00	6.00	15.00	4.00	10.00	5.00	6.00
Percent “0”		0.4	2.1	1.2	20.0	15.2	12.1	0.0
Percent “1”		1.1	46.7	55.2	51.0	22,7	65.1	60.7
Percent “2”		57.4	42.2	32.8	18.1	45.5	6.5	21,4
# > 10		7	0	1	0	0	0	0
Mean w/out >10s		2.6098	Same	1.3709	Same	Same	Same	Same
# Non-numeric comments		9	8	4	4	2	13	6

*One respondent (not included in statistics) said it would be ideal to assign 250 radiation therapists per simulator, but wrote in “What length of time? Per year?”

The modal administrator reported that two radiation therapists are assigned to each megavoltage unit and to each stereotactic unit per patient and one to each simulator, CT/simulator unit, block/mold unit or brachytherapy unit. The ideal number of therapists assigned to each unit matches actual, though nearly 40% of administrators feel that more than two therapists should be assigned to each megavoltage unit, and mean ideal staffing level per machine is slightly higher than actual staffing level for every type of unit.

Only two of the above 14 variables were significantly influenced by education level or by tenure in radiation therapy. Certificate-level administrators worked in facilities that assigned an average of only 1.1 radiation therapists per simulator, while administrators with higher levels of education supervised departments that assigned from 1.3 to 1.4 therapists to each simulator session ($F(1, 439) = 15.75$, $P < .001$). Administrators with zero to 10 or 16 to 20 years in radiation therapy supervised facilities that assigned 1.0 radiation therapists per brachytherapy unit vs. a mean of 0.7 therapists per brachytherapy treatment session for departments supervised by administrators with different levels of experience. Adjusting the statistics for these two variables had minor effects on the two means, but the percentage of administrators reporting zero, one, and two radiation therapists per simulator session changed from 5.9%, 61.5%, and 18.3% to 2.9%, 63.1%, and 21.1% respectively. Similarly, the changes from obtained sample percentages to estimated population percentages of administrators reporting zero, one, and two therapists per brachytherapy unit were from 39.4%, 50.0%, and 8.4% to 30.7%, 49.4%, and 3.3% respectively.

23. Does your facility provide the following services?

	Administrators			Staff			
Service	Count	Pct of Responses	% of Cases	Count	Pct of Responses	% of Cases	Est'd* Popln %
Pediatric radiation therapy	145	4.3	25.2	602	5.3	30.1	29.8
Total body irradiation	97	2.9	16.8	444	3.9	22.2	21.9
CT/simulation	424	12.6	73.6	1453	12.8	72.5	73.0
Conformal radiation therapy delivery	518	15.4	89.9	1726	15.2	86.2	86.4
Gated delivery	44	1.3	7.6	58	0.5	2.9	3.1
PET	180	5.3	31.3	486	4.3	24.3	23.1
BID/TID vs. single treatment delivery	450	13.4	78.1	1513	13.3	75.5	75.6
Total skin/electron	116	3.4	20.1	353	3.1	17.6	17.9
PET/CT	74	2.2	12.8	252	2.2	12.6	12.1
High-dose rate brachytherapy	244	7.2	42.4	1055	9.3	52.7	53.2
Hyperthermia	19	.6	3.3	55	.5	2.7	2.7
Intraoperative	35	1.0	6.1	157	1.4	7.8	7.4
Single dose stereotactic radiation therapy	153	4.5	26.6	587	5.2	29.3	29.5
Ultrasound localization	146	4.3	25.3	529	4.6	26.4	26.0
LDR	168	5.0	29.2	313	2.7	15.6	14.9
Fractionated dose stereotactic radiation therapy	134	4.0	23.3	522	4.6	26.4	26.5
Image-guided localization	83	2.5	14.4	217	1.9	10.8	10.8
IMRT	292	8.7	50.7	988	8.7	49.3	49.4
Other (please specify)	45	1.3	7.8	78	.7	3.9	3.7
Total responses	3367	100.0	584.5	11388	100.0	568.5	568.0
	18 missing cases; 576 valid cases			108 missing cases; 2003 valid cases			

*Staff population figures weighted for state and (for pediatric, total body, stereotactic, and LDR) current job title.

Staff and administrators agree on the services their facilities provide, the most common being conformal radiation therapy delivery (about 88% of facilities), CT/simulation (73%), HDR (47%) and LDR (22%). Fewer than 10% of facilities provide intraoperative, gated delivery and hyperthermia services. Further, wide variation occurs in the total number of services provided, with 53% of administrators reporting their facilities provide five or fewer of the services but about 10% provide nine or more (max = 12).

Only one of the 19 services was affected significantly by education level or tenure among administrators. Those with 21 or more years' tenure were more likely (29%) than those who have been in radiation therapy for a shorter period of time (13.5%) to report that their department/facility provides total body irradiation. Adjusting for the difference between sample and population tenure distributions led to an estimated population percentage of 18.2% of all administrators whose facilities provide total body irradiation.

Staff therapists' reports on four of these 19 services were affected significantly by current job title. Those respondents whose current job title is administrative/supervisory/managerial

reported significantly lower percentages of their facilities providing pediatric radiation therapy (13.6% compared to 29.8% for the other groups, chi-square = 9.935, 1 *df*, *P*<.01), total body irradiation (9.9% compared to 21.9% for the other groups, chi-square =6.675, 1 *df*, *P*<.01), and single dose stereotactic (11.1% vs. 29.5%, chi-square =12.839, 1 *df*, *P*<.01).

Those whose current job title is staff therapist reported 13.8% of facilities providing LDR, while nonstaff groups reported 21.8% providing LDR (chi-square =12.649, 1 *df*, *P*<.001). Furthermore, medical dosimetrists reported 31.6% of facilities providing LDR, while nonmedical dosimetrists reported only 14.0% (chi-square 26.987, 1 *df, P*<.001).

Adjusting these percentages to state population proportions and considering only those choosing staff therapist or medical dosimetrist as their current job title yields the percentages given in the last column of the above table.

22. Compared to five years ago, are treatments at your facility:

		Staff		Administrator	
		Frequency	Valid Percent	Frequency	Valid Percent
Valid	More Complex	1505	79.6	485	86.1
	Less Complex	14	.7	60	10.7
	About the same complexity	210	11.1	4	0.7
	Don't Know	161	8.5	14	2.5
	Total	1890	100.0	497	100.0
Missing	-9.00	221		31	5.2
Total		2111		594	100.0

Figures weighted for state

Staff		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More complex	1489	70.9	79.2	79.2
	Less complex	15	.7	.8	80.0
	About the same complexity	214	10.2	11.4	91.4
	Don't know	162	7.7	8.6	100.0
	Total	1879	89.5	100.0	
Missing	-9.00	220	10.5		
Total		2099	100.0		

25 Admin. Which of the following activities and procedures do the radiation therapy staff you supervise perform on a regular basis?

Activity/Procedure	Name	Count	% of Responses	% of Cases
Staff you supervise perform basic care daily	PP25_01	212	3.2	36.3
Staff you supervise perform daily treatment	PP25_02	572	8.6	97.9
Staff perform hyperthermia	PP25_03	50	.8	8.6
Staff perform computerized dosimetry	PP25_04	221	3.3	37.8
Staff perform CT/simulation	PP25_05	378	5.7	64.7
Simulation	PP25_06	446	6.7	76.4
Treatment charting and documentation	PP25_07	576	8.7	98.6
Custom block cutting	PP25_08	299	4.5	51.2
Hand calculations	PP25_09	304	4.6	52.1
Conventional brachytherapy	PP25_10	195	2.9	33.4
Student clinical education	PP25_11	233	3.5	39.9
Patient monitoring	PP25_12	413	6.2	70.7
General office work	PP25_13	241	3.6	41.3
Billing (charge capture)	PP25_14	346	5.2	59.2
Catheterization	PP25_15	50	.8	8.6
Equipment quality assurance	PP25_16	456	6.9	78.1
Side effect management	PP25_17	138	2.1	23.6
Venipuncture	PP25_18	28	.4	4.8
Laboratory procedures	PP25_19	32	.5	5.5
Electrocardiography	PP25_20	1	.0	.2
Contrast administration	PP25_21	39	.6	6.7
Patient care charting and documentation	PP25_22	541	8.1	92.6
3D treatment planning	PP25_23	63	.9	10.8
PET/CT	PP25_24	4	.1	.7
Loading of brachytherapy sources	PP25_25	53	.8	9.1
Patient education	PP25_26	161	2.4	27.6
IMRT	PP25_27	251	3.8	43.0
High-dose rate brachytherapy (HDR)	PP25_28	100	1.5	17.1
Stereotactic radiation therapy	PP25_29	58	.9	9.9
Conformal therapy	PP25_30	190	2.9	32.5
Other activity/procedure the staff you s	PP25_31	5	.1	.9
Total responses		6656	100.0	1139.7

10 missing cases; 584 valid cases

More than 35% of the administrators report that radiation therapy staff they supervise perform basic care duties (nursing) such as venipuncture, laboratory procedures and contrast administration at 4% to 7% each. Just under 40% perform student clinical education. More than 50% are involved in billing (charge capture).

25 Staff. Which of the following activities and procedures do you perform on a regular basis?

Dichotomy label	Name	Count	% of Responses	% of Cases
Perform basic care daily	PP25_01	674	3.4	33.2
Perform daily treatment	PP25_02	1881	9.6	92.5
Perform hyperthermia treatment	PP25_03	33	.2	1.6
Perform computerized dosimetry	PP25_04	272	1.4	13.4
Perform CT/simulation	PP25_05	897	4.6	44.1
Simulation	PP25_06	1281	6.5	63.0
Treatment charting and documentation	PP25_07	1876	9.6	92.3
Custom block cutting	PP25_08	846	4.3	41.6
Hand calculations	PP25_09	821	4.2	40.4
Conventional brachytherapy	PP25_10	250	1.3	12.3
Student clinical education	PP25_11	928	4.7	45.6
Patient monitoring	PP25_12	1310	6.7	64.4
General office work	PP25_13	732	3.7	36.0
Billing (charge capture)	PP25_14	1342	6.9	66.0
Catheterization	PP25_15	93	.5	4.6
Equipment quality assurance	PP25_16	1437	7.3	70.7
Side effect management	PP25_17	579	3.0	28.5
Venipuncture	PP25_18	27	.1	1.3
Laboratory procedures	PP25_19	37	.2	1.8
Electrocardiography	PP25_20	1	.0	.0
Contrast administration	PP25_21	91	.5	4.5
Patient care charting and documentation	PP25_22	1032	5.3	50.8
3D treatment planning	PP25_23	210	1.1	10.3
PET/CT	PP25_24	24	.1	1.2
Loading of brachytherapy sources	PP25_25	83	.4	4.1
Patient education	PP25_26	733	3.7	36.1
IMRT	PP25_27	880	4.5	43.3
High-dose rate brachytherapy (HDR)	PP25_28	291	1.5	14.3
Stereotactic radiation therapy	PP25_29	209	1.1	10.3
Conformal therapy	PP25_30	650	3.3	32.0
Other activity/procedure the staff you s	PP25_31	43	.2	2.1
Total responses		6656	100.0	1139.7

10 missing cases; 584 valid cases

Sixteen of the 31 activity/procedure percentages varied significantly from state to state, and 23 of them differed significantly as a function of current job title. Therefore, all 31 percentages were adjusted to population proportions in each state and reported for each job title, leading to the following state population proportion estimates of job title effects and of overall population percentages:

Percent of Staff Therapist Respondents Holding Various Job Titles Who Report Performing Procedures/Activities on a Regular Basis

Job Title	Basic care duties (nursing)	Daily treatment	Hyperthermia	Computerized dosimetry	CT/simulation	Simulation
Staff	33.7711	97.1646	1.5240	7.1608	43.5361	62.2533
Chief Rad Tech/Dept Mgt/Dir	45.1883	89.2818	1.1144	21.4482	43.9623	73.7038
Ed Instr/ Ed Prgm Dir/Clinic Dir	30.7068	84.6318	2.1613	17.9541	47.6310	60.7582
Medical Dosimetrist	9.7870	32.2721	.7343	95.9945	48.6608	49.0335
Estimated Population Percent Who Do	32.2%	93.0%	1.5%	12.9%	43.9%	61.4%

Job Title	Treatment charting and documentation	Custom block cutting	Hand calculations	Conventional brachytherapy	Student clinical education	Patient monitoring
Staff	94.2523	40.8114	37.9738	10.7663	46.5051	67.7737
Chief Rad Tech/Dept Mgt/Dir	89.7428	45.7301	45.7007	9.0241	43.1228	59.3839
Ed Instr/ Ed Prgm Dir/Clinic Dir	88.9065	30.7329	43.2685	13.7646	45.5715	64.3240
Medical Dosimetrist	68.9138	32.4838	79.8667	32.2528	32.0962	20.1517
Estimated Population Percent Who Do	92.6%	40.3%	40.7%	12.1%	45.6%	64.7%

Job Title	General office work	Billing (charge capture)	Catheterization	Equipment quality assurance	Side effect management	Venipuncture
Staff	35.7117	66.5098	4.2572	71.8762	30.9857	1.1760
Chief Rad Tech/Dept Mgt/Dir	59.3133	60.4776	8.0821	78.7499	19.9884	2.4089
Ed Instr/ Ed Prgm Dir/Clinic Dir	36.2329	59.0702	6.4926	75.2643	19.2639	3.4086
Medical Dosimetrist	19.8035	62.8603	2.2623	45.9407	.5230	1.0642
Estimated Population Percent Who Do	34.7%	66.3%	4.1%	70.2%	29.0%	1.2%

Job Title	Laboratory procedures	Electro-cardiography	Contrast administration	Patient care charting and document	3D treatment planning	PET/CT
Staff	1.6653	.0000	4.5581	53.7480	5.7851	1.0024
Chief Rad Tech/Dept Mgt/Dir	1.1462	.0000	6.9945	54.8655	9.1828	2.9564
Ed Instr/ Ed Prgm Dir/Clinic Dir	4.2399	.0000	5.9742	43.4934	5.3697	.0000
Medical Dosimetrist	1.4191	.7343	1.2675	18.0936	81.7711	2.6150
Estimated Population Percent Who Do	1.6%	.05%	4.3%	51.5%	10.7%	1.1%

Job Title	Loading of brachytherapy sources	Patient education	IMRT	HDR	Stereotactic radiation therapy	Conformal therapy	Other activities/ procedures
Staff	2.9628	38.5296	44.6835	14.4258	11.4611	31.8326	1.3877
Chief Rad Tech/Dept Mgt/Dir	.0000	31.3714	27.5128	10.6482	1.3824	31.1527	9.3260
Ed Instr/ Ed Prgm Dir/Clinic Dir	3.6744	30.5979	43.7118	20.6413	18.4773	31.8788	11.3468
Medical Dosimetrist	21.2259	13.3241	38.5491	19.8778	4.9211	37.4884	3.5599
Estimated Population Percent Who Do	4.1%	36.9%	44.3%	14.8%	11.0%	32.2%	1.5%

The administrators' and staff therapists' responses remained largely consistent, except:

- Only 1% to 2% of staff radiation therapists (vs. 5% to 7% of administrators) said they carry out venipuncture, laboratory procedures and contrast administration.
- Only about 50% of staff therapists said they engage regularly in the charting and documentation of patient care, while more than 90% of administrators reported that the radiation therapists chart and document care.

Both of these findings may indicate that only certain, perhaps more experienced radiation therapists in a given facility perform these tasks. As pointed out by a reviewer and RTCPAC member, therapists also may have misinterpreted "patient care charting" as not including treatment charting and documentation.

24. Compared to five years ago, are treatments at your facility:

	Staff		Administrators	
	Frequency	Percent	Frequency	Percent
More complex	923	73.7	485	86.1
About the same complexity	124	9.9	60	10.7
Less complex	11	0.9	4	0.7
Don't know	97	7.7	14	2.5
Total Valid	1252	100.0	497	100.0
Missing	231	16.7	31	5.2
Total	1384	100.0	594	100.0

More administrators (86%) than radiation therapists (74%) said treatments at their facilities have become more complex over the past five years. About 10% of each group feel they've remained at the same level of complexity and fewer than 1% feel they've become less complex.

26. How many minutes, on average, do you/your radiation therapists spend with each patient?

		Staff	Administrators
N	Valid	1288	581
	Missing	96	13
Mean		14.25	13.9277
Median		15.00	15.00
Std. Deviation		7.300	4.474
Minimum		0	1.0
Maximum		90	60
Percent "10"		24.1%	19.3%
Percent "15"		43.2%	52.5%

About 45% of radiation therapists and their administrators reported that therapists spend an average of 15 minutes with each patient, while another 25% said the average is 10 minutes (the mean is about 14 minutes).

Staff therapists' estimates of the time they spend with each patient did not vary significantly from state to state, but were significantly affected by job title. Staff respondents whose current job title is instructor/program director/clinical coordinator reported spending more time with each patient (mean = 20.3 minutes) than those holding other titles (14.2 minutes). Adjusting to the population proportion of 100% staff/senior staff therapist or medical dosimetrist yields an estimated population mean time per patient of 14.29 minutes. As pointed out by a reviewer and RTCPAP member, some of the longer estimates may have been given by respondents who included time spent with patients during treatment planning, which can be much longer, particularly for IMRT treatment planning, than time spent during treatment delivery. Future queries about time spent per patient should clearly separate these two phases of the treatment process.

27 Admin. Currently, how many patients do your radiation therapists treat in an average week [per FTE staff therapist]?
28 Admin. How many patient visits does your department have per day?

This pair of questions proved confusing for administrators, because the "per FTE radiation therapist" qualifier appeared only beside the response blank and not in the stem of the question. The number of patients treated per week per FTE therapist (Question 27) shouldn't be greater than seven times the number of patient visits per day for the department as a whole (Question 28) divided by the total number of radiation therapists in the department. However, 78% of the administrators' responses to question failed this test – presumably because they responded to both questions on a per-FTE basis or on a department-as-a-whole basis. This is likely so, since 35% of the responses to Question 27 were exactly five times the answer to Question 28. Data on number of patients seen and on number of treatments or procedures carried out are thus better obtained from staff therapists' responses.

27 Staff. Currently, how many patients do you treat in an average week? ____ patients
28 Staff. How many patient visits do you have per day? ___ patients

		How many patients do you treat in an average week?	How many patients visits does your dept have per day?	Patients treated per week div by daily patient visits
N	Valid	1763	1744	1651
	Missing	79	98	191
Mean		157.723	38.0542	4.2429
Median		148.823[a]	31.2000[a]	4.9667[a]
Mode		150.0	30.00	5.00
Std. Deviation		132.9159	27.88743	1.45447
Minimum		.0	.00	1.00
Maximum		2000.0	400.00	7.00
Percentiles	5	24.035[b]	13.4400[b]	1.0072[b]
	25	95.536	24.9318	4.1881
	75	199.609	43.2500	5.0052
	95	342.643	78.9419	5.2307

[a]Calculated from grouped data.
[b]Percentiles are calculated from grouped data.

Number of patient visits per day and number of patients treated per week each differed with statistical significance from state to state (F (39, 1699 or 1716) = 3.563 and 2.427 respectively, $P < .001$ in each case).

Adjusting to state population proportions yields estimated population means and medians of 160.5 and 148.9 for patients/week and 38.4 and 32.0 for daily patient visits.

29. What percentage of your/your therapists' patient work is …?

		Staff		Administrators	
		Inpatient	Outpatient	Inpatient	Outpatient
N	Valid	1961	1970	583	583
	Missing	150	141	11	11
Mean		8.417	91.325	6.2866	93.6791
Median		5.062	94.921	4.6596	95.344
Mode		5.0	95.0	5.00	95.00
Standard Deviation		13.1420	13.7790	9.76563	9.79127
Minimum		0.0	100.0	.00	.00
Maximum		100.0	100.0	100.00	100.00
% less than 10%		63.9%	0.8%	72.9%	0.7%
% > 90%		0.8%	63.6%	0.8%	72.6%

Radiation therapy is primarily outpatient work. Staff and senior staff therapists estimate that about 9% of their work is inpatient work, while administrators estimate that only about 3% of their staff therapists' work is with inpatients.

30. What shift do you work on/supervise more than half the time?

		Staff		Administrators	
		Frequency	Percent	Frequency	Percent
Valid	Day shift	1913	95.5	559	97.0
	Evening shift	12	.6	0	0.0
	Extended shift	44	2.2	11	1.9
	Swing/rotating shift	35	1.7	6	1.0
	Total	2004	100.0	576	100.0
Missing	-9.00	107	5.1	18	3.0
Total		2111	100.0	594	100.0

Most administrators (97%) and staff therapists (95.5%) work the day shift more than one-half the time. Only about 2% of staff therapists and 1% of administrators put in more than one-half their time on the swing/rotating shift.

31. Typical commute time home to work (one way, in minutes).

Statistic		Staff	Staff Population Estimate	Admin
N	Valid	2029		586
	Missing	82		8
Mean		26.930	27.306	26.0119
Median		23.522	23.855	21.6322
Std. Deviation		16.2245	16.4910	16.71025
Minimum		2.0		1.00
Maximum		95.0		125.00

Commute times range from one minute to 125 minutes (each way), with a median of about 22 minutes for administrators and 24 minutes for therapists.

Staff therapists' commute times were significantly related to their home state ($F(39, 1982) = 2.131$, $P < .001$). Adjusting to state population proportions yields the population estimates given in the middle column of the above table.

32. Hours you work in a typical work week in radiation therapy.

		Staff			Administrators		
		Frequency	Percent	Cumulative Percent	Frequency	Percent	Cumulative Percent
Valid	Under 16 hrs	43	2.1	2.1	3	.5	.5
	16-25 hrs	196	9.7	11.8	5	.9	1.4
	26-35 hrs	143	7.1	18.9	12	2.1	3.4
	36-45 hrs	1521	75.1	94.0	365	62.7	66.2
	46-55 hrs	108	5.3	99.4	177	30.4	96.6
	Over 55 hrs	13	.6	100.0	20	3.4	100.0
	Total	2024	100.0		582	100.0	
Missing	-9.00	87	4.1		12	2.0	
Total		2111	100.0		594	100.0	

Overall Satisfaction

Staff

	Primary Facility	Your Department	Your Job	Direct Super-visors	Your Radiation Oncols	Your Physicists	Your Coworkers	Radiation therapy Administration	Overall Administration of Larger Facility	Quality of Patient Care
N Valid	1967	1976	1962	1948	1969	1945	1967	1932	1813	1942
Missing	144	135	149	163	142	166	144	179	298	169
Mean	4.0778	4.0025	4.2120	3.8060	3.9274	3.9316	4.1917	3.5347	3.3624	4.3512
Median	4.2655	4.2103	4.3998	4.1070	4.1603	4.1651	4.3708	3.6729	3.4522	4.5146
Mode	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	5.00
Std. Deviation	1.04114	1.0854 6	1.02836	1.28774	1.15175	1.16488	1.00981	1.23111	1.16964	.96152
Minimum	.00	1.00	.00	.00	1.00	.00	.00	1.00	.00	1.00
Maximum	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
% 1s & 2s	10.1%	12.1%	8.7%	18.6%	14.3%	13.5%	8.6%	21.4%	23.2%	6.8%
% 4s & 5s	78.7%	76.8%	83.6%	66.7%	71.9%	70.7%	81.9%	56.8%	50.1%	86.5%

Note: The closer the mean is to 5.0 ("Very satisfied"), the stronger the satisfaction. The closer it is to 1.0 ("Very dissatisfied"), the stronger the preference for the second-named alternative. The midpoint of the scale ("Neither Satisfied or Dissatisfied") is 3.0.

Administrators

		Primary Facility	Your Department	Your Job	Direct Super-visors	Your Radiation Oncols	Your Physicists	Your Coworkers	Radiation therapy Administration	Overall Administration of Larger Facility	Quality of Patient Care
N	Valid	570	571	563	555	566	566	565	510	502	562
	Missing	24	23	31	39	28	28	29	84	92	32
Mean		4.22	4.19	4.14	3.97	3.96	3.98	4.33	3.88	3.60	4.51
Median		4.42	4.41	4.34	4.22	4.18	4.23	4.49	4.14	3.74	4.66
Std. Deviation		1.056	1.094	1.060	1.182	1.123	1.170	.982	1.198	1.161	.927
% 1's & 2's		8.6%	10.5%	10.5%	14.1%	13.6%	14.3%	6.5%	15.3%	17.9%	5.7%
% 4's & 5's		81.8%	82.1%	82.6%	72.8%	74.4%	74.4%	86.5%	70.2%	61.2%	90.6%

Satisfaction with these various aspects of the facility and the job is generally rather high (mean close to 4 on the 5-point scale) except for satisfaction with "the administration of the larger facility within which your department is located," with a mean of 3.4 among staff therapists and 3.6 among administrators, as well as staff therapists' satisfaction with their radiation therapy administration (3.5). However, sample administrators rate themselves and their colleagues at 3.9.

Broad Workplace Environments

34. Next, we would like to see your preference, if any, between selected attributes.

Staff

		Example. Do you prefer dogs or cats?	Rather work on swing/rotating shift or always on same shift?	Rather work on inpatient care basis or output care basis?	Rather have a great salary or work in a great environment?	Rather work in an urban or a rural setting?	Rather work in a hospital or a non hospital setting such as a clinic?	Rather work as a therapist or an administrator?
N	Valid	923	1928	1936	1937	1933	1933	1932
	Missing	1188	183	175	174	178	178	179
Mean		6.42	1.97	2.03	4.76	4.97	4.74	7.30
Median		6.95(a)	1.36(a)	1.55(a)	4.85(a)	4.94(a)	4.80(a)	8.03(a)
Mode		9	1	1	5	5	5	9
Std. Deviation		2.488	1.941	1.586	1.710	2.205	2.472	2.039
Minimum		0	1	1	1	1	1	1
Maximum		9	9	9	9	9	9	9

Note: The closer the mean is to 9.0 ("Very satisfied"), the stronger the preference for the first-named alternative. The closer it is to 1.0 ("Very dissatisfied"), the stronger the preference for the second-named alternative. The midpoint of the scale ("Equal preference") is 5.0.

All six of the "real" dimensions (cats vs. dogs being an example to help understand the rating scale) were affected significantly by home state, current job title or both. While therapist respondents were very close to the midpoint of the scale in preferring a great salary to a great workplace environment, respondents whose job title is still staff or senior staff therapist have a slightly greater preference for a great environment (mean = 4.69) than do the other three groups (mean = 4.94 to 5.23), $F(1, 1908) = 11.50$, $P = .001$. Respondents whose current job title is administrative/managerial show a slight preference (4.25) for a rural setting, while the other three groups are significantly closer to the midpoint (means of 4.63 to 5.21), $F(1,1905) = 6.74$, $P < .01$. While all groups express a preference for working as a therapist rather than as an administrator, those whose current title is administrative/managerial show a much weaker preference (mean = 5.60) than respondents who currently work as educators (6.95) or dosimetrists (6.69). Respondents whose current title is staff or senior staff therapist show the strongest preference for a staff position (mean = 7.74), $F(3,1905) = 25.682$, $P < .001$ for the overall differences among the four groups). $P < .001$ for each of the three specific comparisons mentioned.

Adjusting to state population proportions and/or considering only those respondents with current job titles of staff or senior staff therapist or medical dosimetrist yields estimated population mean responses that differ very little from the sample means. The two largest changes are that the mean preference for rural vs. urban moves from 4.97 to 5.03 and the mean preference for therapist vs. administrator from 7.30 to 7.39.

Administrators

		Example. Do you prefer dogs or cats?	Rather work on swing/rotating shift or always on same shift?	Rather work on inpatient care basis or output care basis?	Rather have a great salary or work in a great environment?	Rather work in an urban or a rural setting?
N	Valid	202	581	583	583	581
	Missing	392	13	11	11	13
Mean		6.67	1.76	2.02	4.66	4.71
Median		7.49	1.32	1.55	4.78	4.66
Std. Deviation		2.496	1.634	1.603	1.753	2.216
Minimum		1	1	1	1	1
Maximum		9	9	9	9	9

		Rather work in a hospital or a non hospital setting such as a clinic?	Rather work as a therapist or an administrator?
N	Valid	581	582
	Missing	13	12
Mean		4.83	4.34
Median		4.85(a)	4.25(a)
Std. Deviation		2.608	2.488
Minimum		1	1
Maximum		9	9

Note: The closer the mean is to 9.0 ("Very satisfied"), the stronger the preference for the first-named alternative. The closer it is to 1.0 ("Very dissatisfied"), the stronger the preference for the second-named alternative. The midpoint of the scale ("Equal preference") is 5.0.

Administrators' preferences for being a therapist to an administrator differ substantially as a function of highest level of education. Certificate and associate degree administrators are, on average, close to the equal preference point (mean preference = 5.1 on the 1-9 scale, whose midpoint is 5), while bachelor's level administrators show a statistically significant preference for being an administrator (mean = 3.9) and administrators with postgraduate degrees express strong preference (mean = 2.5) toward administration; overall $F(3,564) = 25.06$, $P < .001$. Three of the general preference measures differed significantly among administrators with differing numbers of years in radiation therapy preference for inpatient care and for working in a hospital setting weakened as tenure increased. Mean preference for inpatient care was 1.7 among radiation therapy administrators with 10 years' or less tenure, 2.5 among those with 26 or more years in radiation therapy. Preference for a hospital setting was slight (4.4) among zero to 10 year administrators, weakening to an even split among those with 21 to 25 years' tenure and becoming a slight preference for the clinic setting among those with 26 or more years' tenure ($F(4,576) = 4.80$ and 4.4, $P < .001$ and $< .01$). Preference for an urban setting was weak (4.70) among the least tenured administrators, modest (4.3) among those with 11 to 15 years of experience and increasingly weaker as tenure increased, with those with 21 to 25 years' tenure nearly evenly divided (4.9). Administrators with 26 or more years' tenure showed a slight (5.54) preference for the clinic setting (overall $F(4,576) = 4.81$, $P < .001$).

Adjusting the administrators' general preference means to the population proportions at different levels of tenure had almost no affect on overall mean administrator preference (maximum difference in means = .02 units on the 9-point scale), but adjusting to population proportions at different education levels yielded an estimated population mean preference for being an administrator from 4.3 to 4.5 units.

Staff and administrators agree strongly in preferring to work the same shift all of the time and for working with outpatients. Both almost equally split between great salary vs. great work environment, between urban and rural settings and between working in a hospital vs. a non hospital setting. However, while administrators show a slight preference for being an administrator rather than a therapist, staff therapists express a fairly strong preference in the opposite direction.

Detailed Evaluation of Current Workplace

Staff

		Facility's reputation	How well therapists are educated in their jobs	Performance evals based on job specs	Adequacy (numbers, types) of support staff	Therapist input valued	Proper comp for extra hours therapists put in
N	Valid	2008	2011	1940	2004	1996	1878
	Missing	103	100	171	107	115	233
Mean		4.3566	4.3461	3.9026	3.6732	3.5165	3.7636
Median		4.4117[a]	4.3968[a]	4.0217[a]	3.7214[a]	3.5790[a]	3.8642[a]
Mode		5.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		.69831	.68572	.97058	.95032	1.05166	1.02474
Minimum		1.00	1.00	.00	1.00	.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00

[a] Calculated from grouped data.

		Wages, compared to other facilities in area	Compliance w/ safety guidelines	Safety of neighborhood, building security	Equipment age and state-of-art capabilities	Dept layout facilitates rad therapist's job	Employer-provided insurance benefits
N	Valid	2005	2014	2010	2007	2005	1871
	Missing	106	97	101	104	106	240
Mean		3.4718	4.2160	4.2771	3.9377	3.7601	3.7034
Median		3.5383[a]	4.3013[a]	4.3596[a]	4.1262[a]	3.8461[a]	3.7530[a]
Mode		4.00	4.00	5.00	5.00	4.00	4.00
Std. Deviation		1.06516	.80085	.78521	1.09954	1.00686	.94228
Minimum		.00	1.00	1.00	1.00	.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00

a Calculated from grouped data.

		Employer-provided retirement benefits	Can tailor work schedule to fit personal needs	RTT's ability to spend proper amount of time w/ each patient	Respect RTTs receive from radiation oncologists	Respect RTTs receive from dosimetrists	Respect RTTs receive from physicists
N	Valid	1992	2014	2007	2014	1998	1874
	Missing	119	97	104	97	113	237
Mean		3.5221	3.7056	3.7015	3.6931	3.9119	3.8362
Median		3.5783[a]	3.8100[a]	3.7740[a]	3.7951[a]	4.0096[a]	3.9214[a]
Mode		4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		1.01496	1.07503	.97686	1.06107	.92711	.94840
Minimum		1.00	.00	.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00

[a] Calculated from grouped data.

		Respect RTTs receive from nurses	RTT's ability to provide accurate treatment	RTT's ability to control their careers	Adequacy of internal, on-site training	Personal needs (e.g., daycare, senior care) met	Condition of buildings basic operational equipment
N	Valid	1973	2013	2006	1999	1986	1874
	Missing	138	98	105	112	125	237
Mean		3.8697	4.4198	3.6376	3.2916	3.3424	3.9413
Median		3.9666[a]	4.4690[a]	3.7002[a]	3.3577[a]	3.3871[a]	4.0277[a]
Mode		4.00	5.00	4.00	4.00	3.00	4.00
Std. Deviation		.94620	.67558	.97539	1.07314	1.07529	.90839
Minimum		1.00	1.00	.00	.00	.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00

[a] Calculated from grouped data.

		Communication within the dept	Reimbursement for professional activities	Job security (few, no concerns about being laid off)	Dept staff act professionally	Equipment reliability
N	Valid	2008	1994	2008	2013	2013
	Missing	103	117	103	98	98
Mean		3.3132	3.2056	4.0354	4.0164	3.7382
Median		3.3798[a]	3.3049[a]	4.1596[a]	4.1065[a]	3.8130[a]
Mode		3.00	4.00	4.00	4.00	4.00
Std. Deviation		1.05456	1.23945	.94663	.86069	.96278
Minimum		.00	.00	.00	.00	.00
Maximum		5.00	5.00	5.00	5.00	5.00

[a] Calculated from grouped data.

Note: The closer the mean is to 5.0 ("Very good"), the stronger the feeling of their workplace being good in respect to that variable. The closer it is to 1.0 ("Very poor"), the stronger the feeling of their workplace being poor in respect to that variable. The midpoint of the scale ("Fair") is 3.0.

Staff gave mean ratings above 4.2 (on a 1 to 5 point scale) to their facilities' reputations, how well therapists are educated in their jobs, compliance with occupational safety guidelines, safety of the workplace in terms of neighborhood and building security and their ability to provide accurate treatment. They rated below 3.5 wages for radiation compared to other facilities in the area, adequacy of internal, on-site training, the extent to which personal needs (e.g., convenient location, daycare, senior care) are met, communications within the department and reimbursement for professional activities. No mean rating was below 3.0 (the midpoint of the scale).

Several of the staff respondents' mean ratings are affected significantly by current job title and/or by home state. Medical dosimetrists had a lower opinion of how well therapists are educated in their jobs (mean = 4.15) than the other three groups (4.29 to 4.36) and those currently in a managerial/supervisory position rate their facility's equipment age and reliability lower (3.58) than the other groups (3.92 to 4.12), as well as retirement benefits provided by their employers (3.14 vs. 3.52 to 3.72). Medical dosimetrists rated the respect that radiation therapists receive from dosimetrists higher (4.23) than the other three groups (3.85 to 3.96) and managerial/supervisory respondents (4.26) and medical dosimetrists (4.23) rated radiation

therapists' ability to provide accurate treatment less positively than staff therapists (4.44) and educators (4.42); $P < .01$ in each case.

The various states differed significantly ($P < .01$ in each case) in their ratings of "therapist input valued," wages as compared to other facilities in the area, equipment age and state-of-the-art capabilities, "department layout facilitates the therapist's job," employer-provided retirement benefits, ability to tailor work schedule to fit personal needs, therapists' ability to spend the proper amount of time with each patient, adequacy of internal, on-site training, how well personal needs (e.g., daycare and senior care) are met and reimbursement for professional activities.

Adjusting to state population proportions and/or the 100% staff/senior staff therapist or medical dosimetrist population figure as necessary yields the following estimated population means:

Estimated Population Values

	How well therapists are educated for their jobs	Equipment age, state-of-art capabilities	Employer-provided retirement benefits	Respect RTTs receive from dosimetrists	RTTs' ability to provide accurate treatment
Mean	4.3506	3.9322	3.7208	3.8918	4.4297

	Therapist input valued	Wages, compared to other facilities in area	Dept layout facilitates radiation therapist's job	Can tailor work schedule to fit personal needs	RTTs' ability to spend proper amt of time w each pt	Adequacy of internal, on-site training
Mean	3.5119	3.4744	3.7503	3.6905	3.6847	3.2744

	Personal needs (e.g., daycare, senior care) met	Reimbursement for professional activities
Mean	3.3171	3.2067

Administrators

		Facility's reputation	How well therapists are educated in their jobs	Perform evaluations based on job specifications	Adequacy (numbers, types) of support staff	Therapist input valued	Proper comp for extra hours therapists put in	Wages, compared to other facilities in area	Compliance w safety guidelines
N	Valid	551	583	566	581	580	580	583	582
	Missing	43	11	28	13	14	14	11	12
Mean		4.4229	4.3739	4.1855	3.8571	4.1034	4.1414	3.8045	4.4210
Std. Error of Mean		.03053	.03102	.03561	.03887	.03850	.04085	.04260	.03161
Median		5.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	5.0000
Std. Deviation		.71665	.74898	.84719	.93693	.92723	.98381	1.02855	.76258
Minimum		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

		Safety in terms of neighbor-hood, building security	Equipment age and state-of-art capability	Dept layout facilitates rad therapist's job	Employer-provided insurance benefits	Employer-provided retirement benefits	Can tailor work schedule to fit personal needs	RTTs' ability to spend proper amount of time w each patient	Respect RTTs receive from radiation oncols
N	Valid	576	584	578	581	580	580	573	581
	Missing	18	10	16	13	14	14	21	13
Mean		4.4097	3.9332	3.8875	3.9484	3.8207	3.7862	3.9721	3.8795
Std. Error of Mean		.03229	.04781	.04183	.03792	.04103	.04147	.03474	.04281
Median		5.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000
Std. Deviation		.77494	1.15549	1.00578	.91393	.98814	.99869	.83158	1.03188
Minimum		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

		Respect RTTs receive from dosimetrists	Respect RTTs receive from physicists	Respect RTTs receive from nurses	RTTs' ability to provide accurate treatment	RTTs' ability to control their careers	Adequacy of internal, on-site training	Personal needs (e.g., daycare, senior care) met	Condition of buildings basic operation equipment
N	Valid	572	577	567	576	575	577	575	576
	Missing	22	17	27	18	19	17	19	18
Mean		4.0787	3.9879	3.9612	4.5434	3.9078	3.5789	3.4904	4.0104
Std. Error of Mean		.03759	.03928	.03623	.02571	.03534	.04107	.04125	.04000
Median		4.0000	4.0000	4.0000	5.0000	4.0000	4.0000	4.0000	4.0000
Std. Deviation		.89898	.94365	.86260	.61703	.84733	.98660	.98923	.96002
Minimum		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

		Communication within the dept	Reimbursement for professional activities	Job security (few,no concerns about being laid off)	Dept staff act professionally	Equipment reliability
N	Valid	575	571	581	570	567
	Missing	19	23	13	24	27
Mean		3.7409	3.6095	4.1997	4.1491	3.9912
Std. Error of Mean		.03847	.04951	.03793	.03406	.03732
Median		4.0000	4.0000	4.0000	4.0000	4.0000
Std. Deviation		.92242	1.18315	.91429	.81325	.88864
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00

Radiation therapy administrators joined staff therapists in giving mean ratings above 4.2 (on a 1 to 5 point scale) to their facilities' reputations, how well therapists are educated in their jobs, compliance with occupational safety guidelines, safety of the workplace and therapists' ability to provide accurate treatment. They also rated job security at 4.2. The only aspect to which administrators assigned a mean rating slightly below 3.5 was the extent to which personal needs are met.

None of the administrators' 29 facility ratings were significantly affected by education level or tenure in radiation therapy alone. However, two ratings were affected by the combination of the two factors: Mean agreement that radiation therapists receive proper compensation for "extra hours they put in" was affected significantly by education level only among new administrators,

or those with zero to 10 years' tenure, among whom this mean rating was substantially lower (3.4) for associate degree administrators than for those at other education levels (4.3). Less experienced administrators with associate degrees were the only respondents that rated agreement with this item lower than 3.8. Mean rating of the adequacy of internal, on-site training was not significantly affected by tenure in the profession except among bachelor's level administrators with 11 to 15 years' tenure, who rated on-site training substantially lower (3.0) than those with either fewer or more years in the profession (3.7).

Adjusting these two means to population proportions of the various tenure/educational level combinations had almost no effect on either of these mean ratings (.01 and .03 units' difference).

36. Would you consider your main work location…

		Staff		Administrators	
		Frequency	Percent	Frequency	Percent
Valid	Urban	871	43.9	222	38.3
	Suburban	807	40.7	245	42.3
	Rural	306	15.4	112	19.3
	Total	1984	100.0	579	100.0
Missing	-9.00	127	6.0	15	2.5
Total		2111	100.0	594	100.0

Both staff and administrators are nearly evenly split between urban and suburban work settings (41% to 41.5%). About 15% of staff therapists and 20% of radiation therapy administrators work in rural settings.

The percentage working in urban settings increases almost along with tenure (from 32% for those with 15 or fewer years to 59% for those with 26 plus years), while the percentage working in suburban settings declines with tenure (47.5% for zero to 10 years to 26% for 26-plus years). Adjusting to population proportions yields estimated overall population percentages of 37.9% urban, 42.4% suburban and 19.7% rural.

The therapist respondent distribution among urban, suburban, and rural settings is significantly affected by job title (chi-square = 21.94 with 6 *df*, $P = .001$) and home state (chi-square = 222.9 with 78 *df*, $P = .001$). The percentage of radiation therapists who reported they have moved on to administrative/supervisory positions since their most recent registration renewal is lowest (2.6%) among those working in urban settings, higher (4.3%) among suburban-based respondents, and highest among those working in rural settings (7.2%), $F(2, 1958) = 6.57$, $P = .001$. Adjusting to state population proportions and focusing on those who consider staff/senior staff therapist or medical dosimetrist the most apt job title yields estimated population urban/suburban/rural percentages of 40.1%, 38.2%, and 13.5% respectively.

37. What are average number of years radiation therapy staff have been working at your workplace?

		Staff	Admin
N	Valid	1979	574
	Missing	132	20
Mean		8.227	7.062
Median		7.281	6.000
Std. Deviation		5.5207	4.5177
Minimum		.0	.70
Maximum		60.0	36.00

Staff therapists report that radiation therapy staff members have been working an average of 8.2 years at their workplace, while administrators report an average staff tenure of 7.1 years.

Mean tenure of the radiation therapy staff supervised by the administrator increases along with the administrator's tenure in radiation therapy, from 5.5 years among administrators with 10 or fewer years' tenure to 9.6 years for those with 26 or more years in the discipline (F (4,540) = 8.72, $P < .001$). Adjusting to the population proportions of radiation therapy administrators with various levels of tenure in radiation therapy yields an estimated population mean of 7.05 years.

There were statistically significant differences among states in average staff tenure (F(39, 1933) = 2.243, $P < .001$). Adjusting for those differences yields an estimated population mean and median staff tenure of 8.10 and 7.13, respectively.

Issues in Radiation Therapy

38 Admin. What percentage of (new graduates of radiation therapy programs you have hired in the past three years) are prepared to work...

Statistics

		% of newly hired grads prepared to work unsupervised	% newbies prepared to work w minimal supervision	% newbies prepared to work only under direct supervision	% newbies prepared to work under other conditions
N	Valid	414	415	414	411
	Missing	180	179	180	183
Mean		19.0145	48.8916	31.6667	2.7591
Median		.5992(a)	49.6585(a)	8.6071(a)	.3085(a)
Mode		.00	.00	.00	.00
Std. Deviation		32.10704	40.01407	39.19017	14.61349
Minimum		.00	.00	.00	.00
Maximum		100.00	100.00	100.00	100.00

a Calculated from grouped data.

On average, administrators estimate that only about 19% of new graduates are prepared to work unsupervised, but they judge another 49% as prepared to work with minimal supervision.

38 Staff. Upon arriving at your first post certification job, were you prepared to work…

38. Upon arriving at your first post-certification job, were you prepared to work:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unsupervised	528	25.0	26.1	26.1
	With minimal supervision	1336	63.3	66.1	92.2
	Only under direct supervision	136	6.4	6.7	98.9
	Under other conditions	22	1.0	1.1	100.0
	Total	2022	95.8	100.0	
Missing	-9.00	89	4.2		
Total		2111	100.0		

Staff therapists are somewhat more confident about their preparation to work unsupervised when they were new graduates than administrators judge the current crop of graduates. About 26% of staff judged themselves to have been adequately prepared. Further, 92% of staff therapists feel

they required at most minimal supervision, versus the 78% of radiation therapy administrators who feel as confident about new graduates they've hired recently.

39. When provided appropriate supervision, what proportion of procedures could you/can they perform?

		Staff, Senior Staff Therapists			Administrators		
		Frequency	Percent	Cumulative Percent	Frequency	Percent	Cumulative Percent
Valid	All	733	36.5	36.5	66	15.1	15.1
	Almost All	884	44.0	80.5	176	40.3	55.4
	Most	29	1.4	81.9	157	35.9	91.3
	Fewer than half	357	17.8	99.7	27	6.2	97.5
	Only a few	6	.3	100.0	10	2.3	99.8
	None w/out extensive add'l training	0	.0	100.0	1	.2	100.0
	Total	2009	100.0		437	100.0	
Missing	-9.00	102	4.8		157	25.7	
	System	0	.0		594	100.0	
	Total	102	4.8				
Total		2111	100.0				

Most (80%) staff therapists recall having been able to perform – with appropriate supervision – all or almost all of the department's procedures when new graduates, but only 55% of radiation therapy administrators assess current new graduates' abilities at the same level.

40. If you checked anything other than "all" for Q39, which procedures were you/are these newly hired graduates least prepared to perform?

Staff

	N	Minimum	Maximum	Proportion Mentioning	Std. Deviation
Brachytherapy	2111	.00	1.00	.0488	.21548
Billing	2111	.00	1.00	.0123	.11032
Simulation	2111	.00	1.00	.2321	.42228
Breast	2111	.00	1.00	.0336	.18033
Blocks, block-mold	2111	.00	1.00	.0199	.13968
Dosimetry	2111	.00	1.00	.0426	.20208
Hand calculations	2111	.00	1.00	.0213	.14447
HDR, high-dose	2111	.00	1.00	.0355	.18515
LDR, low-dose	2111	.00	1.00	.0024	.04862
Computers, computer use	2111	.00	1.00	.0114	.10604
Stereotactic	2111	.00	1.00	.0275	.16350
CT/Sim	2111	.00	1.00	.0284	.16622
CT (not combined with sim)	2111	.00	1.00	.0275	.16350
Complex, difficult, special procedures	2111	.00	1.00	.0346	.18276
New, different from training	2111	.00	1.00	.0270	.16213
Craniospinal	2111	.00	1.00	.0118	.10820
Total body, total skin	2111	.00	1.00	.0175	.13126
Planning	2111	.00	1.00	.0090	.09447
Ultrasound	2111	.00	1.00	.0057	.07520
IMRT	2111	.00	1.00	.0109	.10384
Head & neck	2111	.00	1.00	.0085	.09197
Implants	2111	.00	1.00	.0085	.09197
Number of the above mentioned	2111	.00	6.00	.6769	.90906
Other than any of the above	2111	.00	1.00	.0696	.25459
Blank	2111	.00	1.00	.4800	.49960
Valid N (listwise)	2111				

A much higher percentage of staff therapists mentioned simulation than any other procedure as the one new graduates are least prepared to perform (23% of the entire sample, 46% of those who mentioned any procedure). Brachytherapy was the next most frequently mentioned procedure (5%), not counting "other." Simulation was the only procedure reported that differed significantly as a function of job title ($F(3, 2026) = 4.052$, $P < .01$). Staff and senior staff therapists and educators were more likely (25%) than those who have moved on to managerial/supervisory titles or are medical dosimetrists (14.1%) to say they felt unprepared to perform simulations when they arrived at their first post certification job. Adjusting to the population proportion of 100% staff and senior staff therapists (and assuming that most persons

holding the title of medical dosimetry would choose staff/senior staff technologist on the ARRT renewal form) gives an estimate population percentage of 24.2% choosing simulation as a procedure they initially felt ill prepared to perform unsupervised. Dosimetry was the only procedure that differed significantly as a function of home state ($F(3, 2026) = 2.256$, $P < .01$). Adjusting to state population proportions yields an estimated population percentage mentioning dosimetry of 4.1%.

Administrators

	N	Minimum	Maximum	Proportion Mentioning	Std. Deviation
Breast procedures	594	.00	1.00	.0370	.18901
Brachytherapy	594	.00	1.00	.0488	.21568
Billing	594	.00	1.00	.0101	.10008
Simulation	594	.00	1.00	.3148	.46483
Blocks, block-mold	594	.00	1.00	.0219	.14643
Dosimetry	594	.00	1.00	.0286	.16688
Hand calculations	594	.00	1.00	.0387	.19309
HDR, high-dose	594	.00	1.00	.0556	.22925
LDR, low-dose	594	.00	1.00	.0017	.04103
Computer use	594	.00	1.00	.0084	.09144
Stereotactic	594	.00	1.00	.0657	.24789
CT/SIM	594	.00	1.00	.0774	.26752
CT, not paired with sim	594	.00	1.00	.0404	.19717
Complex, difficult, special procedures	594	.00	1.00	.0556	.22925
New, different from training	594	.00	1.00	.0219	.14643
Cranio-spinal	594	.00	1.00	.0101	.10008
Total body, total skin	594	.00	1.00	.0101	.10008
Planning	594	.00	1.00	.0067	.08185
Ultrasound	594	.00	1.00	.0135	.11536
IMRT	594	.00	1.00	.0943	.29246
Head, neck	594	.00	1.00	.0135	.11536
Implants	594	.00	1.00	.0067	.08185
Number of the above cited	594	.00	7.00	.9815	1.20202
Proc or comment not involving any of the above	594	.00	1.00	.0859	.28039
Blank	594	.00	1.00	.3923	.48866
Valid N (listwise)	594				

About 60% of administrators commented on the specific procedures new graduates can't perform. The average number of procedures cited was .98 (1.65 among those answering the question). Simulation was by far the most commonly cited area of deficiency, mentioned by 31.5% of all respondents and by more than 50% of those answering this particular question. Runner-up was IMRT (9.4% of sample, 15.5% of those specifying anything), with CT/simulation

nd 12.7%) running third. Adjusting to population proportions at the various education levels yields estimated population percentages of 38.7% leaving the question blank and 9.1% mentioning IMRT.

IMRT was the only procedure-mentioned percentage that varied significantly as a function of education level or years in radiation therapy. Five percent of certificate-level, 8% of associate-level, 9.5% of bachelor's-level, and 24% of postgraduate administrators chose IMRT as a procedure that newly hired radiation therapists cannot perform (F (3,571) = 6.268, $P < .001$). However, associate-level and postgraduate administrators also were more likely (66% and 75% respectively) to answer the question than were certificate- and bachelor's-level administrators (56% each), F (1,571) = 10.343, $P < .001$.

The number of procedures nominated as least prepared to perform ranged from zero to seven. By far the most commonly cited was simulation, which was mentioned by 21% of staff therapists and 31% of administrators. The only other procedure mentioned by more than 10% of either group was IMRT (10.1% of administrators, but only 1% of staff therapists).

41 Admin. In your opinion, is the lack of skills with new graduates you hire due primarily to…

	Frequency	Valid Percent	Cumulative Percent
Their educational program	93	21.6	21.6
NA; fully satisfied w new grads' skills	84	19.5	41.2
Their individual characteristics	55	12.8	54.0
Both of the above equally	134	31.2	85.1
Other factor(s) (Please specify)	64	14.9	100.0
Total Valid	430	100.0	
Missing	164	27.6	
Total	594	100.0	

About 31% of administrators attributed new graduates' lack of skills to a roughly equal combination of their education programs and individual characteristics. Another 22% blamed primarily the education programs, 13% individual characteristics and 19.5% considered the question irrelevant because they are fully satisfied with the new graduates' skills.

43 Admin. Do the new graduates you hire identify procedure errors (more readily, about as often, or less often) than the other therapists in your department?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More readily	49	8.2	11.4	11.4
	About as often	223	37.5	51.7	63.1
	Less often	159	26.8	36.9	100.0
	Total	431	72.6	100.0	
Missing	System	163	27.4		
Total		594	100.0		

Only about 10% of administrators feel that new graduates are "sharper" at detecting procedure errors than other therapists in their departments. About 50% feel that they are equally skilled at this and slightly more than 26% feel new graduates are less skilled at detecting procedure errors.

If less often, have you noticed any particular kinds of errors that the new graduates are especially likely to miss?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	90	15.2	57.0	57.0
	Yes	68	11.4	43.0	100.0
	Total	158	26.6	100.0	
Missing	System	436	73.4		
Total		594	100.0		

Of those who feel newly hired graduates detect procedure errors less often than other therapists, about 40% believe there are particular kinds of errors that new graduates are particularly likely to miss.

The specific kinds of errors mentioned were coded broadly as follows:

Category label	Code	Count	% of Responses	% of Cases
Setup	1	10	8.2	13.7
Calculations	2	8	6.6	11.0
Charting, documentation	3	15	12.3	20.5
Blocking	4	13	10.7	17.8
Details	5	9	7.4	12.3
Tx planning, simulation	6	8	6.6	11.0
Dosimetry	7	6	4.9	8.2
Localization	8	5	4.1	6.8
Lack critical thinking	9	4	3.3	5.5
Rx changes	10	5	4.1	6.8
Coding	11	1	.8	1.4
Need experience	20	5	4.1	6.8
Lack confidence to point out errors	21	5	4.1	6.8
Other	88	28	23.0	38.4
Total responses		122	100.0	167.1

521 missing cases; 73 valid cases

44 Admin. Do you use any assessment tool(s) to evaluate the new graduates you hire?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No or no answer	187	31.5	45.7	45.7
	Yes	222	37.4	54.3	100.0
	Total	409	68.9	100.0	
Missing	System	185	31.1		
Total		594	100.0		

Radiation therapy administrators are about equally split between those who do and those who don't report that they use assessment tools to evaluate the new graduates they hire.

If yes, please describe the tool(s) you use.

	Frequency	Percent
Blank, N/A, or indecipherable	362	
1 MONTH, 3 MONTH, 6 MONTH EVAULATIONS	1	.2
3 MONTH CHECKLIST	1	.2
3 MONTH EVAL, 6 MONTH EVAL IF WE HAVEN'T HAD THEM IN OUR DEPARTMENTS AS STUDENTS	1	.2
3 MONTH EVALUATION OF PERFORMANCE - TWO FORMS BASED ON CLINICAL AND PERSONAL PERFORMANCE MEASURES	1	.2
3 MONTH PROBATION CLINICAL EVAL WHICH INCLUDES WHERE THEY ARE WHERE THEY NEED TO BE AND HELP IN AREAS THAT NEED MORE FOCUS ON	1	.2
4 HOUR CLINICAL VISIT, INTERVIEW, REFERENCE CHECK	1	.2
45-90 DAY "FUN" TEST OF THE DEPT'S POLICY, PROCEDURES AND SET UPS	1	.2
6 MONTH EVAL	3	.5
6 MONTH PROBATIONARY PERIOD	2	.4
60 DAY EVALUATION PERIOD	1	.2
90 DAY CLINICAL EVAL TOOL	1	.2
90 DAY/3 MONTH EVAL	7	1.2
90 DAY EVAL, COMPETENCY FOR ALL MARKING SIM, BLOCK, IMPAC	1	.2
90 day evaluation	5	.8
90 DAY EVALUATION	1	.2
90 DAY MANDATORY EVALUATION	1	.2
90 DAY REVIEW (EVAL) IS VERY JOB SPECIFIC & GIVES GOOD OPPORTUNITY FOR FEEDBACK	1	.2
A 90 DAY PERFORMANCE EVAL IS COMPLETED. THEY MUST BE ABLE TO COMPLETE ALL BASIC JOB RESPONSIBILITIES WITHIN 3 MONTHS OF HIRE	1	.2
A CHECK LIST MUST BE COMPLETE TO PASS PROBATION	1	.2
A CHECKLIST OF ITEMS ARE REVIEWED EVERY WEEK TO ASSESS THEIR LEVEL OF LEARNING	1	.2
A COMPETENCY FORM	2	.3
A TOOL SIMILAR TO WHAT PROGRAMS USE. I HAVE A DEPT PRECEPTOR CHECK OFF CERTAIN TX & SIMULATION PROCEDURES WHEN PERFORMED INDEPENDENTLY	1	.2

AFTER WORKING ALONGSIDE AN EXPERIENCED THERAPIST FOR 3 MONTHS THE NEW HIRES SKILLS ARE DISCUSSED AND CHECKED OFF ON A CHECK SHEET OF SKILLS	1	.2
ALL NEW HIREES ARE ON A 3 MONTH PROBATION ALL SKILLS ARE ACCESSED AND DOCUMENTED AS SUCH	1	.2
All new hires (not just new grads) receive a 3 month evaluation	1	.2
AN OUTLINE OF COMPETENCIES; 3 MONTH & 6 MONTH EVALUATION. SENIOR THERAPIST-RESPONSIBLE	1	.2
ARE CURRENTLY IN THE PROCESS OF DEVELOPING THIS	1	.2
ASK BASIC QUESTIONS. DESCRIBE PROCEDURES AND PROBLEMS AND LISTEN TO THEIR SOLUTIONS. TRY TO FIT THE PERSON'S PERSONALITY TO THE REST OF THE STAFF	1	.2
ASK HYPOTHETICAL QUESTIONS TO SEE IF THEY TRULY UNDERSTAND WHAT THEY ARE DOING	1	.2
BASIC HAND CALCULATION TEST SIMULATION AND TREATMENT SKILLS COMPETENCIES	1	.2
BASIC PERFORMANCE EVALUATION IS USED IN FIRST 3-6 MO OF WORK	1	.2
CENTERWIDE COMPETENCY AND ORIENTATION AS WELL AS DEPARTMENTAL COMPETENCY AND ORIENTATION	1	.2
CHECK OFF LISTS FOR NEW EQUIPMENT	1	.2
CHECKLISTS AS COMPETENCIES OR OBSERVATION	1	.2
CLINICAL CHECKLIST	1	.2
CLINICAL COMPETENCIES	1	.2
CLINICAL ROTATIONS	1	.2
COMPETENCY EVALUATIONS OF ALL TREATMENT PROCEDURES , REVIEW WEEKLY TIL 6 MONTH PROBATION OVER	1	.2
COMPETENCY CHECKLIST(S)/FORM(s)	15	2.5
COMPETENCIES MUST BE PERFORMED. HAVE HIRED TWO GRADUATES FROM OUR LOCAL SCHOOL. BOTH DID THEIR CLINICAL ROTATIONS HERE AND WE WERE ABLE TO EVALUATE THEIR SKILLS PRIOR TO HIRING.	1	.2
COMPETENCY - 3 MOS, 6 MOS, 1 YEAR	1	.2
COMPETENCY - BASED, LADDER PROMOTIONS	1	.2
COMPETENCY AND PEER FEEDBACK REVIEW	1	.2
COMPETENCY ASSESSMENT	1	.2
COMPETENCY ASSESSMENT @ 3 MONTH PROBATION	1	.2
COMPETENCY ASSESSMENT AT 6 MONTHS	1	.2
COMPETENCY CHECKLIST DURING SIX MONTH INTRODUCTION PERIOD	1	.2
COMPETENCY CHECKLIST FOR ALL NEW HIRES REGARDLESS OF EXPERIENCE	1	.2
COMPETENCY CHECKLIST MODELED ON THE 4 YR PROGRAM	1	.2
COMPETENCY EVALUATION AT 6 MONTHS	1	.2
COMPETENCY EVALUATION ON ALL PROCEDURES, PROCESSES AND POLICIES	1	.2
COMPETENCY EVALUATIONS	1	.2
COMPETENCY FOR SPECIAL PROCEDURES - FOR PROVING ABILITIES AND KNOWLEDGE OF FACILITY	1	.2
COMPETENCY SKILL TESTS	2	.3
COMPETENCY SKILLS LIST - UPDATED ANNUALLY FOR ALL THERAPISTS	1	.2
Competency tool for techniques used.	1	.2
COMPETENCY, CHECKLIST FOR ALL MACHINES AND SIMULATOR BEFORE BEING ALLOWED TO TAKE CALL AND WORK ALONE	1	.2
COMPUTERIZED SKILLS TESTS	1	.2
CRITERIA BASED, NO DIFFERENT THAN THE EXPERIENCED THERAPISTS	1	.2
DEPARTMENT COMPETENCY BY EQUIPMENT AND 3 MONTH TRAINING WITH THE MENTOR R.T.	1	.2
DEPARTMENT PERFORMANCE APPROVAL	1	.2
DEPT COMPETENCIES OVER ALL AREAS OF REQUIRED DEPT DUTIES	1	.2
DEPT JOB DESCRIPTIONS	1	.2
DIRECT OBSERVATION	1	.2
DIRECT SUPERVISION	1	.2
DO COMPETENCY CHECKS AFTER EACH ROTATION OF DIFFERENT MACHINES EVERY 2/12	1	.2
DON'T HAVE A GOOD TOOL	1	.2

DONE THRU UKMC	1	.2
EACH NEW HIRE MUST COMPLETE 6 COMPETENCY ASSESSMENTS ON A VARIETY OF TREATMENT TECHNIQUES IN THEIR 3 MONTH PROBATIONARY PERIOD	1	.2
EVAL FORMS BUT FELLOW WORKERS	1	.2
EVALUATED ON EQUIP OPERATION PATIENT USE & TREATMENT DOCUMENTATION, AFTER EACH AREA OF ROTATION DURING ORIENTATION BY SENIOR MENTOR	1	.2
EVALUATION AFTER PROBATIONARY PERIOD	1	.2
EVALUATION CHECKLIST(s)/FORM(s)	5	.8
EVALUATION FORMS AND MONTHLY MEETINGS	1	.2
EVALUATIONS ARE THE SAME AS OTHER THERAPISTS HOWEVER THEY ARE VALUATED MORE FREQUENTLY (EVERY 6 MOS) 1	1	.2
EVALUTION 90 DAYS, 6 MONTHS, 1 YEAR	1	.2
ACCEPT WHAT THE SCHOOL SENDS US	1	.2
EXCITEMENT TO LEARN, WILLINGNESS TO ADAPT TO OUR FACILITY, EAGER TO PARTICIPATE IN KEEPING THE MORAL OF THE DEPT "UP" FOR THE STAFF AND PATIENTS WELL-BEING	1	.2
GUIDELINES ON WHAT EXPECTATIONS ARE, PERFORMANCE EVALUATIONS	1	.2
HAVE ESTABLISHED "COMPETENCY REVIEW" FOR THERAPISTS	1	.2
HAVE NOT HIRED ANY NEW GRADS BUT THEY WOULD BE HELD TO THE SAME STANDARDS AS A SKILLED THERAPIST WITH EXPERIENCE	1	.2
HAVE THEM SPEND TIME IN DEPARTMENT WORKING ON THE MACHINES	1	.2
I DEVELOPED A SET OF OBJECTIVES FOR THEM TO MEET IN THEIR PROBATIONARY PERIOD (6 MONTHS) 1 YR AND SO FORTH	1	.2
I DO A CLINICAL CHECK OUT PRIOR TO THEM TAKING CALL OR DURING WARMUP	1	.2
I HAVE DEVELOPED AN ASSESSMENT TOOL THAT COVERS EVERY ASPECT OF THE THERAPISTS JOB	1	.2
I HIRE ONLY FROM THOSE WHO HAVE RECEIVED SOME OF THEIR CLINICAL TRAINING AT OUR FACILITY	1	.2
I TEAM THEM W/ EXPERIENCED STAFF & INQUIRE OF EXP. STAFF WHERE THE NEW GRAD NEEDS ASSISTANCE AND HELP THEM IF NECESSARY	1	.2
I HAVE THE LEAD RT WORK DIRECTLY WITH THEM FOR 2 MONTHS OR UNTIL I FEEL THAT THEY "GOT IT"	1	.2
I WORK ONE-ON-ONE WITH THEM. IF THEY SIM A PATIENT, I HAVE THEM GIVE ME THE CHART AND FILMS FOR REVIEW. WE TRAIN OUR OWN STUDENTS SO WE HAVE ALL YEAR TO DETERMINE "AREAS OFIMPROVEMENT"	1	.2
IL	1	.2
INTERVIEW, REFERENCES, 90 DAY PROBATION WITH SENIOR THERAPISTS AND CHECK OFF LIST FOR BASIC SKILLS COMPETENCIES	1	.2
It is similar to "competency" sheet used for annual evaluations	1	.2
JOB CAPACITIES	1	.2
JOB COMPETENCY - AT INITIAL HIRE AND 90 DAYS LATER	1	.2
JOB DESCRIPTION	1	.2
JOB DESCRIPTION, LEVEL OF EXPERIENCE	1	.2
JOB PERFORMANCE REVIEW/ SELF EVALUATION	1	.2
JOB SPECIFIC COMPETENCIES	1	.2
JUST PERFORMANCE EVAL	1	.2
LEAD THERAPIST AND CHIEF THERAPIST BOTH WORK WITH THE NEW GRADUATE AND FILL OUT A DEPARTMENT COMPETENCY CHECK LIST	1	.2
LOOK OVER CURRICULUM, WORK WITH THERAPISTS FOR A FULL DAY AS PART OF INTERVIEW	1	.2
MACHINE COMPETENCIES, COMPETENCIES WITH QC EQUIP CALCULATION SOFTWARE	1	.2
MACHINE OPERATIONS, SET UP PROCEDURES FOR PROSTATES BREAST, H&N, WARM UP QA	1	.2
MANY COMPETENCIES	1	.2
MONDAY & FRIDAY INTERVIEWS EVERY 1ST 4 WEEKS	1	.2
NEW EMPLOYEE EVALUATIONS	1	.2
NEW EMPLOYEE ORIENTATION PACKET UC/UDER SAMPLE CALCULATIONS AND CHECK SHEET OF TASKS TO BE COMPLETED (TREATMENT/SIMULATION)	1	.2

NEW GRADS ARE ASSIGNED TO A SENIOR THERAPIST & HAVE AN ASSESSMENT CHECKLIST THAT NEEDS TO BE COMPLETED BY DAY 60 (90 ALLOWED IF NEEDED DUE TO ROTATION)	1	.2
NEW GRADUATES ROTATED THRU OUR AREA DURING SCHOOL & WORK WITH STAFF OR LEAD RADIATION THERAPIST UNTIL THEY PROVE COMPETENT ON	1	.2
NEW HIRE CHECKLISTS, ORIENTATION CHECKLIST MACHINE/MACHINE SPECIFIC COMPETENCIES	1	.2
NEW THERAPIST ORIENTATION & MENTORING	1	.2
NOTHING FORMAL, BUT OBSERVATION & WORKING ALONGSIDE THEM	1	.2
OBSERVATION	2	.3
ONGOING ORIENTATION AND A 90=DAY PERFORMANCE EVALUATION	2	.3
ORIENTATION CHECKLIST COMPETENCY TEST	1	.2
ORIENTATION CHECKLIST WHICH ALL NEW HIRES MUST PROVE COMPETENCY IN ALL LEVELS OF TREATMENT	1	.2
ORIENTATION CHECKLIST, REVIEWED IN 90 DAYS FOR EXPOSURE TO ALL PROCEDURES & ASSESS THE COMFORT LEVEL FOR EACH	1	.2
ORIENTATION TO DEPT INCLUDING A 6 MO SKILLS ASSESSMENT. THE SKILLS ASSESSMENT IS DONE UPON HIRING ALSO	1	.2
ORIENTATION, CHECK LIST	1	.2
OUR NEW GRADS MUST WORK WITH THERAPIST FOR SEVERAL MONTHS AND PASS OUR COMPETENCIES BEFORE THEY ARE LEFT ALONE	1	.2
PEER REVIEW	1	.2
PEER REVIEW / ORIENTATION AND COMPETENCY LISTS	1	.2
PEER REVIEW AS WELL AS MY REVIEW. EACH STAFF THERAPIST EVALUATES THE OTHERS	1	.2
PEER REVIEW OF ALL EQUIPMENT WITH CHECK OFF REQUIRED	1	.2
PERFORMANCE EVAL IN THE FIRST 90 DAYS	1	.2
PERFORMANCE EVALUATION, ORIENTATION PATHWAY	1	.2
PERFORMANCE EVALUATIONS AFTER PROBATION PERIOD	1	.2
PERFORMANCE PROGRAM AND INDEC SHEET	1	.2
PERSONALITY TEST	1	.2
PERSONALITY TRAITS - KNOWLEDGE, CONFIDENCE LEVEL	1	.2
PROBATIONARY OBJECTIVES AND EVALUATIONS	1	.2
QUESTIONNAIRE WITH SCENARIOS	1	.2
QUESTIONS ABOUT SIMULATIONS, SETUP, REAL SITUATIONS, KNOWLEDGE ABOUT TREATMENT	1	.2
REFERENCE CHECKS - CLINIC REPORTS FROM THE PLACES THEY INTERNED	1	.2
REFERENCES	1	.2
REFERENCES FROM TEACHERS JOB SHADOWING	1	.2
RELIABILITY ABILITY TO ADAPT TO CHANGE, ABILITY TO WORK WITH OTHERS	1	.2
REQUIRED NEW STAFF COMPETENCY CHECKLIST	1	.2
REVIEW CHARTS TALK WITH SENIOR THERAPIST	1	.2
Routine competency on use of equipment; mentor's suggestions for improvement; direct observation of work practices.	1	.2
ROUTINE PERFORMANCE EVALUATIONS	1	.2
SAME AS ALL THERAPISTS	4	.6
SAME AS ANY EMPLOYEE	1	.2
SELF EVALUATIONS AND WORK PERFORMANCE EVAL TOOLS	1	.2
SENIOR STAFF INPUT	1	.2
Since we are short staffed, MANAGEMENT WORKS WITH THE THERAPISTS ON THE MACHINE. OBSERVATION IS WONDERFUL	1	.2
SIX-MONTH OFFICIAL PROBATION AND PEER REVIEW ON-GOING DURING ENTIRE 6-MONTH TIME PERIOD.	1	.2
SIX MONTHS	1	.2
SKILL CHECKLIST	1	.2
Skills checklist	1	.2
SKILLS CHECKLIST	1	.2
SKILLS INVENTING	1	.2
SKILLS PRESENTATION PRACTICAL FOR 6 MONTHS	1	.2

SOME MACHINE COMPETENCY CHECKS OFFS AS ALL NEW HIRES AS WELL AS 6 MONTH AND YEARLY EVALUATIONS	1	.2
SPECIFIC QUESTIONS REGARDING OUR FACILITY	1	.2
STAFF COMPETENCY EVALUATION - ORIENTATION PERIOD & ANNUAL	1	.2
STANDARDS (MEET CRITERIA AS A NEW GRAD)	1	.2
STUDENT EVALUATION FOR CLINICAL ABILITY	1	.2
TEAM LEADERS DOCUMENT COMPETENCY (FOLLOWING INSTRUCTION AND EXPERIENCE) BY DIRECT OBSERVATION.	1	.2
TEAM OF 5 INTERVIEWS WITH SITUATIONAL, ETC QUESTIONS	1	.2
TEAM UP WITH OTHER STAFF MEMBER UNTIL THAT PERSON CONFIDENT & MUST PASS ARRT BEFORE DONE	1	.2
Technical skills assessment at 6 mo. including input from coworkers.	1	.2
THEIR WORK IS CLOSELY MONITORED, WE OFFER INSERVICES ON EQUPIIMENT THAT IS NEW OR DIFFERENT THAN WHAT THEY TRAINED ON	1	.2
THERE IS A 90 DAY ASSESSMENT FOR ALL NEW HIRES	1	.2
THEY ARE WATCHED AND OBSERVED BY ME IN & OUT OF THE TREATMENT ROOM AND DOCUMENTATION IS MADE ON THEIR PERFORMANCE	1	.2
THEY HAVE TO SUCCESSFULLY PASS A PEER REVIEW COMPETENCE TEST WITH A 3 MONTH PERIOD	1	.2
THEY MUST BE SIGNED OFF ON ALL BASIC SET-UPS AGAIN ONCE HIRED ON.	1	.2
They must perform a competency on each treatment unit before they are allowed to	1	.2
THEY WORK WITH A MENTOR FOR UP TO 3 MONTHS UNTIL THEY ARE COMFORTABLE WITH OUR PROCEDURES	1	.2
TO RELATED CHECK LIST	1	.2
Unit and set-up COMPENTENCIES	1	.2
USE AN ORIENTATION MANUAL	1	.2
USUALLY ON PROBATION FOR 1ST 6 MOS. I USE THE SYSTEM OF CHECKING ALL THE PROCEDURES PRIOR TO ANY TREATMENTS	1	.2
WATCHING OVERALL PERFORMANCE	1	.2
WE DO HAVE COMPETENCY CRITERIA	1	.2
WE evaluate THEIR SETUP AND GO THROUGH A DEPARTMENT CHECKOFF LIST FOR ALL THE PROCEDURES	1	.2
WE HAVE A CHECKLIST FOR ALL NEW HIRES AND THEY MUST DEMONSTRATE THAT THEY CAN PERFORM ALL TASKS ON IT	1	.2
WE HAVE A CORE COMPENTENCY FOR ALL NEW HIRES TO COMPLETE REGARDLESS OF EXPERIENCE	1	.2
WE HAVE A HOPSITAL EMPLOYEE COMPETENCY FOR NEW HIRES	1	.2
WE HAVE A TECHNICAL SKILLS ASSESSMENT FOR THERAPISTS ALONG WITH FOLLOWING THEIR JOB DESCRIPTIONS.	1	.2
WE HAVE A TRAINING CHECKLIST FOR EVERY NEW THERAPIST AND CONTINUE TO EVALUATE THERAPISTS ON A YEARLY BASIS	1	.2
WE HAVE AN EXTENSIVE COMPETENCY PROGRAM	1	.2
WE HAVE CHECKLIST TO GO OVER	1	.2
WE HAVE DEVELOPED A CHECK ON PROGRESS AT DIFFERENT INTERVALS THEY MUST BE CHECKED OFF ON ALL ASPECTS BEFORE THEY CAN FUNCTION INDEPENDENTLY	1	.2
WE HAVE FORMULATED A 2-PAGE COMPETENCY CHECKLIST THAT MUST BE COMPLETED PRIOR TO LETTING A THERAPIST WORK INDEPENDENTLY	1	.2
WE HAVE IN-HOUSE CLINICAL COMPETENCIES	1	.2
WE TRAIN THEM THEN HCC. I KNOW WHAT THEY CAN DO WHEN HIRED.	1	.2
WE USE A 30, 60, 90 DAY JOB SPECIFIC ORIENTATION TOOL	1	.2
WE USE A CHECK BUT WITH EVERY NEW HIRE	1	.2
WE USE A COMPETENCY CHECKLIST THAT A SENIOR THERAPIST MUST SIGN AS EACH ITEM IS SUCCESSFULLY MASTERED BY THE NEW GRADUATE	1	.2
WE USE A QUALIFICATIONS CHECKLIST	1	.2
We use an orientation checklist and re-evaluate in 1-2 months.	1	.2
WE USE CLINICAL COMPETENCIES TO MEASURE ABILITY TO ACCOMPLISH PROCEDURE	1	.2
WORK ASSESSMENT AND PERFORMANCE EVALUATIONS AT 30 DAYS, 90 DAYS, 6 MONTHS, THEN ANNUALLY	1	.2
Total	594	100.0

45 Admin. What percentage of the new graduates you have hired in the past three years came from:

	1-year certificate programs	2-year certificate programs	Associate degree programs	Bachelor's where gen ed precedes RTT didactic, clinical	Bachelor's where gen ed comes after RTT didactic, clinical	Bachelor's program followed by 1- or 2-year RTT certificate program	Bachelor's program where gen ed, RTT didactic integrated	Other kind of program
Valid N	377	377	377	377	377	377	377	377
Missing	195	195	195	195	195	195	195	195
Sum Out of Range#	22	22	22	22	22	22	22	22
Mean	32.682	9.284	22.828	14.149	4.252	3.302	12.780	.642
Median	6.828	.174	.437	.512	.294	.471	.962	.267
Mode	.0	.0	.0	.0	.0	.0	.0	.0
Std. Deviation	43.1625	25.4549	38.7510	31.9874	19.2770	16.4514	31.3199	6.8141
Minimum	.0	.0	.0	.0	.0	.0	.0	.0
Maximum	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sum of percents < 90 or > 110. Not included in computation of statistics.

Administrators reported that greater than 40% of their new hires in the past three years have come from one- and two-year certificate programs, 23% from associate degree programs and 34% from baccalaureate programs. The most common baccalaureate program types require general education courses before radiation therapy clinical and didactic work or integration of general education and radiation therapy work.

The percent of recent hires who graduated from one-year certificate programs was related to the administrator's tenure in a complex manner. Administrators with 21 to 25 years' tenure in radiation therapy reported that 50% of the new graduates they have hired in the past three years came from such programs, versus 40% for those with 11 to15 years' tenure, 30% for administrators with zero to 10 years' tenure, 26% for 16 to 20 years and 18% among administrators with 26 or more years in the discipline (overall F (4, 372) = 5.270, $P < .001$). Adjusting this percentage to the population proportions of years of tenure yields an estimate population percentage of 32.05% of newly hired graduates coming from one-year certificate programs.

41 Staff. What percentage of new radiation therapy program graduates with whom you have worked over the past three years came from…

		1 yr certificate programs?	2 yr certificate programs?	Associate degree programs?	Bachelor's programs where general ed requirements were satisfied prior to rad therapy work?	Bachelor's programs where general ed requirements were satisfied after rad therapy work?	Bachelor's programs followed by 1 or 2yr cert programs?	Bachelor's programs with integrated gen ed and radiation therapy work?	Other programs?
N	Valid	1539	1535	1534	1531	1531	1529	1528	1527
	Missing	572	576	577	580	580	582	583	584
Mean		34.54	12.44	21.76	15.90	2.18	2.61	8.96	1.92
Median		.89	.32	.52	.35	.06	.06	.18	.04
Mode		0	0	0	0	0	0	0	0
Std. Deviation		42.916	28.582	36.942	33.063	12.652	13.863	26.000	12.460
Minimum		0	0	0	0	0	0	0	0
Maximum		100	100	100	100	100	100	100	100
Estimated population mean	33.09	13.86	23.54	14.93	2.06	2.60	8.55	1.70	33.09
Estimated population median	.83	.36	.56	.32	.06	.06	.18	.04	.83

Note: Omitted responses where sum of percents > 110 or < 90.

Staff therapists responded that slightly less than 50% of new program graduates they've worked with over the past three years came from one- and two-year certificate programs, 22% from associate degree programs and about 30% from baccalaureate programs. About 50% of baccalaureate programs involved meeting general education requirements first.

There were statistically significant differences among the various states in all of these percentages except for new graduates from "other" types of programs, $P < .001$ in each case. Adjusting to state population proportions yielded the estimated population mean and median listed in the last two rows of the above table. States and combinations of states reporting percentages of new hires coming from certificate programs (one- or two-year) that were lower, on average, than the overall 34.5% were Okla. (23%) and Neb./N.D./S.D. (25%), $P < .01$ in each case; Maine/N.H./Vt. (7%), Mass. (19%), Ind. (20%), Ore. (21%), Mich. and Wis. (25% each), and Ill. (26%), $P < .001$ in each case. Those reporting above-average percentages of new hires from certificate programs were Colo. (70%), Iowa (71%), Ariz. (72%) and Kan. (72.5%), $P < .01$ in each case; and Pa. (63%), Ohio (66%), Ky. and Minn. (75% each), W. Va./Miss. (77%), Tenn. (81%), and N.J. (93%).

States and combinations of states reporting significantly below-average percentages of new hires coming from associate-degree programs were S.C. (8%) and W. Va./Miss. (9%), $P < .01$ in each case; and Ariz. (1%), Ga. and Tenn. (2% each), Wis. and Canadian provinces (3% each), Iowa (4%), Mo. and Okla. and Va. (5% each), Mich. and Minn. and N.J. (6% each), and Okla. and Neb./N.D./S.D. (7% each), $P< .001$ in each case. Significantly above average in this respect were

N.Y. (52%), Wash. and Fla. (53% each), Conn. (58%), Maine/N.H./Vt. (62%), and Mass. (65%), %), $P < .001$ in each case.

States and state combinations reporting significantly below-average percentages of new hires coming from bachelor's-degree programs were W.Va./Miss. (14%) and Minn. (17%), $P < .01$ in each case; and N.J. (0.4%), Ky (2%), Conn. (3%), Fla. (5%), Kan. and Ohio (7.5% each), N.Y. (10%), and Pa. and Wash. (11% each). Significantly above average in this respect were Ind. (48%), Ill. (65%), Neb./N.D./S.D. and Ala. (67%), Mich. (68%), Ore. (70%), Okla. (72%), and Wis. (73%), %), $P < .001$ in each case.

46 Admin. Do you believe there is a difference in the skills of students graduating from the above types of programs?
42 Staff. Do you believe there is a difference in skills of students graduating from the above (#41) types of programs?

		Administrators			Staff		
		Frequency	Percent	Estimated population percent#	Frequency	Percent	Estimated population percent##
Valid	No	101	21.8	23.2	445	22.7	23.3
	Yes	168	36.3	32.9	670	34.1	33.7
	No, but believe there are substantial differences	83	17.9	18.0	343	17.5	17.4
	Don't know/haven't noticed	111	24.0	25.9	504	25.7	25.6
	Total	463	100.0	100.0	1962	100.0	100.0
Missing	-9.00	131	21.1		149	7.1	
Total		594	100.0		2111	100.0	

#Adjusted to population proportions of the various tenure/education level combinations.
##Adjusted to state population proportions.

Administrators' explanations of the nature of the differences:

Category label	Code	Count	% of Responses	% of Cases
Type of program irrelevant	0	5	2.8	3.0
Non-evaluative comment	7	25	13.9	15.2
Other evaluative comment	8	40	22.2	24.2
1 yr certif worse	10	8	4.4	4.8
1 yr certif better	11	11	6.1	6.7
2 yr certif worse	20	3	1.7	1.8
2 yr certif better	21	5	2.8	3.0
Certif worse	120	0	.0	.0
Certif better	121	11	6.1	6.7
Assoc worse	30	1	.6	.6
Assoc better	31	1	.6	.6
Bach w gen ed 1st better	41	2	1.1	1.2
Bach then certif better	61	2	1.1	1.2
Bach w gen ed, RTT trng integrated better	71	1	.6	.6
Bach worse	4270	12	6.7	7.3
Bach better	4271	39	21.7	23.6
Degree progs worse	340	1	.6	.6
Degree progs better	341	6	3.3	3.6
Online programs worse	80	7	3.9	4.2
Online programs better	0	0	.0	.0
Total responses		180	100.0	109.1

429 missing cases; 165 valid cases

Of the 38 administrator mentions of certificate programs, 27 (71%) were favorable. Likewise, 44 (79%) of the 56 mentions of baccalaureate programs, 50% of associate program mentions and six of the seven mentions of degree programs were favorable. Only five respondents mentioned types of bachelor's programs, all favorably. While only seven administrators mentioned online programs (all unfavorably), this category was not included in the checklist. Of the 78 mentions of a particular type of education program as producing more skilled graduates, 56% were of baccalaureate programs, 35% were of certificate programs, and 65% were of degree (associate or bachelors) programs. A total of 32 respondents mentioned of a type of program yielding less skilled graduates, 11 (34%) certificate programs, 12 (37.5%) baccalaureate programs, 13 (41%) degree programs and seven (22%) online programs.

In addition, 31 of the radiation therapy administrators spontaneously mentioned that radiation therapy program graduates who have an imaging/x-ray/radiography background before beginning their radiation therapy program perform better than those without such a background. No respondent suggested that an imaging background was undesirable.

46. Imaging background mentioned by the administrator?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	145	24.4	82.4	82.4
	Yes, favorably	31	5.2	17.6	100.0
	Total	176	29.6	100.0	
Missing	System	418	70.4		
Total		594	100.0		

Staff respondents' explanations of the nature of program differences:

Category label	Code	Count	% of Responses	% of Cases
Type of program irrelevant	0	14	1.9	2.2
Non-evaluative comment*	7	127	17.7	19.8
Other evaluative comment	8	135	18.8	21.1
1 yr certif worse	10	19	2.6	3.0
1 yr certif better	11	40	5.6	6.2
2 yr certif worse	20	9	1.3	1.4
2 yr certif better	21	25	3.5	3.9
Certif worse	120	9	1.3	1.4
Certif better	121	69	9.6	10.8
Assoc worse	30	18	2.5	2.8
Assoc better	31	25	3.5	3.9
Bach w/ gen ed 1st worse	40	1	.1	.2
Bach w/ gen ed 1st better	41	2	.3	.3
Bach gen ed after worse	50	1	.1	.2
Bach gen ed after better	51	1	.1	.2
Bach then certif. worse	60	0	.0	.0
Bach then certif better	61	9	1.3	1.4
Bach int worse	70	0	.0	.0
Bach int better	71	5	.7	.8
Baccalaureate worse	4270	48	6.7	7.5
Baccalaureate better	4271	105	14.6	16.4
Degree progs worse	340	13	1.8	2.0
Degree progs better	341	17	2.4	2.7
Online worse	80	26	3.6	4.1
Online better	0	0	.0	.0
	Total responses	718	100.0	112.0

1,470 missing cases; 641 valid cases

*Comment that doesn't distinguish among types of education programs, e.g., "New graduates I've worked with have very limited clinical experience."

Staff		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	534	25.3	80.5	80.5
	Yes, unfavorably	1	.0	.2	80.7
	Yes, favorably	128	6.1	19.3	100.0
	Total	663	31.4	100.0	
Missing	System	1448	68.6		
Total		2111	100.0		

Of certificate program mentions by therapists, 134 (78%) were favorable, along with 122 (69%) of the 176 mentions of baccalaureate programs, 25 (58%) of the 43 mentions of associate programs and 17 (57%) of the 30 mentions of degree programs. Only five respondents mentioned certain types of bachelor's programs (all favorably). While only 80 staff therapists mentioned online programs – all unfavorably – this category was not included in the checklist. Respondents made 298 mentions of a type of education program as producing more skilled graduates: 41% baccalaureate programs, 45% certificate programs and 55% degree (associate or bachelor's) programs. Of the 202 mentions of a type of program as yielding less skilled graduates, 18% were of certificate programs, 9% were of associate programs, 27% were of baccalaureate programs, 42% were of degree programs and 40% were of online programs. Not surprisingly, respondents tended to favor the type of radiation therapy program in which they had trained.

Respondent's Type of Program	Mentions of Own Type That Were Favorable	Mentions of Other Types That Were Favorable	Favorable Mentions of Own Program Type	Favorable Mentions of Other Program Types	# grads of this type of program in staff sample
Certificate	115/124 = 93%	49/118 = 42%	115 (70%)	49	1226 (60.0%)
Associate	18/21 = 86%	24/45 = 53%	18 (51%)	17	448 (21.9%)
Bachelor's	81/86 = 94%	15/30 = 50%	81 (90%)	9	320 (15.6%)

If "No, but …," is there anything about the programs that produce relatively skilled vs. relatively unskilled graduates to which you can attribute these differences? If "Yes", please explain.

Slightly more than 33% of administrators and staff therapists reported a difference in skills of students graduating from the various types of programs. About 16% of administrators and only 4% of staff therapists believe that, while type of program doesn't affect skill level, there are nonetheless substantial differences among particular programs in the skill level of their graduates.

Administrators' responses to this question differed as a function of education level and tenure, but not their interaction. Postgraduate administrators were less likely (9%) than administrators with other education backgrounds (26%) to say that they didn't know or hadn't noticed whether program types differed in graduate skill level (chi-square with 1 $df = 7.28$, $P < .01$). Postgraduate administrators also were more likely (55%) than other administrators (32%) to say that program type affects skill level (chi-square with 1 $df = 10.22$, $P < .01$). Associate-level administrators

were more likely (33%) than other administrators (18%, including those whose highest level of education was a certificate) to say that skill level does not vary systematically with type of program (chi-square with 1 *df* = 12.17, *P* < .001).

The only significant difference in response to this question as a function of tenure was the percent saying "No, but" – i.e., the percent who checked the alternative asserting that programs of different type do not produce graduates with systematically different skill levels, but that individual programs differ systematically. This percent is significantly higher (29%) for administrators who have been involved in radiation therapy for more than 21 years (29%) than for less experienced administrators (13.5%), chi-square (1) = 15.00, *P* < .001. Adjusting to population proportions of the various tenure/education combinations yielded estimates of population percentages that differed from the observed sample proportions noticeably, as shown in the third column of the administrators' section of the above table.

Staff therapists' responses to this question were significantly affected by state, (chi-square (39) = 198.03, *P* < .001), but adjusting to state population proportions yields estimated population percentages of the various responses that are quite close to the sample percentages, as shown in the last two columns of the table.

Iowa (8%) and Mass. (11%) had significantly lower percentages of "yes" responses to this question than the overall average of 34% (chi-square (1) = 10.84 and 11.31 respectively, *P* < .001 in both cases), while significantly higher percentages of staff therapists in Ohio (69%), Md. (63%), and Wash.(54%) said yes (chi-square (1) = 8.62, *P* < .01; 10.15, *P* < .01; and 13.39, *P*<.001 respectively). La. (33%; chi-square (1) = 6.87, *P* < .01) and Ark. (40%; chi-square (1) = 7.05, *P* < .01) were significantly above the overall 17% of respondents who said they didn't believe that new graduate skill was a function of program type, but believed that there were reliable differences among particular programs in this respect.

If "no, but..." is there anything about these programs that produce relatively skilled vs. unskilled graduates to which you can attribute these differences?

		Administrators		Staff	
		Frequency	Percent	Frequency	Percent
Valid	No	68	56.5	390	62.6
	Yes	60	43.5	233	37.4
	Total	128	100.0	623	100.0
Missing	System	466	78.5	1488	70.5
Total		594	100.0	2111	100.0

If "Yes," please explain.

Staff sample explanations in responses to this question were broadly categorized as follows:

Category label	Code	Count	% of Responses	% of Cases
Other evaluative comment	8	29	8.7	10.0
More clinical time worse	10	2	.6	.7
More clinical time better	11	80	24.0	27.5
Distance education worse	20	16	4.8	5.5
Rotation thru more facilities worse	30	2	.6	.7
Rotation thru more facilities worse	31	25	7.5	8.6
More selective programs worse	40	1	.3	.3
More selective programs better	41	13	3.9	4.5
Tougher-grading facils better	51	5	1.5	1.7
Particular curric items make prog worse	60	2	.6	.7
Particular curric items make prog better	61	13	3.9	4.5
N/A, DKI	90	11	3.3	3.8
Non-evaluative comment	91	37	11.1	12.7
Indiv diffs, rather than prog diffs, cited	92	46	13.8	15.8
Comparison among listed program types	93	52	15.6	17.9
Total responses		334	100.0	114.8

1,820 missing cases; 291 valid cases

Staff therapists' responses differed significantly from state to state (chi-square (39) = 65.83, $P<$ .01) but adjusting to state population proportions yields an estimated population percentage of yes responses of 62.4%, very close to the sample proportion.

No single state's staff therapists had a percentage of yes responses to this question that was statistically significantly different (at the .01 level) from the overall percentage of 37.4%. However, combining the states with two-thirds or more yes responses yields an overall percentage of 75.8% for those states (Ark., Ala., Hawaii, Idaho, Kan., Maine, Mont., N.H., Ohio, Puerto Rico, Vt., Wyo.), chi-square (1) = 21.90, $P < .001$, and combining the states with 15% or fewer yes responses (Iowa, Miss., Okla.,Va.,W. Va.) yields a combined percentage of 11.8%, chi-square (1) = 15.59, $P< .001$.

47 Admin. What would you like new graduates to know about radiation therapy and its practice that they don't seem to know?

Category label	Code	Count	% of Responses	% of Cases
Specific procedure	1	54	17.0	21.0
Positive working condition(s)	2	8	2.5	3.1
Negative working condition(s)	3	16	5.0	6.2
General knowledge or skill	4	96	30.3	37.4
Interpersonal relations	5	31	9.8	12.1
General approach to profession (e.g., le	6	77	24.3	30.0
Comment on profession or education 4 it	7	35	11.0	13.6
Total responses		317	100.0	123.3

337 missing cases; 257 valid cases

43 Staff. What would you like to have known about radiation therapy and its practice that you didn't know when you began your first post certification job in radiation therapy?

Category label	Code	Count	% of Responses	% of Cases
Specific procedure	1	100	10.0	14.3
Positive working conditions	2	45	4.5	6.4
Negative working conditions	3	310	30.9	44.3
General knowledge or skill	4	161	16.1	23.0
Interpersonal relations	5	120	12.0	17.2
General approach to the profession	6	62	6.2	8.9
Comment on profession or education for	7	189	18.8	27.0
Other	8	16	1.6	2.3
Total responses		1003	100.0	143.5

1,412 missing cases; 699 valid cases

See Appendix A for verbatim responses fitting into the above categories.

48 Staff. In your experience, how do new graduates compare with therapists with three or five years of experience?

48 Admin. In your experience, how do new graduates compare with therapists with three or five years of experience?

		MEAN3	MEAN5
N	Valid	269	256
	Missing	325	338
Mean		-1.0914	-.9817
Median		-1.1026(a)	-1.4083(a)
Mode		.00	-3.00
Std. Deviation		1.25810	1.65779
Minimum		-3.00	-3.00
Maximum		3.00	3.00

[a] Calculated from grouped data.

Note: Mean rating of skills of new graduates relative to radiation therapists with 3 or 5 years' experience. -3 = new grads much worse; +3 = new grads much better.

Averaging across as many of the 18 skills as the administrator rated (provided he or she rated at least 12 of the skills), administrators ranked new graduates as significantly lower in skill than radiation therapists with three or five years' experience in radiation therapy (by about one unit on the -3 to +3 scale); F (1,233) = 147.26, P<.001. The difference between the comparison groups (three vs. five years' experience) was not statistically significant. However, less than one-half of the administrators provided a sufficient number of ratings to be included in this analysis.

Rating New Graduates Relative to Therapists with 3 Years Experience

		Clinical evaluation	Patient care	Therapeutic decision making	Pre-treatment procedures	Delivery of treatment	Professional role and development
N	Valid	376	378	378	377	386	382
	Missing	218	216	216	217	208	212
Mean		-1.21	-1.07	-1.50	-1.45	-.60	-.75
Median		-1.14[a]	-.86[a]	-2.01[a]	-2.05[a]	-.41[a]	-.54[a]
Mode		-3	0	-3	-3	0	0
Std. Deviation		1.635	1.608	1.713	1.802	1.374	1.634
Minimum		-3	-3	-3	-3	-3	-3
Maximum		3	3	3	3	3	3

[a] Calculated from grouped data.

		Quality assurance	Safety assurance	Billing/charge capture	Ability to assist w/ HDR	Ability to assist w/ LDR	Ability to assist w/ IMRT
N	Valid	377	375	367	241	236	292
	Missing	217	219	227	353	358	302
Mean		-.72	-.56	-1.22	-1.27	-1.28	-.91
Median		-.54[a]	-.35[a]	-1.16[a]	-1.36[a]	-1.32[a]	-.82[a]
Mode		0	0	-3	-3	-3	0
Std. Deviation		1.646	1.479	1.770	1.771	1.738	1.925
Minimum		-3	-3	-3	-3	-3	-3
Maximum		3	3	3	3	3	3

[a] Calculated from grouped data.

		Ability to assist w/ gamma knife	Ability to assist w/ stereo radiosurg	Ability to assist w/ prostate seed implants	Ability to assist w/ therapeutic nuclides	Ability to assist w/ intraoperative procedures	Computer skills, comfort level
N	Valid	181	227	214	194	190	366
	Missing	413	367	380	400	404	228
Mean		-1.22	-1.35	-1.35	-1.30	-1.43	.06
Median		-1.33[a]	-1.90[a]	-1.62[a])	-1.60[a]	-2.02[a]	-.01[a]
Mode		-3	-3	-3	-3	-3	0
Std. Deviation		1.870	1.833	1.715	1.791	1.765	1.616
Minimum		-3	-3	-3	-3	-3	-3
Maximum		3	3	3	3	3	3

[a] Calculated from grouped data.

In general, radiation therapy administrators consider new graduates worse at these various tasks than therapists with three years' experience, the difference being from .5 to 1.5 units on the 6-unit scale. The primary exception is with respect to computer skills and computer comfort level, in which new graduates are rated as essentially equal to somewhat more experienced therapists.

Rating New Graduates Relative to Therapists with 5 Years Experience

		Clinical evaluation	Patient care	Therapeutic decision making	Pre-treatment procedures	Delivery of treatment	Professional role and development
N	Valid	358	360	363	361	359	360
	Missing	236	234	231	233	235	234
Mean		-1.14	-.99	-1.24	-1.23	-.74	-.72
Median		-1.92(a)	-1.36(a)	-2.24(a)	-2.20(a)	-.61(a)	-.70(a)
Mode		-3	-3	-3	-3	0	0
Std. Deviation		2.140	2.114	2.300	2.263	1.763	2.038
Minimum		-3	-3	-3	-3	-3	-3
Maximum		3	3	3	3	3	3

a Calculated from grouped data.

		Quality assurance	Safety assurance	Billing/charge capture	Ability to assist w/ HDR	Ability to assist w/ LDR	Ability to assist w/ IMRT
N	Valid	355	350	344	232	223	273
	Missing	239	244	250	362	371	321
Mean		-.85	-.55	-1.09	-.95	-1.13	-.90
Median		-.76(a)	-.39(a)	-1.51(a)	-1.07(a)	-1.38(a)	-1.11(a)
Mode		0	0	-3	-3	-3	-3
Std. Deviation		1.962	1.724	2.064	2.096	1.987	2.169
Minimum		-3	-3	-3	-3	-3	-3
Maximum		3	3	3	3	3	3

a Calculated from grouped data.

		Ability to assist w/ gamma knife	Ability to assist w/ stereo radiosurg	Ability to assist w/ prostate seed implants	Ability to assist w/ therapeutic nuclides	Ability to assist w/ intraoperative procedures	Computer skills, comfort level
N	Valid	177	217	204	186	183	347
	Missing	417	377	390	408	411	247
Mean		-1.03	-1.18	-1.14	-1.15	-1.12	.07
Median		-1.06(a)	-2.04(a)	-1.62(a)	-1.82(a)	-1.89(a)	.01(a)
Mode		-3	-3	-3	-3	-3	0
Std. Deviation		2.071	2.121	2.034	2.056	2.109	1.873
Minimum		-3	-3	-3	-3	-3	-3
Maximum		3	3	3	3	3	3

a Calculated from grouped data.

Comparisons between new graduates and radiation therapists with five years of experience match those of new graduates and those with three years of experience.

Given this large, consistent difference between administrators' ratings of new graduates' computer skills and of the other 17 skills on the list, a new variable equal to the average rating assigned non computer skills rated was analyzed. A computer skills versus other skills comparison to radiation therapists with three and five years' experience was conducted, as was a comparison to highest education level achieved. This analysis confirmed that:

- On average, radiation therapy administrators rated new graduates as significantly less skilled than more experienced therapists on non computer skills (mean rating on the 17 non computer skills = -1.104, F (1,293) = 234.27, $P < .001$). But they reported new graduates' computer skills as almost identical to those of therapists with three or five years of experience (mean rating on this skill = .000, with a 95% confidence interval of -.21 to +.21 units on the -3 to +3 scale).
- The difference between (comparative) skill in computer use versus other skills is statistically significant (F (1,293) = 127.68, $P< .001$).
- While administrators at all four education levels rated new graduates' comparative skills higher with respect to computer use than with respect to other tasks, this difference was significantly smaller (.64 units) for associate-level administrators and significantly larger (1.56 units) for certificate-level administrators than for the other two education groups (overall $F(3,293) = 4.49$, $P < .01$).
- When averaged across education levels, the target group of radiation therapists with three or five years of experience has no significant effect on perceived comparative skill of new graduates. However, master's-level administrators see the gap as greater (by .54 units) when comparing to the more experienced target group, while certificate- and associate-level administrators see the gap as greater (by .20 units) when comparing to the three years-experience group. Bachelor's level administrators see new graduates' skills as equally far behind those of therapists with three and five years of experience (overall F (3,293) = 4.43, $P< .01$).

Adjusting the above results to the population proportions at the various education levels yields an estimated population mean rating on the first 17 skills of -1.06 and a comparative computer-skill mean rating of -.012.

42 Admin. Do you apply different hiring criteria when there is a shortage of radiation therapists? If so, please explain briefly how the shortage affects your hiring decisions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	322	54.2	67.2	67.2
	Yes	157	26.4	32.8	100.0
	Total	479	80.6	100.0	
Missing	System	115	19.4		
Total		594	100.0		

49 Admin, 44 Staff. How have technological developments over the past five years affected the number of patients (you and your coworkers/your department) can treat in a given week?

		Staff			Administrator		
		Frequency	Percent	Cumulative Percent	Frequency	Percent	Cumulative Percent
Valid	Increased # of patients greatly	538	27.7	27.7	93	16.7	16.7
	Increased # of patients somewhat	605	31.2	58.9	164	29.5	46.2
	Had very little effect on # of patients	486	25.1	84.0	178	32.0	78.2
	Decreased # of patients somewhat	208	10.7	94.7	83	14.9	93.2
	Decreased # of patients greatly	27	1.4	96.1	23	4.1	97.3
	Other	75	3.9	100.0	15	2.7	100.0
	Total	1939	100.0		556	100.0	
Missing	-9.00	172	8.5		38	6.4	
Total		2111	100.0		594	100.0	

Nearly 60% of staff radiation therapists but only 46% of administrators believe that over the past five years technological developments have increased the number of patients who can be treated in a given week somewhat or greatly. Only 12% of staff and 19% of administrators feel that these developments have decreased patient throughput.

50 Admin, 45 Staff. How have technological developments affected the quality of care (you are able to deliver to your/your department delivers to) patients?

Administrators

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Increased greatly	243	40.9	43.5	43.5
	Increased somewhat	203	34.2	36.3	79.8
	Had very little effect on quality of care	86	14.5	15.4	95.2
	Decreased somewhat	18	3.0	3.2	98.4
	Decreased greatly	2	.3	.4	98.7
	Had another effect on quality of care	7	1.2	1.3	100.0
	Total	559	94.1	100.0	
Missing	System	35	5.9		
Total		594	100.0		

Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Increased quality of care greatly	739	35.0	40.1	40.1
	Increased quality of care somewhat	756	35.8	41.0	81.2
	little effect on quality of care	283	13.4	15.4	96.5
	Decreased quality of care somewhat	9	.4	.5	97.0
	Other	55	2.6	3.0	100.0
	Total	1842	87.3	100.0	
Missing	-9.00	269	12.7		
Total		2111	100.0		

About 80% of administrators and staff radiation therapists feel that technological developments have increased the quality of care. Only about 1% of administrators and less than 1% of staff therapists feel that these developments have decreased the quality of care.

51 Admin. In general, which of the following kinds of staff have you found to be more able to adapt to and make use of technological developments in their practice?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Recent grads of rad ther progs	79	13.3	15.2	15.2
	Therapists w 3-5 yrs work experience	247	41.6	47.4	62.6
	Ther's w 6-10 yrs work exper in rad ther	153	25.8	29.4	91.9
	Those w 11-20 yrs work exper in rad ther	35	5.9	6.7	98.7
	Those w > 20 years work exper in rad ther	7	1.2	1.3	100.0
	Total	521	87.7	100.0	
Missing	System	73	12.3		
Total		594	100.0		

A higher percentage of administrators feel that therapists with three to five years of work experience are best able to adapt to and use technological developments than any other professional age subgroup.

46 Staff. How would you rate your eagerness, as well as your ability to adapt to and make use of technological developments in your practice?

		Frequency	Valid Percent	Cumulative Percent
Valid	Find it difficult to get "up to speed"	30	1.5	1.5
	Find difficult, but willing and able to learn	257	13.1	14.6
	Time it takes to learn is minimal, given potential benefits	646	32.8	47.4
	Eagerly seek out and quickly get "up to speed"	977	49.7	97.1
	Other	57	2.9	100.0
	Total	1967	100.0	
Missing	-9.00	144	6.8	
Total		2111	100.0	

A plurality (50%) of staff therapists report that they eagerly seek out and quickly get “up to speed” in the use of new technology. Only about 15% of them report that learning to use new technology is difficult or very difficult.

52 Admin, 47 Staff. What other impacts have technological developments had on your department over the past few years?

See Appendix A for the verbatim responses to this question.

Demographics

53 Admin, 49 Staff. Gender

		Administrators		Staff	
		Frequency	Percent	Frequency	Percent
Valid	male	169	29.2	353	17.6
	female	409	70.8	1649	82.4
	Total	578	100.0	2002	100.0
Missing	-9.00	16	2.7	109	5.2
Total		594	100.0	2111	100.0

The percentage of administrator respondents who are male is not significantly different from the corresponding population percentage (30.5%; chi-square for the difference = 2.99 with 1 *df*, $P > .05$).

Gender is significantly related both to administrators' education level and to their years of tenure in radiation therapy.

			EDLEVL4G				Total
			HS + certif or adv cert	Assoc	Bach	Masters+	
53.Gender	Male	Count	28	34	84	23	169
		% within 53.Gender	16.6%	20.1%	49.7%	13.6%	100.0%
		% within EDLEVL4G	21.1%	21.5%	38.2%	36.5%	29.4%
	Female	Count	105	124	136	40	405
		% within 53.Gender	25.9%	30.6%	33.6%	9.9%	100.0%
		% within EDLEVL4G	78.9%	78.5%	61.8%	63.5%	70.6%
Total		Count	133	158	220	63	574
		% within 53.Gender	23.2%	27.5%	38.3%	11.0%	100.0%
		% within EDLEVL4G	100.0%	100.0%	100.0%	100.0%	100.0%

Nearly 50% of male but only about 33% of female radiation therapy administrators hold a bachelor's degree and 14% of male but only 10% of female administrators hold a postgraduate degree (overall chi-square with 3 $df = 18.88$, $P < .001$). The percentage of female administrators is lowest (60%) among those who have been in radiation therapy zero to10 years and highest (87%) among the most experienced (26 or more years) administrators (overall chi-square with 4 $df = 20.57$, $P < .001$). The mean number of years in the discipline is 17.5 years for females and 14.8 years for males ($F(1,576) = 15.13$, $P < .001$). Adjusting to the population proportions in the various education level/tenure combinations yields an estimated population percentage of 70.9% females among radiation therapy administrators.

Among staff and senior staff therapists, percentage of females is different as a function of current job title and of the state where the therapist works.

Crosstab Radiation Therapist and Gender

Job Title		49. Gender		Total
		Male	Female	
Staff	Count	276	1416	1692
	% within Job Title	16.3%	83.7%	100.0%
	% within Gender	79.8%	86.9%	85.7%
Chief Rad Tech/Dept Mgt/Dir	Count	11	65	76
	% within Job Title	14.5%	85.5%	100.0%
	% within Gender	3.2%	4.0%	3.8%
Ed Instr/ Ed Prgm Dir/Clinic Dir	Count	21	71	92
	% within Job Title	22.8%	77.2%	100.0%
	% within Gender	6.1%	4.4%	4.7%
Medical Dosimetrist	Count	38	77	115
	% within Job Title	33.0%	67.0%	100.0%
	% within Gender	11.0%	4.7%	5.8%
Total	Count	346	1629	1975
	% within Job Title	17.5%	82.5%	100.0%
	% within Gender	100.0%	100.0%	100.0%

About 87% of females but only 80% of males who checked staff or senior staff therapist on their most recent ARRT renewal form still held that position by the time they received the survey questionnaire (chi-square (1) = 11.90, $P < .001$). This is consistent with the higher percentage of females in the staff sample as a whole versus in the administrator sample.

The percentage of respondent radiation therapists who are female is significantly lower than the overall percentage of 82.5% in La. (59%), Alaska, Hawaii, Puerto Rico and foreign countries other than Canada combined (4 of 12 = 33%). Adjusting to the state population proportions and restricting attention to the staff or senior staff therapist and medical dosimetrist job titles (assuming that medical dosimetrists probably chose staff or senior staff therapist as the most appropriate job title among the choices on the ARRT form) yields an estimated overall population proportion of females among staff and senior staff therapists of 82.2% (vs. the sample percentage of 82.6%).

54 Admin, 50 Staff. Marital Status

Administrators

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	462	77.8	82.6	82.6
	Single	97	16.3	17.4	100.0
	Total	559	94.1	100.0	
Missing	System	35	5.9		
Total		594	100.0		

Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	1446	68.5	72.6	72.6
	Single	546	25.9	27.4	100.0
	Total	1992	94.4	100.0	
Missing	-9.00	119	5.6		
Total		2111	100.0		

55 Admin. Year of Birth

N	Valid	525
	Missing	69
Mean		1960.13
Median		1960.49[a]
Mode		1963
Std. Deviation		7.868
Minimum		1939
Maximum		1978

[a] Calculated from grouped data.

Mean age of administrators = 43.26 years (population mean = 43.23 years).

	Frequency	Percent	Valid Percent	Cumulative Percent
1943 or earlier	7	1.3	1.2	1.2
1944-1948	30		5.7	6.9
1949-1953	84		16.0	22.9
1954-1958	107		20.4	43.3
1959-1963	106		20.2	63.5
1964-1968	101		19.2	82.7
1969-1973	75		14.3	97.0
1974-1978	15		2.9	100.0
Total Valid	525	88.4	100.0	
0164*	1	.2		
0851*	1	.2		
System	67	11.3		
Total	69	11.6		
	594	100.0		

*January '64 and August '51?

The overall chi-square for differences between sample and population distributions of year of birth was not statistically significant (chi-square =7.23 with 7 *df*, $P > .4$).

There is of course no need to adjust age estimates for education level or for tenure, since the population distribution of age is known. However, the relationship between year of birth/age and education level is of interest and demonstrated in the next table.

Year of birth, sorted into 5 groups * EDLEVL4G Crosstabulation

Year of birth, sorted into 5 groups		EDLEVL4G				Total
		HS + certif or adv cert	Assoc	Bach	Masters+	
1953 or earlier	Count	55	24	29	15	123
	% within Year of birth, sorted into 5 groups	44.7%	19.5%	23.6%	12.2%	100.0%
	% within EDLEVL4G	43.3%	16.4%	14.6%	29.4%	23.5%
1954-1958	Count	26	27	45	7	105
	% within Year of birth, sorted into 5 groups	24.8%	25.7%	42.9%	6.7%	100.0%
	% within EDLEVL4G	20.5%	18.5%	22.6%	13.7%	20.1%
1959-1963	Count	15	30	49	12	106
	% within Year of birth, sorted into 5 groups	14.2%	28.3%	46.2%	11.3%	100.0%
	% within EDLEVL4G	11.8%	20.5%	24.6%	23.5%	20.3%
1964-1968	Count	16	38	37	10	101
	% within Year of birth, sorted into 5 groups	15.8%	37.6%	36.6%	9.9%	100.0%
	% within EDLEVL4G	12.6%	26.0%	18.6%	19.6%	19.3%
1969 or later	Count	15	27	39	7	88
	% within Year of birth, sorted into 5 groups	17.0%	30.7%	44.3%	8.0%	100.0%
	% within EDLEVL4G	11.8%	18.5%	19.6%	13.7%	16.8%
Total	Count	127	146	199	51	523
	% within Year of birth, sorted into 5 groups	24.3%	27.9%	38.0%	9.8%	100.0%
	% within EDLEVL4G	100.0%	100.0%	100.0%	100.0%	100.0%

Radiation therapy administrators born in 1953 or earlier are much less likely (45%) to have post high school degrees than those born between 1954 and 1958 (25% certificate-only) or those born in 1959 or later (16%). The percentage whose highest level of education is an associate degree increases steadily with year of birth, while bachelor's degree percentage seems to differ primarily between the oldest cohort (24% of those born in 1953 or earlier) and those born more recently (42.5%), (overall chi-square = 50.02 w 12 *df*, $P < .001$).

48 Staff. Year of birth

N	Valid	2015
	Missing	96
Mean		1963.65
Median		1964.10
Std. Deviation		9.502
Minimum		1929
Maximum		1981
Percentiles	5	1947.58
	95	1977.96

Staff therapists reported an average age of 40.5 years. For the staff sample, year of birth did not vary significantly as a function of current job title. There were, however, statistically significant state-to-state differences (overall $F(39, 1968) = 3.118$, $P < .001$). Calif. (mean year of birth = 1959.6) and Fla. (1961.2) reported significantly older radiation therapists and S.C. (1969.4), Tenn. (1968.6) and Ind. (1968.2), significantly younger therapists than radiation therapists as a whole (1963.65). Adjusting to the state population proportions yields an estimated population mean birth year of 1963.52.

	Frequency	Percent	Valid Percent	Cumulative Percent
1920-1933	3		.1	.1
1934-1943	34		1.7	1.8
1944-1948	85		4.3	6.1
1949-1953	193		9.5	15.6
1954-1958	305		15.2	30.8
1959-1963	347		17.2	48.0
1964-1968	348		17.3	65.3
1969-1973	346		17.1	82.4
1974-1978	287		14.3	96.7
1979-1981	67		3.3	100.0
Total	2015	95.5	100.0	
1987#	1	.0		
System	95	4.5		
Total	96	4.5		
	2111	100.0		

Probably a typo: This person holds a baccalaureate and has been practicing as a radiation therapist for 2 years.

56 Admin, 49 Staff. How many people live in your household?

Administrators

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	48	8.1	8.5	8.5
	2	160	26.9	28.3	36.8
	3	125	21.0	22.1	58.9
	4	156	26.3	27.6	86.5
	5	59	9.9	10.4	97.0
	More than 5	17	2.9	3.0	100.0
	Total	565	95.1	100.0	
Missing	System	29	4.9		
Total		594	100.0		

Staff

		Frequency	Percent	Valid Percent	Cumulative Percent	Estimated Population Percent
Valid	One	234	11.1	11.6	11.6	11.7
	Two	679	32.2	33.8	45.4	34.3
	Three	414	19.6	20.6	66.0	20.5
	Four	489	23.2	24.3	90.3	24.0
	Five	144	6.8	7.2	97.5	7.0
	More than Five	50	2.4	2.5	100.0	2.4
	Total	2010	95.2	100.0		
Missing	-9.00	101	4.8			
Total		2111	100.0			

Staff therapists' distribution of household size was not significantly affected by current job title. Nor did the differences from state to state quite reach significance at the .01 level (overall $F(39,1963) = 1.596$, $P = .011$), though in Utah, Nev. and N.M., combined mean household size of 3.6 was significantly greater than the overall mean household size of 2.9 ($t(1963) = 3.13$, $P < .01$). Adjusting to the known number of staff radiation therapists in each state yields the estimate population percentages given in the last column of the above table.

57 Admin, 50 Staff. How many children under age 18 live in your household?

Administrators

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	38	6.4	10.6	10.6
	1	116	19.5	32.2	42.8
	2	155	26.1	43.1	85.8
	3	38	6.4	10.6	96.4
	4	13	2.2	3.6	100.0
	Total	360	60.6	100.0	
Missing	System	234	39.4		
Total		594	100.0		

Mean = 1.64 minors; median = 1.62.

The above distribution and measures should be viewed with caution, since almost 40% of administrators left this question blank. Of those who didn't answer the question but who answered the previous question (number of persons in the household), 38 indicated a household size of one (which implies zero under age 18), and another 115 indicated they were married and had a household size of two (which, except for those whose spouses are under 18 or who are married but separated, also implies zero minors in the household).

Staff

		Frequency	Percent	Valid Percent	Cumulative Percent	Estimated Population Percent
Valid	None	1002	47.5	50.1	50.1	50.9
	One	407	19.3	20.4	70.5	20.4
	Two	440	20.8	22.0	92.5	21.6
	Three	118	5.6	5.9	98.4	5.6
	Four	29	1.4	1.5	99.8	1.4
	Five	1	.0	.1	99.9	.0
	More than Five	2	.1	.1	100.0	.1
	Total	1999	94.7	100.0		
Missing	-9.00	112	5.3			
Total		2111	100.0			

Among staff therapists, only three of the missing responses to this question indicated that they were single, and only two said they were married and had a household size of two. Responses to this question did not differ as a function of job title, but varied from state to state (overall $F(39, 1952) = 1.657$, $P < .01$). However, only Calif. had a mean number of minors per therapist household (.65) that was significantly lower than the overall mean of .89 minors, and only Mo. (2.1 minors per household) and Utah, Nev. and N.M. combined (2.8) had significantly higher mean numbers of minors per household ($P < .01$ in each case). Adjusting to the known state

radiation therapist population sizes yields the estimated population percentages given in the last column.

59 Admin, 54 Staff. What is the highest educational level you have completed?

Administrators

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	.7	.7	.7
	2	100	16.8	17.4	18.1
	3	29	4.9	5.0	23.1
	4	158	26.6	27.5	50.6
	5	221	37.2	38.4	89.0
	6	53	8.9	9.2	98.3
	7	1	.2	.2	98.4
	8	9	1.5	1.6	100.0
	Total	575	96.8	100.0	
Missing	System	19	3.2		
Total		594	100.0		

The percentage of associate degree holders was significantly lower and the percentages of baccalaureate and postgraduate degrees higher, than the corresponding population figures of 35.2% associate, 33.4% baccalaureate and 7.1% postgraduate.

There is of course no need to adjust education level to the population tenure distribution, since the population education-level distribution for administrators is known. However, the relationship between tenure and education level is of interest in its own right, and is as follows:

Crosstab of Administrator Education Level and Years as RTT

		YRSRTT5G					Total
EDLEVL4G		0-10 years	11-15 yrs	16-20 yrs	21-25 yrs	26+ years	
HS + certif or adv cert	Count	22	24	23	28	36	133
	%	15.9%	16.2%	20.0%	30.1%	44.4%	23.1%
Assoc	Count	37	51	30	22	18	158
	%	26.8%	34.5%	26.1%	23.7%	22.2%	27.5%
Bach	Count	60	65	45	33	18	221
	%	43.5%	43.9%	39.1%	35.5%	22.2%	38.4%
Masters+	Count	19	8	17	10	9	63
	%	13.8%	5.4%	14.8%	10.8%	11.1%	11.0%
Total	Count	138	148	115	93	81	575
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The percentage of radiation therapy administrators whose highest level of education is a certificate increases along with tenure in radiation therapy. The percentage of bachelor's degree holders decreases as tenure in radiation therapy increases (overall chi-square = 43.07 with 12 *df*, $P < .001$).

54. What is the highest education level you have completed?

Staff		Frequency	Percent	Cumulative Percent	Estimated Population Percent#
Valid	High school or equivalent	11	.5	.5	.7
	Certificate	291	14.5	15.1	14.2
	Advanced certificate(s)	190	9.5	24.6	9.2
	Associate degree	751	37.5	62.1	38.9
	Baccalaureate degree	688	34.4	96.5	33.4
	Master's degree	41	2.0	98.6	2.1
	Doctoral degree	1	.0	98.6	.1
	Other	28	1.4	100.0#	1.4
	Total	2001	100.0#		100.0#
Missing	-9.00	110	5.9		
Total		2111	100.0#		

#Adjusted to state population proportions.

Administrators are somewhat less likely than staff therapists to hold an associate degree (28% vs. 38%), but somewhat more likely to hold an advanced (master's or doctoral) degree (9% vs. 2%).

Education level did not differ significantly as a function of job title among radiation therapists, but differed significantly among the various states. In particular, only 3% of those working in Maine, N.H. or Vt.; 4% in Ore.; 8% in Mass. and 14% of those working in Calif. listed a certificate as their highest level of education (as compared to 24.8% across all states). About 37% of Pa. therapists, 42% of N.J. therapists, 46% of Wis. therapists, and 51% of Iowa respondents are certificate-educated ($P<.01$ for the difference between the percentage of certificate-level therapists in the state or combination of states and the overall percentage in each case).

Four states or combinations of states (Neb., N.D. and S.D. combined, at 9%; Iowa, 11%; Wis., 12%; Ill., 24%) had significantly lower percentages listing an associate degree as their highest level of education (as compared to 38.1% overall), while five states (Calif., 53%; Fla., 53%; N.Y., 58%; Conn., 61%; Mass., 66%) were significantly above average in this respect. Finally, three states (Fla., 24%; Ohio, 25.5%; Pa., 26%) had significantly below-average percentages of bachelor's or higher-educated radiation therapists and five states or combinations of states (Ill., 55%; Neb., N.D., and S.D. combined, 60%; Ore., 61%; S.C., 65%; and Canadian provinces, 69%) were significantly above the overall average of 37% bachelor's or higher.

53. Which best describes your ethnic background?

		Staff		Administrators	
		Frequency	Percent	Frequency	Percent
Valid	African American	48	2.4	16	2.8
	Asian/Pacific Islander	49	2.5	7	1.2
	Caucasian	1792	89.8	531	93.2
	Hispanic	70	3.5	12	2.1
	Other	37	1.9	4	.7
	Total	1996	100.0	570	.100.0
Missing	-9.00	115	5.4	24	4.0
Total		2111	100.0	594	100.0

Administrators were somewhat more likely than staff to report "Caucasian" as their ethnic background (93% vs. 86%) and somewhat less likely to claim "Hispanic" background (2% vs. 9%).

This split did not differ significantly as a function of staff therapists' current job title. It differed significantly from state to state for the staff sample (overall chi-square = 230.88 with 39 *df*, $P<.001$). The states with significantly higher or lower percentages of non-Caucasian radiation therapists are not listed here, since the most relevant comparison is probably to the state non-Caucasian proportion in the general population, rather than to the national proportion of non-Caucasian therapists. Moreover, adjusting to state populations of staff and senior staff therapists changes none of the above-listed ethnic percentages by more than 0.4%. The estimated population proportion of Hispanics is 3.9%.

Appendices

Appendix A: Verbatim Responses to Questions

47 Admin. What would you like new graduates to know about radiation therapy and its practice that they don't seem to know? What would you like new grads to know about radiation therapy that you didn't?

47. What like new grads to know (broad categories)	Response	Frequency	Percent
Blank, missing, indecipherable	Total	313	52.7
Specific procedure	ACCOUNTABILITY, PROFESSIONALISM, DEDICATION, CLINICAL JUDGMENTS OF SITUATIONS IN POSITIONING	1	0.2
	Advanced techniques	1	0.2
	ADVANCED TREATMENT MODALITIES - PROGRAM - SHOULD EXTEND TO 18 MONTHS	1	0.2
	BETTER COMPUTER SKILLS	1	0.2
	BETTER TX FIELD INTERPRETATION/VERIFICATION BETTER QC	1	0.2
	VERIFICATION TX PLAN VS RECORD/VERIFY SYSTEM, AND BILLING BILLING	1	0.2
	BONE ANATOMY TO MAKE SHIFT ON PORT FILMS	1	0.2
	COMPUTER SYSTEMS IE R&V/IMPAC	1	0.2
	CONVENTIONAL SIMULATION	1	0.2
	CONVENTIONAL SIMULATION AND TO UNDERSTAND THE BASICS OF SIMULATION	1	0.2
	CT Simulation	1	0.2
	CT UTILIZATION IN SIMULATION	1	0.2
	DIVERGENCE (ITS CONCEPT)	1	0.2
	DOSIMETRY, SPECIFICALLY CALCULATING DOSES. PAYING CLOSER ATTENTION TO THE DETAILS OF EACH INDIVIDUAL TREATMENT	1	0.2
	FILM ANATOMY, SIMULATION EDUCATION, EXPLAIN PROCEDURES TO PATIENTS AT THEIR LEVEL Not OVER THEIR HEADS W/COMPLICATED VERBIAGE	1	0.2
	HDR BRACHYTHERAPY	1	0.2
	HOW TO BILL	1	0.2
	MORE ABOUT BILLING/REIMBURSEMENT AND PATIENT ACCESS TO PROGRAMS IF THEY HAVE NO INSURANCE.	1	0.2
	MORE BASIC DOSIMETRY SKILLS	1	0.2
	MORE DOSIMETRY	1	0.2
	MORE PATIENT CARE (I.E. CLINICAL ASSESSMENT SKILLS)	1	0.2
	MORE SIMULATION & CTSIM. RECENT STUDENTS ARE BETTER THAN PAST STUDENTS	1	0.2
	MORE SIMULATION KNOWLEDGE - MORE HANDS ON EXPERIENCE	1	0.2
	MORE SKIN CARE, BILLING, PATIENT SKIN CARE	1	0.2
	MOST STILL CANNOT SET UP A WHOLE BRAIN!	1	0.2
	NEED MORE SIMULATION KNOWLEDGE. NEED MORE TIME DOING DOSIMETRY CALCS	1	0.2
	POSITIONS, ????, SIDE EFFECTS, REPRODUCIBILITY IM????	1	0.2
	PROPER POSITIONING TECHNIQUE, ACTUALLY ALIGNING PT INSTEAD OF	1	0.2
	READING CHARTS MORE ACCURATELY. LOOKING AT THE ENTIRE PICTURE. SLOWING DOWN TO IMPROVE ACCURACY	1	0.2
	SIM, CT-SIM	1	0.2
	SIMULATION	7	1.2
	SIMULATION PROCEDURES	3	0.5
	SIMULATION, CHARTING, BRACHYTHERAPY	1	0.2
	SIMULATIONS	1	0.2

	SINCE IT ???	1	0.2
	SPEND MORE TIME ON PSYCHOLOGY AND PSYCHOSOCIAL INTERACTION. ALL, BASIC BILLING KNOWLEDGE	1	0.2
	THE B.S. PREPARED STUDENTS SEEM TO BE READY WITH THE EXCEPTION OF SIMULATION SKILLS	1	0.2
	THEY NEED TO KNOW MORE ABOUT CONVENTIONAL SIMULATORS.	1	0.2
	THEY NEED TO KNOW MORE ABOUT SIMULATION	1	0.2
	THINK ALL PROGRAMS, THERAPY, DOSIMETRY, PHYS ED... NEED A LITTLE TIME SPENT ON BILLING ISSUES (CPT CODES)	1	0.2
	TO SHOW COMPASSION, TOUCH, THINK, AND MOVE QUICKLY. THE EFECTS OF RADIATION	1	0.2
	VARIOUS WAYS TO SIMULATE PTS, IE 100SSD VS SAD, EXTENDED SSD	1	0.2
	WHEN AND WHAT TO CHARGE FOR	1	0.2
	WHEN NOT TO TURN THE BEAM ON MORE DOSIMETRY KNOWLEDGE	1	0.2
	Where cancer spreads, lymph nodes involved	1	0.2
	Total	53	8.9
Positive working condition(s)	HOW IMPORTANT SUPPORT STAFF (PHYSICS, DOS, PN'S, ETC)	1	0.2
	IT IS POSSIBLE FOR A CAREER IN RADIATION THERAPY TO BE	1	0.2
	STRONG BONDS WITH PATIENTS VERY REWARDING	1	0.2
	THAT IT IS A WONDERFUL PROFESSION THAT HAS MANY REWARDS.	1	0.2
	THAT THEY WILL BE EXPECTED TO PERFORM PROBLEM SOLVING & TO WORK WITH A CERTAIN AMOUNT OF AUTONOMY	1	0.2
	THIS IS A GOOD CAREER FOR "PEOPLE" ORIENTED TYPES - NOT DEPRESSING AND VERY REWARDING	1	0.2
	Total	6	1.0
Negative working condition(s)	ALL THE STRESSES COWORKERS AND DOCTORS CAN PROVIDE (ABOVE AND BEYOND THEIR PATIENTS)	1	0.2
	IT'S NOT EASY!	1	0.2
	It can be very demanding, but extremely rewarding	1	0.2
	IT IS DIFFICULT WORK; PHYSICAL WORK; NO AMOUNT OF MONEY WILL MAKE THEM LIKE THE FIELD IF THEY DIDN'T GO INTO IT FOR THER,	1	0.2
	IT SEEMS TO BE MORE WORK AND DEDICATION THAN YOU REALIZE	1	0.2
	IT WILL BE DONE DIFFERENTLY AT EVERY FACILITY THEY ENCOUNTER	1	0.2
	RADIATION THERAPISTS HAVE GREAT RESPONSIBILITIES PLACED	1	0.2
	TECHNOLOGY CHANGES & EVERY FACILITY TREATS DIFFERENTLY	1	0.2
	THAT A LARGE # OF PATIENTS ARE ELDERLY AND HARD OF HEARING AND REQUIRE LOTS OF PATIENCE AND TLC	1	0.2
	THE EMOTIONAL TOLL; LEARN TO ACCEPT DEATH ISSUES WITHOUT LOSING EMPATHY	1	0.2
	THE FACILITY WHERE THEY WORK AFTER GRADUATION WILL HAVE DIFFERENT POLICIES AND PROCEDURES THAT ARE USED	1	0.2
	TO REALIZE THAT IT IS HARD WORK THAT REQUIRES A GREAT DEAL	1	0.2
	VERY BUSY - MUST ALWAYS BE ON YOUR TOES. MUST BE ABLE TO HANDLE STRESS AND PEOPLE	1	0.2
	WE ARE VERY BUSY & VERY UNDERSTAFFED & YOU CAN'T MAKE MISTAKES	1	0.2
	Total	14	2.4
General knowledge or skill	A MORE ROUNDED EDUCATION WOULD BETTER PREPARE THE THERAPIST LONG TERM FOR ALL	1	0.2
	BASIC CONCEPTS	1	0.2
	BASIC CONCEPTS, BASIC HANDS ON SKILLS	1	0.2
	BASIC PT. CARE AND THAT EACH PRACTICE THEY WORK IN WILL HAVE ITS OWN WAY OF DOING CERTAIN TASKS	1	0.2
	ACCURACY & EFFICIENCY. BE A TEAM PLAYER	1	0.2
	BETTER GRASP OF VARIOUS TECHNICAL FACTORS	1	0.2
	BETTER PATIENT CARE ACCURACY, CONSISTENCY	1	0.2
	BETTER PHYSICS AND MATH	1	0.2
	BETTER SIMULATION SKILLS	1	0.2
	BUSINESS PROCEDURES IE. BILLING, DOCUMENTATION, TIME	1	0.2

CLINICAL KNOWLEDGE	1	0.2
CLINICAL SETUPS EVERY PLACE DOES THINGS A LITTLE DIFFERENT	1	0.2
COMMON SENSE	1	0.2
CRITICAL THINKING	1	0.2
CRITICAL THINKING SKILLS, THEY DON'T SEEM TO BE ABLE TO FIGURE SOMETHING OUT UNLESS THEY LEARNED IT SPECIFICALLY	1	0.2
DAY-TO-DAY OPERATIONS	1	0.2
DEALING WITH DIFFICULT PATIENT SITUATIONS	1	0.2
HANDS ON TREATMENTS	1	0.2
HAVE A GREATER KNOWLEDGE ABOUT THE SIMULATION PROCESS	1	0.2
HOW EACH INDIVIDUAL PARAMETER OF THE TREATMENT AFFECTS THE INTENDED OUTCOME (EG HOW WRONG FS AFFECTS OUTPUT)	1	0.2
HOW IT IS PRACTICED AT MANY FACILITIES	1	0.2
HOW TO DO ACCEPT RESPONSIBILITY TO DO CALCS. BY HAND OR ONT COMPUTER NOT WAITING FOR THE PHYSICIST OR DOSIMETRIST	1	0.2
HOW TO INTEGRATE THE USE OF DIAGNOSTIC SCANS AND HOW IMPORTANT IT IS USED IN RT	1	0.2
HOW TO INTERVIEW PATIENTS SITE SPECIFICALLY - HOW TO REVIEW PRESCRIPTIONS BEFORE TREATMENT	1	0.2
HOW TO OPERATE EQUIPMENT CORRECTLY, ABILITY TO UNDERSTAND THE PATIENT TREATMENT AS A WHOLE (SIMULATION TO DOSIMETRY TO TREATMENT)	1	0.2
HOW TO SCHEDULE, WORK AS A TEAM MEMBER, UNDERSTAND	1	0.2
HOW TO SET UP AND TREAT A PT ACCURATELY WITHOUT R & V SYSTEMS	1	0.2
How to think ahead, plan ahead & rely less on computer	1	0.2
HOW TO THINK FOR THEMSELVES INSTEAD OF SIMPLY PUSHING BUTTONS	1	0.2
HOW TO TREAT PATIENTS! THEIR CLINICAL ABILITY IS JUST NOT THERE	1	0.2
HOW TO ACTUALLY SET UP PATIENTS	1	0.2
I BELIEVE RADIATION THERAPY STUDENTS SHOULD BE EXPOSED TO MORE THAN	1	0.2
I FEEL THAT THE BASIC PHYSICS OF THE RADIATION THERAPY IS MISSING - THE BASIS OF WHY WE DO WHAT WE DO	1	0.2
I TELL ALL MY THERAPISTS THAT THEIR JOB IS LIKE A PHARMACIST; THEY GET A PRESCRIPTION FROM A DOCTOR AND HAVE TO FILL IT EXACTLY ON A DAILY BASIS. THEY ALSO HAVE TO BE VERY EMPATHETIC TO THE PATIENTS AND FAMILIES .THE POSITION OF THERAPIST IS THE MOST	1	0.2
I WOULD LIKE TO SEE NEW GRADS WITH MORE AWARENESS OF RADIATION INDUCED REACTIONS IN THE PATIENTS	1	0.2
I would like to see them have more clinical	1	0.2
I WOULD PREFER MORE CLINICAL CONFIDENCE AND REALIZE THIS CAN BE A PERSONALITY ISSUE	1	0.2
It's all about critical thinking skills & good communication that is needed to grow successful	1	0.2
JUST NEED MORE EXPERIENCE AND TO UNDERSTAND WHY THEY DO SOMETHING, NOT JUST DO IT.	1	0.2
LARGER VARIETY OF CLINICAL SETTING WITH RESPECT TO EQUIPMENT	1	0.2
MORE 'HANDS ON' DURING EDUCATION	1	0.2
MORE ????	1	0.2
MORE ABOUT INTERACTION FOR PATIENT INFO PURPOSES. MORE ABOUT TOTAL SITE DOSES AND TOLERANCES	1	0.2
MORE ABOUT THE SIDE EFFECTS	1	0.2
MORE CLINICAL EXPERIENCE	1	0.2
MORE CLINICAL EXPERIENCE AS "STAFF", NOT AS	1	0.2
MORE CLINICAL EXPERIENCES	1	0.2
MORE CLINICAL SKILLS, MORE HANDS ON EXPERIENCE	1	0.2
MORE CLINICALEXPERENCE	1	0.2
MORE COMPUTER SKILLS	1	0.2

	MORE DIVERSE SITES TO WORK AT	1	0.2
	MORE HANDS ON EXPERIENCE WITH EQUIPMENT	1	0.2
	MORE HANDS-ON TRAINING	1	0.2
	MORE TROUBLESHOOTING WITH SETUPS, MORE ROTATION OF CLINICAL ONCOLOGY TO THE PATIENT SETUPS	1	0.2
	MUST HAVE INITIATIVE TO DO OTHER TASKS OTHER THAN TREATING	1	0.2
	NEED MORE CLINICAL EXPERIENCE	1	0.2
	NEED MUCH MORE CLINICAL EXPERIENCE	1	0.2
	NEED TO LEARN MORE CRITICAL THINKING SKILLS	1	0.2
	NEED TO UNDERSTAND WHY INSTEAD OF HOW	1	0.2
	NEW TECHNOLOGIES COPING WITH STRESS, ABILITY TO SEE THE WHOLE PROGRAM, PERSPECTIVE AND NOT ONLY FROM A THERAPIST PERSPECTIVE - HOW THEY FIT INTO THE BIGGER PICTURE	1	0.2
	OLD VALUES HOW TO TREAT WITHOUT THE BELLS & WHISTLES	1	0.2
	PATIENT CARE	1	0.2
	PATIENT CARE AND HOW TO DEAL WITH THE ELDERLY SICK POPULATION - HAVE MORE RESPECT FOR THE ELDERS	1	0.2
	PATIENT CARE NEEDS	1	0.2
	PATIENT CARE TECHNIQUES AND INCREASED NURSING KNOWLEDGE TO HELP THE "WHOLE" PATIENT.	1	0.2
	PATIENT CARE, COMMUNICATION, ETHICS, WORK ETHICS	1	0.2
	Patient/clinical experience; general knowledge	1	0.2
	PROFESSIONALISM, PATIENT CHARACTERISTICS (DENIAL, GRIEF, ACCEPTANCE)	1	0.2
	PSYCHOLOGICAL ASPECTS OF DEALING WITH TERMINALLY ILL AND GERONTOLOGY ISSUES	1	0.2
	SOLID FUNDAMENTAL SKILL	1	0.2
	SOME BASIC RADIOLOGY GUIDELINES AND BETTER KNOWLEDGE OF RADIATION PRINCIPLES	1	0.2
	SOME BASIC SKILLS SUCH AS SIMULATION AND HAND CALCULATIONS ARE BEING LOST DUE TO TECHNOLOG	1	0.2
	STRESS THE FUNDAMENTALS ENSURE THEY ARE PREPARED TO TAKE/PASS THE REGISTRY	1	0.2
	TEACH THEM HOW TO SPOT ERRORS, SEE DISCREPANCIES	1	0.2
	THE BASIC CONCEPTS, INCLUDING BEING MORE SKILLED IN SIMULATING	1	0.2
	THE BASICS, ANATOMY; MEDICAL TERMINOLOGY; HOW TO LOOK FOR ERRORS/POTENTIAL ERRORS, HOW TO QUESTION UNUSUAL SETUPS; BOW TO SET UP A PT ON AN ANALOG SIM	1	0.2
	THE LONG-TERM CONSEQUENCES FOR POORLY ADMINISTERED	1	0.2
	THE MENTAL AND EMOTIONAL COMPLEXITY OF THE FIELD	1	0.2
	THE NECESSITY TO TREAT PATIENTS WITH EXCELLENCE IN CUSTOMER SERVICE AND TECHNICAL EXPERTISE	1	0.2
	THE NEED TO BE FLEXIBLE WITH BOTH COLLEAGUES AND TREATMENT TECHNIQUES	1	0.2
	THEY JUST NEED EXPERIENCE AND THEY CAN ONLY GET THAT WITH CLINICAL EDUCATION	1	0.2
	THEY NEED MORE CLINICAL EXPERIENCE AND MORE SIMULATIN/CT EXPOSURE IN TRAINING	1	0.2
	USING BETTER JUDGEMENT WHEN ANSWERING	1	0.2
	WHY CERTAIN THINGS ARE DONE SPECIFIC WAYS AND ALSO UNDERSTAND THE FEELINGS THAT PATIENTS GO THROUGH	1	0.2
	WHY WE DO WHAT WE DO. FOR EXAMPLE, WHY WE DO AN ORTHOG SIM - CT- THEN 3D SIM - THE FLOW	1	0.2
	WORKING WITH THE PUBLIC, PEOPLE SKILLS, CHARGE CAPTURE, IMRT	1	0.2
	Total	87	14.6
Interpersonal relations	BE MORE IN TOUCH WITH PERSON	1	0.2
	HOW TO COMMUNICATE WITH THE PATIENT	1	0.2
	HOW TO EDUCATE & COMMUNICATE EFFECTIVELY WITH PATIENTS	1	0.2
	HOW TO HANDLE PATIENT INTERACTIONS	1	0.2

	INTERPERSONAL AND COMMUNICATIONS SKILLS	1	0.2
	MORE PSYCHOLOGICAL ASPECTS, HOW TO	1	0.2
	PEOPLE PROBLEM SOLVING	1	0.2
	PEOPLE SKILLS, HOW TO TREAT A PT LIKE YOUR OWN FAMILY MEMBER	1	0.2
	TEAM WORK	1	0.2
	TEAMWORK ASPECT OF THERAPY	2	0.4
	THE PERSONAL CARING ASPECT	1	0.2
	Total	12	2.0
General approach to profession (e.g., learn from mistakes)	1) ADAPTABILITY; 2) THERE IS NO MISTAKE SOMEONE ELSE HASN'T DONE...JUST	1	0.2
	ACCEPT THAT IT IS VERY HARD WORK, IT WON'T BE EASY	1	0.2
	ATTITUDE OF TEAM WORK WITH ALL PARTS OF RADIATION	1	0.2
	BE MORE CAREFUL, STOP THE SHORT CUTS, DON'T HURRY	1	0.2
	BEING ABLE TO PROBLEM SOLVE LOOK AT SIM FILMS VS PORTS TO SEE WHAT'S WRONG, THEN TO CORRECT TREATMENT, TIME MANAGEMENT AND EFFICIENCY - WORKING HARD USING OWN TIME EFFICIENCY	1	0.2
	CARE - CONCERN AT PATIENT IN DELIVERING "HOLISTIC" CARE VS	1	0.2
	CHECK, AND DOUBLE CHECK EVERYTHING THAT THEY DO	1	0.2
	DO NOT CHOOSE THIS CAREER FOR THE MONEY AND THINK ABOUT TEAM INSTEAD OF SO MUCH ABOUT ONE'S SELF INTERESTS	1	0.2
	DRESS PROFESSIONALLY - FIRST IMPRESSION VERY IMPORTANT TO	1	0.2
	GREATER EMPHASIS ON PROFESSIONALISM AND WORK ETHIC	1	0.2
	HAVE FUN WITH THE PATIENTS, DON'T TREAT WITHOUT COMPASSION	1	0.2
	HAVE TO INTERACT WITH PATIENTS/FAMILIES. HAVE TO ACT PROFESSIONALLY	1	0.2
	HOW TO RESPECT THE PROFESSION AND ALL INVOLVED IN IT.	1	0.2
	HOW TO WORK - MOST HAVE 'BOOK' KNOWLEDGE BUT WOULD RATHER SOCIALIZE RATHER THAN WORK, ESPECIALLY MALES	1	0.2
	I WOULD LIKE NEW WORKERS TO HAVE A BETTER WORK ETHIC	1	0.2
	IMPAIRED WORK ETHIC	1	0.2
	IT'S NOT JUST ABOUT THERAPY -- COMPASSION OFTEN HELPS	1	0.2
	IT'S OK TO NOT KNOW EVERYTHING WHEN YOU GRADUATE AND START	1	0.2
	IT HAS TO COME FROM THE HEART - NOT THE POCKET - YOU HAVE TO	1	0.2
	IT IS A RELATIONSHIP AND COMMITMENT TO OTHERS	1	0.2
	IT IS ALL ABOUT THE PATIENT NOT THE MONEY	1	0.2
	IT IS MUCH MORE THAN COME IN WORK 8 HRS AND GO HOME	1	0.2
	IT IS REAL WITH PATIENTS DEALING W/END OF LIFE ISSUES. LEARN TO	1	0.2
	IT REQUIRES CONTINUITY AND TIME MANAGEMENT SKILLS	1	0.2
	IT'S A SERIOUS PROFESSION. YOU'RE NOT HERE TO VISIT WITH PATIENTS	1	0.2
	ITS ABOUT DETAIL AND RESPECTING OTHER THERAPISTS YOU WORK WITH	1	0.2
	ITS ALL ABOUT THE PT, NOT THE MONEY	1	0.2
	IT'S NOT ALL ABOUT THE MONEY!	1	0.2
	JUST BECAUSE YOU HAVE GRADUATED AND ARE REGISTERED, IT DOESN'T MEAN YOU CAN STOP LEARNING	1	0.2
	JUST BECAUSE YOU PASSED THE REGISTRY AND/OR GRADUATED, YOU DON'T	1	0.2
	PATIENT CARE IS NUMBER ONE.	1	0.2
	PROFESSIONALISM	1	0.2
	PTS ALWAYS COME FIRST	1	0.2
	RESPECT	1	0.2
	SCHEDULING AND TO BE VERSATILE IF THEY MUST FLEX HOURS THEY ARE PART OF A TEAM	1	0.2
	SOULD LOOK TO WORK IN A CENTER WHERE THE PHYSICIANS VALUE THEIR THERAPISTS AND RESPECT THEM.	1	0.2

	SPEND AS MUCH TIME AND DEVOTE MAXIMUM EFFORT IN YOUR CLINICAL INTERNSHIPS	1	0.2
	TAKE A JOB AND STAY WITH IT FOR A FEW YEARS. THE MINDSET NOW IS THAT BECAUSE OF THE PERCEIVED SHORTAGE, I'LL "TEMP" OR CHANGE JOBS EVERY YEAR	1	0.2
	TAKE CARE OF YOUR PATIENTS. THEY ARE WHY WE ARE HERE	1	0.2
	That because students have a degree does not make them more skilled than colleagues who	1	0.2
	THAT IT IS MORE INVOLVED THAN THEY THINK IT IS	1	0.2
	THAT SOMEDAY YOU WILL MAKE A MISTAKE. THE IMPORTANT THING IS TO BRING THIS MISTAKE TO SOMEONE'S ATTENTION AND CORRECT IF POSSIBLE.	1	0.2
	THAT THE WHOLE DEPARTMENT WORKS TOGETHER AND THAT THEY ARE NOT THE MOST IMPORTANT FACET OF IT	1	0.2
	THAT THERE ARE MANY WAYS TO GO ABOUT SETTING UP PATIENTS	1	0.2
	THAT THERE IS MORE THAN ONE WAY TO DO THINGS.	1	0.2
	THAT THEY ARE STILL LEARNING! NO ONE GRADUATES AS A SENIOR	1	0.2
	THAT THEY SHOULD NOT GO INTO THIS FIELD FOR THE MONEY OR THE MONDAY-FRIDAY DAY SHIFT THAT IT OFFERS.	1	0.2
	THAT THIS JOB IS NOT DONE FOR THE MONEY! MANY STUDENTS I FEEL	1	0.2
	THAT WHEN YOU DEAL WITH CANCER PATIENTS THEY REQUIRE YOUR	1	0.2
	THE FOCUS SEEMS TO BE ON THE TECHNICAL PART OF THE	1	0.2
	THE TWO LOCAL EDUCATIONAL INSTITUTIONS PREPARED THEIR GRADUATES WELL. THE REST	1	0.2
	THERE ARE MANY WAYS OF ACCOMPLISHING THE SAME THING	1	0.2
	They are responsible for the patient entirely	1	0.2
	THEY NEED TO BE CONSTANTLY FOCUSING & THINKING ABOUT WHAT THEY ARE	1	0.2
	THEY NEED TO SPEND AS MUCH TIME AS POSSIBLE ON THE TREATMENT MACHINCE AND SIMULATOR. THIS IS WHERE THEY ARE GOING TO WORK MOST OF THE TIME, BE PREPARED	1	0.2
	THEY NEED TO WORK IN THE FIELD FOR THE RIGHT REASONS NOT JUST HIGH PAYING DAY JOB M-F; NEED TO LEARN LOYALTY TO DEPT	1	0.2
	TO BE A SILENT LEARNER	1	0.2
	TO BE AWARE ABOUT PATIENT CARE NOT ONLY IN THE SALARY.	1	0.2
	TO BE CAREFUL HOW THEY WORD QUESTIONS TO OTHER THERAPISTS WHO ARE ESTABLISHED REGARDING "WHY THINGS ARE DONE THIS WAY"	1	0.2
	TO PAY ATTENTION TO DETAIL IE R & V MATCHES PLANS INFORMATION, PART FILM EVAL AND SAFETY	1	0.2
	TO QUESTION ANYTHING THAT DOESN'T SEEM RIGHT TO THEM	1	0.2
	WE ARE HERE FOR THE PATIENTS NO MATTER THE CIRCUMSTANCES	1	0.2
	WORK ETHIC -- NEW GRADS NEED TO HAVE A H.N N	1	0.2
	WORK ETHICS, TEAMWORK, WHAT THE PT	1	0.2
	YOU'RE AT WORK TO WORK. DON'T PLAN ANYTHING 5 MINUTES AFTER WORK.STAY BUSY ALL THE TIME	1	0.2
	YOU MUST BE ABLE TO UNDERSTAND THE LARGE VIEW (NOT JUST MEMORY LISTS, ETC) BUT BE ABLE TO ADJUST TO THE REAL CHALLENGES IN CLINICAL SETTING. MUST BE FLEXIBLE, CREATIVE, INQUISITIVE AND AGGRESIVE	1	0.2
	YOU SHOULD DO IT BECAUSE YOU LOVE TO BE WITH CANCER PATIENTS, NOT THE PAYCHECK. ALSO, I WOULD ENCOURAGE THOSE WHO ARE INTERESTED IN DOSIMETRY TO APPLY TO THOSE PROGRAMS FIRST INSTEAD OF TAKING UP SLOTS FOR STUDENTS WHO REALLY WANT TO TREAT PATIENTS.	1	0.2
	Total	67	11.3
Comment on profession or education 4 it	I DON'T BELIEVE A ONE YEAR PROGRAM IS SUFFICIENT TO TEACH NEW GRADUATES ALL THERE IS TO KNOW ABOUT RADIATION THERAPY AND THE EXTRAS THAT ARE NOW BRING DEMAND	1	0.2

	I HAVE BEEN VERY PLEASED WITH THE GRADUATES I HAVE HIRED I FIRMLY BELIEVE MOST NEW GRADS STILL NEED SUPERVISION UNTIL THEY HAVE MORE EXPERIENCE	1	0.2
	IN MY OPINION, NEW GRADUATES, ESPECIALLY FROM DEGREE PROGRAMS, DO NOT HAVE ENOUGH CLINICAL EXPERIENCE. THEY MAY HAVE "TESTED OUT" OF A PARTICULAR TYPE OF SETUP OR SIMULATION, BUT THEY DO NOT HAVE A GENERAL UNDERSTANDING AND CONFIDENCE LEVEL. THIS TAKE	1	0.2
	IT'S NOT ABOUT THE MONEY, OR TIME OFF. THEY	1	0.2
	IT SEEMS LIKE THE MAJORITY OF NEW GRADS ARE ONLY IN THERAPY FOR THE MONEY	1	0.2
	PROFESSIONAL & PERSONAL SATISFACTION HAS	1	0.2
	SOME RTS DON'T UNDERSTAND THE CONCEPTS	1	0.2
	SOME NEW GRADUATES ARE ONLY??? PICKS AND FORGET THE HUMAN QUALITY	1	0.2
	STUDENTS DO NOT HAVE A CLUE ABOUT WHAT RADIATION THERAPY IS ABOUT	1	0.2
	The field has expanded tremendously in the past 5-10 yrs and the only way to incorporate the expanded	1	0.2
	THE ONLY REAL DIFFERENCE IS THE CONFIDENCE THAT CAN ONLY COME WITH EXPERIENCE. TO KNOW ABOUT RAD THERAPY THE ONES WE HAVE WORKED WITH ARE AS KNOWLEDGABLE AS EXPERIENCED THERAPISTS	1	0.2
	THERAPISTS THAT HAVE NO X-RAY BACKGROUND HAD GREATER DIFFICULTIES IN SIMULATION	1	0.2
	Therapy has changed over the last 5 years and in the span of time, technology has	1	0.2
	THEY ARE MISSING THE BASICS OF RADIATION THERAPY	1	0.2
	THEY NEED CLINICAL EXPERIENCE, IN MY PROGRAM WE DID EVERYTHING UNDER SUPERVISION - NOW IT SEEMS LIKE THEY SPEND ALL THE CLINICAL HOURS JUST OBSERVING PROCEDURES, NOT PERFORMING ANY	1	0.2
	WE PARTICIPATE IN A 2 YR PROGRAM FOR THE CLINICAL TRAINING. I HIRE	1	0.2
	WITH THE ADVENT OF CT SIM, NEW GRADS ARE LOSING THE CONCEPT OF HOW	1	0.2
	WITHIN 6 MO OF EMPLOYMENT OUR PROGRAM GRADS ARE FULLY INTEGRATED INTO WORK TEAMS, NEW GRADS FROM TWO OTHER PROGRAMS LACK COMMITMENT AND WORK ETHIC	1	0.2
	Total	18	3.0
NA	CAN'T THINK OF ANYTHING	1	0.2
	HAVE BEEN PLEASED WITH THE KNOWLEDGE OF THE CURRENT GRADUATES THAT I HAVE HIRED	2	0.4
	HAVE NOT HIRED NEW GRADUATES AT THIS CURRENT FACILITY	1	0.2
	HAVEN'T WORKED WITH A NEW GRAD IN 5 YEARS SO	1	0.2
	NA	12	2.0
	NONE	1	0.2
	OUR PROGRAM @ OHSU DOES AN EXCELLENT JOB IN PREPARING OUR STUDENTS	1	0.2
	STUDENTS WE CURRENTLY GET ARE WELL INFORMED	1	0.2
	THE MORE RECENT GRADS OUT OF THE PROGRAM IN OUR AREA HAVE BEEN SCREENED APPROPRIATELY.	1	0.2
	TOO EARLY TO SAY	1	0.2
	WE'VE BEEN FORTUNATE TO FIND WELL ROUNDED NEW GRADS	1	0.2
	YES	1	0.2
	Total	24	4.0

43. What you would have liked to have known about Radiation Therapy and its practice that you didn't know when you began your first post-certification job in radiation therapy?

	Frequency	Percent
Specific Procedure		
	71	10.19%
NA - MORE BRACHYTHERAPY		
IMPAC & MORE SIM TIME		
MORE DOSIMETRY		
IMRT, BAT		
PATIENT/MEDICAL ETHICS		
I WISH I WAS MORE KNOWLEDGEABLE IN RADIOBIOLOGY - SEEMS A LOT OF PATIENTS ASK QUESTIONS THAT I CAN'T ANSWER INTELLIGENTLY ABOUT THE EFFECTS OF RADIATION ON CELLS		
SKILLS WITH SIMULATIONS		
MORE ABOUT LAWS/REGULATIONS RE: XRT/PHYSICIANS...		
MORE INFO ON BILLING, OFFICE WORK, ETC		
NOTHING, MAYBE MORE ABOUT BILLING.		
QUALITY ASSURANCE		
I WOULD HAVE LIKED TO LEARN ABOUT POST RADIATION LONG TERM EFFECTS		
MORE ACTUAL IMPLANT CLINICAL PRACTICE		
NURSING CARE		
MORE SIDE EFFECTS RELATING TO TX		
I WOULD HAVE LIKED TO HAVE MORE PREPARATION WHEN IT CAME TO TREATING CHILDREN		
THERE WERE A FEW NURSING ISSUES. WHAT TO DO IF A MORPHINE PUMP DOESN'T WORK/IV ISSUES PED PT INTERACTION		
EVALUATING PORT FILMS		
SIMULATION		
MORE ABOUT RECORD AND VERIFY SOFTWARE		
NOTHING EXCEPT BILLING		
MORE SKILLS IN SIMULATION PROCEDURES		
I WOULD HAVE LIKED TO KNOW MORE ABOUT BILLING, MEDICARE & REIMBURSEMENT AS IT HAS BECOME INCREASINGLY IMPORTANT		
MORE DOSIMETRY		
CMD TRAINING		
BRACHYTHERAPY		
I WOULD HAVE LIKED TO HAVE KNOWN MORE ABOUT DOSIMETRY. I FELT I WAS LACKING IN DOSIMETRY SKILLS		
MORE DOSIMETRY		
MORE ABOUT DOSIMETRY TO UNDERSTAND PLANS MORE EASILY		
TRAINING MORE IN DOSIMETRY , CT & SIM		
MORE EXPERIENCE IN CHECKING PLANS/VERIF SYSTEMS/CHARTS FOR ACCURACY		
MORE DOSIMETRY		
MORE ABOUT THE BUSINESS AND FINANCIAL SIDE OF CANCER TREATMENT		
linear accelerators		
Wasn't as comfortable with simulations as with treatment machine		
MORE SIMULATION TRAINING		
REPETITIVE STRESS, INJURY PREVENTION		
More sim experience		
MORE INFORMATION ON NURSING SKILLS TO HELP THE PT		
Calculations		
BILLING PRACTICE		
MORE TEACHING ON THERAPY RELATED SIDE EFFECTS AND THE SPECIFIC MEDICATIONS USED TO TREAT THEM		

DOSIMETRY		
CT, ULTRASOUND LOCALIZATION		
USAGE OF CT PLANNING		
TROUBLESHOOTING PT SETUPS WHEN YOU CAN'T MATCH MARKINGS OR SSD'S FROM SIMULATION SETUP		
MORE ABOUT SKIN CARE & TX OF SIDE EFFECTS		
I NEEDED A LOT MORE EXPERIENCE IN SIMULATION		
MORE DOSIMETRY CR		
MORE ABOUT DOSIMETRY		
SIMULATION SKILLS, ORTHOVOLTAGE TREATMENTS DOSIMETRY		
MORE PRACTICE LOOKING AT PORT FILMS AND DECIDING WHAT TO DO AS FAR AS MAKING SHIFTS AND WHAT DIRECTION TO MOVE THE PT TO ACCOMPLISH PROPER POSITION		
TOTAL BODY IRRADIATION SET UPS, PREP & POST EFFECTS		
LIFTING STRATEGIES/ HOW TO WORK PC PUMPS		
MORE KNOWLEDGE ABOUT CHARTING/CHARGE CAPTURE		
CT SIMULATION		
MORE KNOWLEDGE ON DOSIMETRY		
MORE DOSIMETRY & SIMULATION EXPERIENCE		
MORE DOSIMETRY		
HOW TO DO SIMULATION WHICH WAS REQUIRED AT MY SECOND JOB POST CERT		
BILLING		
MORE INFO ON BILLING AND CODES		
CHEMOTHERAPY INVOLVEMENT - MORE EDUCATED ON SIDE EFFECTS		
HOW TO OBTAIN CMD QUICKER!		
MORE IN DOSIMETRY		
MORE ABOUT SIMULATION		
MORE SPECIFIC ED ON REPORTING TREATMENT ERRORS AND ETHICS		
MORE SPECIFIC ED ON REPORTING TREATMENT ERRORS AND ETHICS		
IV PLACEMENT, CT ANATOMY		
CT, ULTRASOUND LOCALIZATION		
BILLING, SIMULATION		
Specific Procedure, General Approach to Profession		
	1	0.14%
IT I WERE GRADUATING TODAY I WOULD WANT TO KNOW WHAT TYPES OF EQUIPMENT THE FACILITY HAD SUCH AS MLC, AUTOMATIC DOORS, DYNAMIC WEDGES, ETC IF YOU WANT A LONG CAREER IN THERAPY THEN THE DEPT NEEDS TO HAVE ERGONOMIC AS A PRIORITY FOR THE THERAPIST		
Specific Procedure, Comment on Profession		
	6	0.86%
I HAD GREAT HOSPITAL BASED PROGRAM WITH LOTS OF CLINICAL TIMES. I NEEDED MORE HELP IN SIMULATION TIME.		
I DIDN'T HAVE ENOUGH TRAINING IN SIMULATION		
It is a position where strength & agility is needed. More personal time should be given for stress relief.		
I WOULD HAVE LIKED MORE SIM EXPERIENCE AND KNOWLEDGE OF X-RAY EXPOSURES, ETC. I BELIEVE THE PROGRAM WAS GEARED TO RT(R)'S AND NOT "LAY" PEOPLE.		
1ST JOB FROM RADIOLOGY SCHOOL WAS IN FLORIDA AS SIM TECH -- NEEDED MORE THERAPY INFO TO UNDERSTAND SIMULATION JOB		
NEW PROCEDURES AND EQUIPMENT UPDATES - IMRT, STEREOTACTIC PROCEDURES NEVER EXPLAINED. IF YOUR SCHOOL DID NOT HAVE THE EQUIPMENT YOU DIDN'T LEARN ABOUT IT		
Positive Working Conditions		
	16	2.30%
THAT I MADE A GREAT CAREER CHOICE		
NOTHING. I LOVE MY FIELD (RETIREMENT, MAYBE)		
NOTHING, RADIATION THERAPY HAS EXCEEDED ALL OF MY EXPECTATIONS		
HOW REWARDING MY JOB CAN BE		

THAT IT KEEPS GETTING MORE & MORE INTERESTING DUE TO CHANGES IN TREATMENTS & EQUIPMENT		
WITH MODERN TECHNOLOGY, THE JOB IS EASIER		
HOW MUCH I WOULD LOVE WHAT I DO. HOW THE PTS & THEIR FAMILIES WOULD TOUCH MY LIFE. HOW MY JOB IS EVERY CHANGING THUS NEVER BORING		
THAT I WOULD BE MORE THAN JUST A THERAPIST		
HOW REWARDING THE JOB IS -		
VERY SATISFIED		
I WOULD LIKE TO HAVE KNOWN HOW REWARDING IT WOULD BE SO THAT I WOULD HAVE GONE BACK TO SCHOOL SOONER		
IT SEEMS COMPLEX AT FIRST. I GUESS I WOULD LIKE TO HAVE KNOWN THAT IT'S NOT EXTREMELY COMPLEX		
RESPECT GIVEN BY OTHER HEALTH PROFESSIONALS		
HOW FAR TECHNOLOGY WOULD TAKE ME IN 25 YRS		
HOW REWARDING IT IS		
ABUNDANCE OF JOB OPPORTUNITIES AVAILABLE; GOOD SALARY, ESPECIALLY FOR TRAVELING THERAPISTS		
Positive Working Conditions, Negative Working Conditions, Interpersonal Relations		
	4	0.57%
That even though it is very rewarding to work with the clients on a daily basis, the delusional lunatics who control a pathetic work environment will quickly sour any inspiring moments one may have.		
IT HAS ITS REWARDS BUT THE SADNESS IS PROFOUND. HOW YOU WOULD FEEL WHEN SOMEONE YOU KNOW DOESN'T MAKE IT ALSO NURSES GET MORE RESPECT - THE JOB IS A HARD ONE		
THE PATIENTS ARE EASIER TO WORK WITH THAN SOME PERSONALITIES OF THE THERAPISTS		
I left diagnostic radiology/hospital work because of the 24/7 hours. That part - regular hours in rad. therapy is fine. What I don't like now is the doctors don't seem to have respect for the time the therapists need to perform our duties. We run a business with a bottom line and they want throughput!		
Positive Working Conditions, Negative Working Conditions, General Approach To Profession		
	1	0.14%
HIGH BURN OUT RATE IF OVERWORKED AND UNDERSTAFFED - REWARDING IF PROPERLY STAFFED IMPORTATNT TO BE FLEXIBLE - WITH SCHEDULING		
Positive Working Conditions, Negative Working Conditions, Comment on Profession		
	1	0.14%
I WAS TREATED LIKE A VALUED EMPLOYEE IN 1990 WHEN I GRADUATED. TODAY IN 2003 I DO NOT FEEL VALUED BY MY EMPLOYER		
Positive Working Conditions, General Knowledge/Skill		
	1	0.14%
The opportunities that are available.		
Positive Working Conditions, Interpersonal Relations		
	6	0.86%
IT REALLY IS A GREAT JOB. PROVIDING CARE FOR CANCER PATIENTS (PEOPLE) IS A VERY SATISFYING PROFESSION, AND SHOULD BE THE PRIMARY CONSIDERATION CO-WORKERS - ALL TYPES, AND THROUGH IDIOSYNCRACIES		
IT IS EXTREMELY CHALLENGING AND ALWAYS INTERESTING DUE TO CONTINUOUS CHANGES IN TECHNOLOGY AND VARIETY OF PATIENTS/PERSONALITIES		
HOW VERY REWARDING THE FIELD IS AND HOW MUCH PEOPLE REALLY VALUE WHAT YOU DO, PATIENTS AS WELL AS PEOPLE WHO ASK WHAT I DO FOR A LIVING		
I TELL PEOPLE WHO ASSUME MY JOB IS DEPRESSING, THAT IT IS VERY REWARDING/FULFILLING BECAUSE OF THE APPRECIATION THE PTS EXTEND BECAUSE WE ARE HELPING THEM DO SOMETHING ABOUT THEIR CONDITION		
MANY PTS HAD A BOND TO YOU. YOU ALMOST BECOME A MEMBER OF THEIR FAMILY. AT FIRST IT'S KIND OF STRANGE BUT AS TIME GOES ON IT ??? VALIDATION OF YOUR JOB		
I NEVER IMAGINED THE JOY MY PATIENTS WOULD BRING TO ME DAILY		
Positive Working Conditions, Interpersonal Relations, Comment on Profession		

	1	0.14%
I THINK OVERALL IT IS A WONDERFUL PROFESSION. YOU FORM MANY LONG LASTING RELATIONSHIPS. I THINK THAT TECHNOLOGY TURNS OVER AT AN ASTONISHING RATE.		
Positive Working Conditions, General Approach to Profession		
	2	0.29%
HOW MUCH PTS REALLY MEAN TO ME		
HOW REWARDING IT CAN BE - RELATIONSHIP BUILDING WITH PTS - DEVELOP COMPASSION		
Positive Working Conditions, Comment on Profession		
	5	0.72%
THE Abundance OF OPPORTUNITIES AND CAREER CHANGES within the radiological sciences		
THERE ARE FACILITIES out there that do care about pt load vs. therapists.		
THAT IT IS NOT AS “MORBID" AS SOME SAY, IT IS A MUCH NICER ENVIRONMENT. MORE FULL DAY ON SITE VISITS BY PROSPECTIVE STUDENTS WOULD HELP		
HOW RAPIDLY THE PAY SCALE HAS GROWN OVER THE LAST 3-4 YEARS!		
5 YRS INTO THE CAREER BEFORE FORMAL/FULL TIME STUDENT STATUS, I'D SEEN AND KNEW A LOT AND IT -JUST HELPED KNOWING MY PERSONALITY MATCHED THE CAREER		
Negative Working Conditions		
	165	23.67%
THAT IT IS SO HARD ON YOUR BODY!!		
THAT I WOULD NOT HAVE A PERSONAL LIFE, DUE TO NOT KNOWING WHEN I WILL GET OFF WORK		
I doubt can do this job, physically, until I'm 65/67.		
IT IS INTENSE & CAN BE OVERWHELMING AT TIMES		
THE DIFFICULTY IN FINDING CONTINUING EDUCATION AVAILABLE TO US		
THAT WE'D HAVE TO WORK MANDATORY OVERTIME AND MAY OR MAY NOT GET OVERTIME PAY.		
EVEN THOUGH THE JOB IS TOUGH, WE STILL DO NOT GET THE RESPECT THAT WE DESERVE		
THE POOR RETIREMENT BENEFITS		
KEEPING ON SCHEDULE IS IMPORTANT AND YOU DON'T GET TO SPEND MUCH TIME WITH THE PATIENT		
PHYSICAL TOLL IT TAKES ON THERAPISTS BACK, LEGS AND HANDS		
IF I KNEW HOW INVOLVED IT WAS GOING TO BE WITH THE TECHNOLOGY AND THE SPEED WE ARE EXPECTED TO CARRY OUT TREATMENT RESPONSIBLY, I WOULD HAVE PICKED SOMETHING ELSE		
How emotionally and mentally demanding the job is!		
THAT I WOULD HAVE TO WORK SO HARD		
LONG HOURS AND WEEKEND WORK, PATIENT CARE NOT A PRIORITY IN MANY SITES, ESPECIALLY PRIVATE PRACTICE		
COMPLEXITY OF PATIENT TREATMENT AND HOW FAST PACED THE JOB IS		
THAT IT IS A JOB, NOT A CAREER. THERE IS LITTLE ROOM FOR JOB GROWTH & REPUTATION CAN MAKE OR BREAK YOU		
THERE'S A LOT OF STRESS TOO MANY PATIENTS TOO LITTLE TIME WITH PATIENTS. ITS' DIFFICULT TO WORK AT WARP SPEED 8 HOURS EVERYDAY		
HOW MENTALLY, PHYSICALLY & EMOTIONALLY EXHAUSTING IT IS.		
THAT THIS JOB COULD BECOME SO ROUTINE		
POOR STATUS OF JOB MARKET & WAGES IN PITTSBURGH		
IT IS AN EXTREMELY PHYSICALLY DEMANDING JOB IT IS MORE CHALLENGING WITH ALL THE NEW ADVANCES		
BURN OUT		
WHAT THE PHYSICAL RISKS WERE TO RADIATION THERAPIST OVER TIME REPETITIVE MOTOR DISEASE, ETC.		
THAT IT IS "HARD" WORK & VERY INFLEXIBLE IN TERMS OF DAYS OFF AND HRS NEEDED PERSONALLY		
HOW INCREDIBLY BUSY AND PHYSICALLY HARD IT IS		
PHYSICAL STRESS (BAD BACK, SORE FEET, ETC)		
The patient volume is tremendous and you must work quickly and efficiently not to get behind		

schedule.		
HOW MENTALLY & PHYSICALLY DRAINING IT CAN BE		
THAT MEDICAL PROFESSIONALS RECEIVE LOUSY RETIREMENT & POST RETIREMENT INSURANCE COVERAGE		
HOW PHYSICALLY DEMANDING IT CAN BE! NOT SOMETHING CAN DO TIL 65!		
HOW PHYSICALLY DEMANDING THE JOB IS.		
THAT THE JOB WOULD GET BUSIER AND MORE DEMANDING OVER THE YEARS, AND THAT IT WOULD BE SO DEMANDING ON MY PHYSICAL HEALTH (BACK & FOOT PROBLEMS)		
LACK OF ADVANCEMENT STRESS AND BURNOUT THAT CAN ACCOMPANY JOB		
PHYSICAL DEMAND ON MY BODY		
Limitation for job locations. Would have to move to have professional variation (except for technological advancement)		
ADMINISTRATION DOESN'T LOOK AT ANYTHING EXCEPT THE BOTTOM-LINE FINANCIALLY - EVEN WITH A THERAPY-SHORTAGE, WE'VE HAD A "NO RAISE" YEAR		
LACK OF STAFF AND NO RESERVES MEANS LONG HOURS AND NO TIME OFF		
THE HIGH LEVELS OF "JOB BURNOUT"		
THAT THERE WAS VERY LITTLE CHANCE OF ANY ADVANCEMENT		
CAREER LADDER VERY LIMITED.		
REPETITIVENESS OF WORK		
HOW DEMANDING, DIFFICULT PHYSICALLY & MENTALLY -- SHORT STAFFING MAKES FOR LONG DAYS.		
VERY PHYSICAL! AND SOMETIMES MENTALLY DRAINING!		
THAT THE TURNOVER RATIO COULD LEAD TO REDUCED EXPERIENCE WITHIN A DEPARTMENT & LACK OF CONTINUED ON-THE-JOB LEARNING FOR NEW GRADS AS WELL AS SUPERVISOR		
IT CAN BE A VERY DEMANDINB JOB, DEPENDING UPON WHERE		
1. NO ROOM FOR ADVANCEMENT (IN OUR DEPARTMENT)		
THAT THERE ARE REALLY NOT MANY CHANCES FOR ADVANCEMENT IN THE DEPT OR W/I THE HOSP - AS COMPARED TO RNS		
I KNOW THAT THE JOB CAME W/A HIGH LEVEL OF STRESS, BUT I DIDN'T REALIZE HOW STRESSFUL SOME DAYS REALLY BECOME		
I DIDN'T KNOW THAT I WOULD BE STANDING ON MY FEET FOR LONG HOURS AND HOW HARD IT IS TO LIFT HEAVY BLOCKS, WEDGES, AND PTS		
STRESS LEVEL WAS HIGHER THAN ANTICIPATED DUE TO LARGE VOLUME OF PTS		
NOT MUCH room FOR advancement, and WITHOUT CHANGING facilities THERE IS NOT MUCH flexibility for JOB CHANGE (such as nursing being able to change floors).		
On-call responsibilities and duties		
THAT IT IS A VERY MENTALLY TAXING PROFESSION		
VERY LITTLE ROOM FOR GROWTH FROM RADIATION THERAPIST POSITION		
ADMINISTRATIVE BUREAUCRACY HAS TOO MUCH PULL ON ???? PATIENT'S ISSUES AND ON HOW THEY ARE HANDLED		
THE PHYSICAL DEMAND ON YOUR BODY		
THAT THE ABILITY TO WORK IN ALL AREAS OF THE FIELD WAS LIMITED.		
That after 25 yrs & going back to get a bachelor’s degree my salary is just about equivalent to a new grad salary		
THE STRESS CAN BE OVERWHELMING WHEN YOU HAVE BECOME ATTACHED TO PATIENTS		
THE AMOUNT OF TIME ON ONE'S FEET AND THE MANUAL LABOR INVOLVED WITH MOVING PTS AROUND ESPECIALLY WHEN THEY ARE LARGE AND DEAD WEIGHT		
THE PHYSICAL JOB PERFORMANCE ON A PERSONS BODY - VERY PHYSICALLY CHALLENGING JOB		
HOW QUICK THE BURNOUT		
THAT YOU ARE ON CALL ON THE WEEKENDS & THERE ARE A LOT OF TREAT OFFERS ESPECIALLY ON FRIDAYS		
HOW HARD IT IS ON YOUR BODY 20 YEARS LATER		
HOURS ARE LONG - UNBENDING ON A DAILY BASIS, NO SET SHIFT WHICH IS HARD TO PLAN PERSONAL NEEDS		

PAY SCALE - NOT ENOUGH FOR AMT OF WORK		
THAT I WOULD BE EXPECTED TO WORK ODD & VARIABLE SHIFTS & SPEND MOST OF MY SHIFT WORKING ALONE		
LOTS OF OVERTIME IS REQUIRED		
EMPHASIS ON VOLUME OF PATIENTS		
IT'S A VERY PHYSICAL JOB		
The limited growth that a therapist has in a large department.		
I DID NOT KNOW ABOUT CALL SCHEDULE		
HIGH STRESS LEVEL AT TIMES		
STRESS OF BURNOUT		
PROBLEM WITH UNDERSTAFFING; HIGH LEVEL OF 'BURN OUT'		
HOW MUCH RESPONSIBILITY FOR HOW LITTLE PAY		
HIGH DEMAND		
ASSEMBLY LINE MEDICINE FOR THE THERAPIST LEFT ON TREATMENT MACHINE WITHOUT OTHER THERAPY OPPORTUNITIES		
THAT IT IS VERY HARD TO GET A MANAGEMENT POSITION OR GET PROMOTIONS		
I WISH I WOULD HAVE UNDERSTOOD THE PHYSICAL & EMOTIONAL STRESS OF THE JOB. ALSO I WISH I KNEW THE EXTRA HOURS EACH DAY I WOULD PUT IN		
THE PAY IS NOT REFLECTIVE OF THE DEGREE OF DIFFICULTY AND COMPLEXITY OF OUR JOB SKILL. MAILMEN MAKE THE SAME WAGES WE DO AND WE HAVE A PERSONS LIFE AT STAKE.		
I WISH I WOULD HAVE KNOWN THAT HAVING 2 THERAPISTS PER MACHINE DOESN'T HAPPEN VERY OFTEN IN THE "REAL WORLD"		
HOW EMOTIONALLY DEMANDING IT CAN BE		
HOW PHYSICAL AND MENTAL IT CAN BE		
THE LACK OF CONSISTENT ANNUAL RAISES, THE UNPREDICTABLE HOURS OF WORK		
THE PRESSURE OF WORKING ON SCHEDULE MY SELF		
THE TIME BETWEEN PATIENTS DOES NOT ALLOW ENOUGH TIME FOR THOROUGH PATIENT CARE		
HOW PHYSICAL THE JOB IS		
HAVE TO TAKE "CALL"		
THE STRESS OF UNPREDICATABLE HOURS THAT ARE INCLUDED IN RAD THERAPY		
HOW EVERYTHING WE DO IS SO UNDERAPPRECIATED BY THE OTHER STAFF		
It's a money maker bottom line		
THE LONGER YOU STAY IN THE FIELD THE LESS MONEY YOU MAKE		
MAINTAINING STRESS LEVELS		
That it's a dead-end job unless you're willing to relocate in a small urban city.		
THE PHYSICAL DEMAND OF THERAPY		
THE AMOUNT OF PHYSICAL LABOR REQUIRED		
DEAD END CAREER		
THE LONGER YOU STAY IN TEH PROFESSION THE LESS MONEY YOU MAKE. NEW GRADS ARE VERY CLOSE TO WHAT I AM MAKING DUE TO SUPPLY AND DEMAND		
THE PHYSICAL DEMANDS THAT THIS JOB CAN MAKE ON YOUR PHYSICAL HEALTH		
HOW STRESSFUL IT IS AT TIMES TO MEET A 10-15 MINUTE TIME SLOT FOR PTS AND MAINTAIN PROFESSIONAL AND ACCURATE WORK ETHICS		
THAT THIS JOB CAN BE VERY OVERWHELMING & STRESSFUL		
I WOULD LIKE TO HAVE BEEN TOLD HOW STRESSFUL THE JOB IS		
HOW FAST FIELD WAS CHANGING THE BIG SHORTAGE THAN WOULD COME		
THE PHYSICAL DEMANDS		
THE STRESS LEVEL		
DEATH & DYING		
THE EMOTIONAL DRAIN IT CAN HAVE		
That it is a very fast and stressful job as far as all of the very important patient care procedures that are to be performed at perfection.		
HOW ADMINISTRATORS DON'T HAVE A CLUE ABOUT WHAT YOU DO BUT MAKE CRITICAL DECISIONS ABOUT YOUR WORK ENVIRONMENT		
INCREASED STRESS LEVEL		
THAT IT IS A VERY STRESSFUL JOB W/A LOT OF RESPONSIBILITY TOO!		

BURN OUT. THE SWING BETWEEN OVERSATURATION OF MARKET AND SHORTAGE THAT SEEMS TO BE INEVITABLE		
LACK OF ROOM FOR ADVANCEMENT		
AMOUNT OF STRESS FOR LEAD THERAPIST		
THE STRESS & BURNOUT INVOLVED		
INFLUENCE OF THE INSURANCE CARRIERS		
HOW PHYSICALLY & MENTALLY EXHAUSTING IT IS		
Can be very physical!		
REPETITION		
STRESS LEVEL!		
HOW PHYSICALLY DEMANDING THE JOB IS		
NONE OF THE BUSINESS END OF IT IE DOCTORS GROUPS MAY BE DIF - EMPLOYEES; REIMBURSEMENT STUGGLES INSURANCE CAPITATION, BUDGET ISSUES		
HOW LIMITED JOB ADVANCEMENT IS & ALSO HOW LIMITED TUITION REIMBURSEMENT IS		
LIMITED JOB GROWTH, LACK OF ADVANCEMENT HIGH STRESS LEVEL		
THAT YOUR workday is often open-ended. No control of your work hours. Can't make outside commitments.		
BURN OUT RATE		
HOW MUCH HARD WORK YOU DID WITH LITTLE RESPECT OR PAY IN THE EARLY DAYS		
HOW THE PAY DOESN'T EQUAL THE HARD WORK PUT IN		
HOW OTHER RELATED DEPARTMENTS, SUCH AS CHEMOTHERAPY, TRY TO REGULATE THE DAILY SCHEDULE BY THEIR OWN STANDARDS INSTEAD OF ASKING THE THERAPIST(S) WHEN THE BEST TIMES FOR TREATMENT ARE		
DISRESPECT FROM NURSES		
THE AMOUNT OF PHYSICAL (LIFTING) ACTIVITY INVOLVED		
THE STRESS RELATED TO THE PROFESSION		
HOW EASY IT IS TO GET BURNED OUT. WITH BUDGET CUTS, ETC. I AM EXPECTED TO MULTITASK IN AREAS OTHER THAN JUST THERAPY. IT MAKES MY JOB HARDER TO ENJOY.		
HOW PHYSICALLY DEMANDING IT IS		
POSSIBILITY OF ON-THE-JOB INJURIES		
HOW HARD PHYSICALLY THE JOB WAS.		
STRESS FACTORS - ESPECIALLY IN HAVING TO ARRANGE PT TREATMENT APPOINTMENTS, ON SCHEDULES OF 50 PTS/DAY WHEN PTS ONLY WANT CERTAIN TIMES OF DAY		
THE EMOTIONAL TOLL AND JUST PLAIN PHYSICAL DEMANDS		
HARD TO GET MUCH FLEXIBILITY IN AN ADEQUATELY STAFFED DEPARTMENT AS FAR AS TIME OFF GOES WITHOUT LEAVING OTHERS SHORT		
ADMINISTRATION IS DEFINITELY NOT WHAT IT'S CRACKED UP TO BE		
HOW VERY HARD YOU CAN WORK AND THE HOURS CAN SOMETIMES BE VERY LONG		
How tiring a day can be, even at 23 years of age (in very busy clinics, which is most).		
OPPORTUNITIES (OR LACK OF) FOR ADVANCEMENT WITHIN PROFESSION		
THE REPETITIVE NATURE OF THE WORK ONLY A FEW AREAS TO ADVANCE IN YOUR CAREER (EDUCATION, MANAGEMENT OR DOSIMETRY)		
LEVEL OF STRESS		
VERY PHYSICAL		
THE "BETTER" SALARY ISN'T FOR THE THERAPIST WHEN IN FACT THE THERAPIST DOES THE MAJOR PART OF THE WORK AND OTHERS (DOCTORS, NURSES, ETC.) GET THE MONEY AND THE RESPECT.		
HOW MENTALLY/EMOTIONALLY DRAINING IT IS WORKING WITH ILL PEOPLE ALL THE TIME		
DIFFICULTY IN ADVANCEMENT, PHYSICALITY OF JOB (THOUGH HAS DIMINISHED WITH MLC) AND BOREDOM AND REPETITION OF JOB		
LABOR INTENSIVE		
HOW STRESSFUL IT CAN BE AT TIMES		
THE LONG HOURS		
I WOULD HAVE LIKED TO KNOW WHAT A HUGE IMPACT IT WOULD MAKE ON MY LIFE! THAT JUMP UP EVERY 10 MINUTES AND START A NEW PROJECT ON WEEKENDS!		

POOR ERGONOMICS FOR LONG TERM, NO CONSIDERATION IN DESIGN OF WORK AREAS THAT ACCOMODATE REPETITIVE MOVEMENTS, OFTEN LONG WORK HRS, LUNCH IS WORKED PTS RUN THROUGH LIKE CATTLE LONG WORK DAYS ARE EXPECTED, W/NO CONSIDERATION OF BURN OUT		
HOW STRESSFUL A JOB THERAPY IS COMPARED TO WHAT I THOUGHT THE THERAPIST IS MORE OF A NURSE, DIETICIAN, AND COUNSELOR ALL WRAPPED INTO ONE		
VERY PHYSICAL WORK -- CAN BE VERY STRESSFUL, DEPENDING ON PATIENT LOAD, COWORKERS, ETC.		
That so much of the job is repetitive.		
STRESS LEVELS		
HOW LIMITED THE CARRIES IS, HOW OFTEN YOU WORK		
THAT I WOULD NEVER HAVE A CHANCE TO GET EDUCATION TO FURTHER MY INTERESTS WITHOUT HAVING TO QUIT MY JOB AND GO BACK TO SCHOOL AND START ALL OVER AGAIN. THAT MY BODY WOULD BE A PHYSICAL WRECK BY THE AGE OF 45		
NOT KNOWING WHEN YOU ARE GOING TO GO HOME FOR THE DAY		
HOW BUSY AND STRESSFUL SOME PLACES CAN BE AND THE PRESSURES AND RESPONSIBILITIES PUT ON A PERSON AT AN UNDER-STAFFED FACILITY		
HOW STRESSFUL & TIRED EACH DAY IS & I FELL WAYS TO AFFECT CHANGE IN MANAGEMENT DECISIONS		
1. THE PHYSICAL DEMANDS OF THE TYPICAL THERAPIST 2. THE LACK OF RESPECT FROM DOSIMETRY AND PHYSICS TOWARDS THE THERAPIST		
Negative Working Conditions, Specific Procedure		
	2	0.29%
More simulation, that can be a very physically demanding job if the facility has out of date equipment		
I would have liked to have more simulation experience. I would also like to have known how physical the job is.		
Negative Working Conditions, Positive Working Conditions		
	6	0.86%
HOW MUCH MENTAL, PHYSICAL & EMOTIONAL STRENGTH YOU MUST HAVE TO HELP THESE PATIENTS.		
I BEGAN MY ADVENTURE IN Rad Tech W/THE HOPE OF GOING ON TO RTT. I LOVE MY JOB BECAUSE YOU ARE ABLE TO HELP SO MANY PEOPLE. I ALSO HATE MY CAREER BECAUSE I AM AT A DEAD END FACILITY BUT AM UNABLE TO move on due to I am a single parent and cannot work in a facility with call time.		
THAT EVEN THOUGH THERE USUALLY IS PLENTY OF JOB AVAILABILITY, THERE ARE NOT MANY ROUTES TO MOVE UP		
RTT IS A VERY DEMANDING SELF SACRIFICING PROFESSION. IT TAKES A VERY UNIQUE PERSON TO UNDERSTAND & TREAT THIS TYPE OF "CLIENT"; IT IS VERY CHALLENGING, BUT ALSO VERY REWARDING PERSONALLY		
LONG HOURS AND LEARNING NEW TECHNOLOGY EVERYDAY. THE FACILITY WHERE I WORK IS EXTREMELY BUSY AND HAS A "UNIVERSITY" SETTING. WE LEARN SOMETHING NEW EVERYDAY AND OUR PT LOAD IS VERY HIGH.		
ITS EXTREMELY DEMANDING BOTH PHYSICALLY & MENTALLY IT IS ALSO VERY FULFILLING		
Negative Working Conditions, Interpersonal Relations		
	49	7.03%
INTERDEPARTMENT POLITICS		
LACK OF CONCERN MANY THERAPISTS HAVE TOWARD PATIENTS		
THE LACK OF RESPECT YOU RECEIVE FROM ADMINISTRATORS & PHYSICIANS		
That therapists are not given the respect due them by upper staff.		
HOW CRUEL SOME THERAPISTS CAN REALLY BE TO OUTSIDE "NEW" THERAPISTS, MORE SO THAN THEY ARE TO STUDENTS, AND HOW REALLY "BURNT OUT" SOME ARE		
LACK OF STAFFING/SUPPORT FROM OTHER STAFF		
THERE IS A LOT OF STRESS TO PUSH PATIENTS THROUGH - TOO MUCH OF AN "ASSEMBLY LINE" MENTALITY. NOT MUCH SUPPORT FROM THE MD'S FOR THE THERAPISTS		

THAT IT IS DIFFICULT AT TIMES TO CARE FOR DYING PATIENTS		
THAT THERAPISTS WOULD GET SO LITTLE RESPECT FROM NURSES WHO HAVE A SMALL AMOUNT OF UNDERSTANDING OF THE JOB		
EMOTIONAL INVESTMENT IN PATIENTS QUALIFY OF LIFE		
JUST HOW CRAPPY SOME ADMINISTRATORS CAN BE		
POLITICS AND BUREAUCRACY INVOLVED		
THE MENTAL DIFFICULTIES. I FEEL THERE ARE A LOT OF MENTAL ISSUES THAT WEIGH ON THERAPISTS. YOU GET SO INVOLVED WITH YOUR PATIENTS & WHEN THEIR HEALTH GOES DOWN INSTEAD OF UP IT HURTS! SOMETIMES IT FEELS PERSONAL		
IN THIS HOSP SETTING, RNS ARE VIEWED SUPERIOR OVER RTT'S, EVEN WHILE SOME THERAPISTS HAVE FURTHERED THEIR EDUCATION & ALSO HOLD BS & MASTER LEVEL DEGREES.		
THERE REALLY IS NOT A LOT OF RESPECT OUT THERE FROM ONCOLOGISTS AND THEIR SUPPORTING NURSING STAFF FOR THE EDUCATION AND SUBSEQUENT TECHNICAL RESPONSIBILITY THAT THERAPISTS PROVIDE FOR THEIR PATIENTS		
NOT GETTING RESPECT FROM DOCTOR		
HOW THERE WOULD BE INSUFFICIENT TIME TO TX PTS W/THE DIGNITY THEY DESERVE AS HUMAN BEING (ALSO MUCH LIKE ASSEMBLY LINE WORK)		
TOO MUCH RESPONSIBILITY (MAKING SURE ALL OTHER EMPLOYEES WORK IS COMPLETE - IF THEY DIDN'T DO IT, WE HAVE TO) NOT ENOUGH PAY		
HAVE TO HANDLE DIFFICULT PATIENTS ESPECIALLY WHILE TREATING		
THAT YOU WOULD GET NO RESPECT FROM MDS, SUPERVISORS, MANAGERS, ETC.		
ADMINISTRATION/MANAGER RESPONSIBLE FOR THE DEPT DO NOT KNOW ABOUT DAY TO DAY FUNCTION AND RELATIONSHIPS TO PATIENTS		
Get very attached to pts, can be emotional		
WOMEN IN THE WORKPLACE CAN BE VICIOUS		
THE SMALL AMOUNT OF RESPECT YOU GET FROM THE DOCTORS		
HOW DIFFICULT IT IS TO WORK WITH WOMEN IN THE SMALL RADIATION ONCOLOGY DEPT. SOME ARE SUCH TALENTED MANIPULATORS, ONE LOSES MOTIVATION		
THE EMOTIONAL PART - PTS DYING YOUNG		
HOW COMPLICATED THE JOB WAS GOING TO GET HOW DIFFICULT SOME PHYSICIANS COULD BE TO WORK WITH		
ALL THE POLITICS INVOLVED IN HEALTH CARE AND HOW GREEDY DOCTORS ARE		
DEALING W DEATH/DYING		
LACK OF PROFESSIONAL RESPECT BY DOCTORS AND OTHER DEPARTMENT EMPLOYEES. OVERTIME, ALTHOUGH CALLED VOLUNTARY, IS ALMOST ALWAYS MADATORY. CAN'T LEAVE UNTIL SCHEDULE IS FINISHED. LACK OF STAFFING.		
THE POLITICS INVOLVED W/PHYSICIANS AND HOSPITALS - DEPARTMENTS WOULD BE A PHYSICAL - HARD LABOR JOB W/MORE DUTIES AND RESPONSIBILITIES ABOVE & BEYOND THERAPIST'S ROLE		
LACK OF RESPECT		
HOW LITTLE RESPECT THERAPISTS GET - EXPECTANCY FROM DOSIMETRIST		
ON - CALL OVER WEEKENDS. HOW HARD IT WAS TO DEAL WITH A DYING PATIENT & THEIR FAMILIES		
I WOULD HAVE LIKED TO KNOW MORE ABOUT BURNOUT AND THE NEGATIVE EFFECTS THAT THESE THERAPISTS HAVE ON PTS AND COWORKERS.		
HOW TO DEAL W/EMOTIONAL ASPECT OF THE JOB. HOW TO DEAL W/WHAT IT IS LIKE TO SEE PEOPLE DIE EVERYDAY		
I WOULD LIKE PROSPECTIVE STUDENTS TO UNDERSTAND THAT IT IS A VERY		

PHYSICALLY AND MENTALLY DEMANDING JOB, & THAT THEY WILL NOT BE RESPECTED BY THE PHYSICIANS THEY WORK WITH IN MOST CASES		
HOW LITTLE RESPECT THERAPISTS RECEIVE FROM PHYSICIANS AND PHYSICISTS. IT IS SHOCKING		
POLITICS		
THE POLITICS WITHIN A GIVEN DEPARTMENT, (EG DOSIMETRY, THERAPISTS PHYSICS, NURSING)		
THE EMOTIONAL/PSYCHOLOGICAL IMPACT OF TREATING VERY ILL PATIENTS ON A DAILY BASIS		
How slammed we are most of the time		
IT ISN'T ALWAYS THE JOB THAT CAN CAUSE DISSATISFACTION BUT THE PEOPLE YOU WORK WITH		
HOW POORLY WE ARE TREATED -- I WOULD HAVE RETURNED TO SCHOOL FOR SOMETHING ELSE		
WHAT IS ACCEPTABLE BEHAVIOR FROM A SUPERVISOR FROM HOSPITALS ADMINISTRATION STANDPOINT? A LOT OF MY SUPERVISORS BEHAVIOR TOWARDD COWORKERS WAS ABRUPT AND UNPREDICTABLE - ALSO MONEY MAKING FOR THE DOCTOR PROVED MORE IMPORTANT THAN THE BEST INTEREST OF PATIENTS		
THE LEVEL OF DISSATISFACTION THE THERAPISTS HAVE W/THEIR JOBS & WORKPLACE. ADMINISTRATION IN PARTICULAR. ALSO LACK OF RESPECT FOR THEIR POSITIONS AS PROFESSIONALS		
HOW PHYSICAL THE JOB IS REQUIRING SO MUCH FROM THE THERAPIST. YOU ARE DEALING WITH FRAIL PTS WHO NEED A LOT OF ATTENTION		
RADIATION THERAPISTS DO NOT GET THE RESPECT THEY DESERVE. SOMETIMES I FEEL LIKE A BUTTON PUSHER.		
THAT YOU'RE A BUTTON PUSHER AND THAT THE PHYSICIANS ARE UNREALISTIC IN THEIR GOALS OF TX FOR MANY PTS		
Negative Working Conditions, Interpersonal Relations, General Approach to Profession		
	1	0.14%
THERAPISTS SEEM TO BE JUST OUT FOR MONEY & LESS PT CARE. IF YOU TAKE TIME W/PT OTHERS SEEM UPSET. SUPERVISION IS BAD IN MOST PLACES		
Negative Working Conditions, General Approach to Profession, Comment On Profession		
	1	0.14%
Learn to keep your personal life out of your workplace, never be too trusting with your coworkers and management is out for the bottom figure: "Pay you less, work you to death".		
General Knowledge/Skill		
	69	9.90%
I CAN'T THINK OF ANYTHING -- BESIDES SALARY LEVELS. ACTUALLY, I WAS JUST GRADUATING AS CT SIMULATIONS WERE COMING INTO PRACTICES -- WOULD LIKE TO HAVE EXPERIENCED THAT.		
CAREER OPPURTINUTIES WITH EDUCATIONAL REQUIREMENTS AND SALARY RANGES		
OTHER POSITIONS IN THE RADIATION THERAPY DEPT.-DOSIMETRIST;PHYSICIST;NURSE		
TREATMENT PLANNING		
JUST ABOUT EVERYTHING		
A BETTER UNDERSTANDING OF TREATMENT PLANNING		
MORE PHYSICS		
THAT DELIVERING THE RADIATION IS ONLY 10% OF THE JOB - MANAGING SCHEDULES, TIME MANAGEMENT OF PTS & EQUIPMENT TAKES MUCH MORE TIME & PATIENCE		
MANY TIMES PTS ARE BEING TREATED MORE FOR THEIR MENTAL WELL BEING THAN THEIR PHYSICAL		
I WOULD LIKE TO HAVE KNOWN ABOUT MEDICAL PHYSICST'S JOB DESCRIPTION I WOULD LIKE TO PURSUE THAT PROFESSION NEXT		
THAT ARE MANY DIFFERENT WAYS TO DO THINGS		
That every institution performs procedures differently, and that doesn't mean the "other guy" is doing it wrong.		
THE DEGREE OF RESPONSIBILITY IN SMALL DEPARTMENTS		
KNOWLEDGE OF DOING COMPLETE CLINICAL SETUPS W/DR DATA ENTRY TRAINING		
OTHER AREAS SUCH AS DOSIMETRY AND MEDICAL PHYSICS.		

ONCE NEW TECHNOLOGY CHANGED SO MUCH FROM SCHOOL NEED A LOT MORE COMPUTER SKILLS		
THERE ARE MANY DIFFERENT WAYS TO DO THINGS		
INTERPERSONAL SKILLS OF ONCOLOGY TEAM MEMBERS		
MORE ABOUT CAREER OPPORTUNITIES - OUTSIDE, INSIDE CANADA, LOCUMS, TEMPS, ETC.		
MORE PHYSICS		
JUST THE THINGS EXPERIENCE GIVES YOU		
I WOULD HAVE LIKE TO HAVE HAD MORE HANDS-ON TRAINING IN HELPING THE DOCTOR WITH IV'S & CONTRAST & OTHER THINGS LIKE THAT -- I WORKED IN A PRIVATE CLINIC FOR 7 YEARS AND HAD A LOT MORE FUNCTIONS THAN JUST A THERAPIST.		
OTHER AVAILABLE OPPORTUNITIES FOR FURTHER CAREER DEVELOPMENT		
STRESS LEVEL PREPARATION		
MORE ABOUT DEPARTMENT ADMINISTRATION AND WHAT IS INVOLVED WITH DEPARTMENT ADMINISTRATION		
HONESTLY HOW SUCCESSFUL THE TXS WERE HOW MUCH DID RAD TX REALLY WELL		
THERE'S MORE THAN 1 WAY TO DO THE SAME THING		
I WISH I HAD KNOWN THAT THERE CAN BE MORE THAN ONE WAY TO TX PTS - I THOUGHT THAT EVERY THERAPY DEPT WOULD TX PTS LIKE THE CLINIC WHERE I TRAINED		
IT WOULD BE NICE TO SEE HOW COMPANIES (HOSPITALS/CLINICS) RATE OVERALL IN FORMER EMPLOYEE SATISFACTION, TURN-OVER RATE, # YEARS THEIR HEALTH INSURANCE COST TO EMPLOYEES HAVE GONE UP, ETC.		
MORE ABOUT THE SIDE EFFECTS AND WHAT CAN BE DONE FOR THEM		
TO BE BETTER PREPARED TO HANDLE STRESSFUL SITUATIONS WITH PATIENTS WHO ARE ANGRY THAT THEY HAVE CANCER		
HOW TO BETTER HANDLE EMERGENCY SITUATIONS		
DETAILS PRECISE DETAILS		
JOB DESCRIPTION		
COMPUTER PLANNING		
I WOULD HAVE LIKED TO HAVE WORKED WITH SEVERAL OTHER TYPES OF EQUIPMENT (FOR COMPARISON) BESIDES VARIAN.		
SIZE OF MACHINES		
ALL THE OTHER RESPONSIBILITES REQUIRED, BESIDES JUST TREATING & SIMULATION I.E. SCHEDULING TRANSPORTATION COORDINATION - TOO MUCH SECRETARIAL TYPE WORK		
HOW CRUCIAL THE DAILY PHYSICS WOULD BE IE) DAILY TX DOSES, PRESCTIPTIONS, FX		
MORE BEHIND THE SCENES INFORMATION SUCH AS PHYSICIAN INVOLVEMENT, PAPERWORK, ETC.		
I WOULD HAVE PREFERRED STRONGER EMPHASES ON DOSIMETRIC PRINCIPLES/ FUNDAMENTALS I.E. THE SOUND ABILITY OF DOING HAND CALCULATIONS		
I WOULD LIKE TO HAVE MORE KNOWLEDGE OF PHYSICS, AND THE CHEMOTHERAPY AGENTS, THAT ARE COMMON IN TREATMENT		
YOUR PRIVATE PRACTICE GREATLY DIFFERS FROM AN EDUCATIONAL TEACHING HOSPITAL.		
HISTORY OF TREATMENTS; OLD TECHNIQUES		
IT ONLY TREATS CANCER PTS		
MORE ABOUT PHYSICS		
FUTURE OF THERAPY		
NOTHING BUT THE KNOWLEDGE OF HOW MUCH FLEX TIME ACTUALLY OCCURRED WOULD HAVE BEEN NICE		
MORE INFO TRAINING ON TREATMENT PLANNING/DOSIMETRY		

RAPID CHANGE		
THE TYPE OF ADVANCES THAT HAVE TAKEN PLACE TECHNOLOGICALLY		
MORE COMPUTER EDUCATION		
MORE ABOUT THE DIFFERENT DISEASES, A BETTER UNDERSTANDING OF PHYSICS AND DOSIMETRY		
I DON'T JUST TREAT PTS MUCH COORDINATING BETWEEN PHYSICIANS, PHYSICS, DOSIMETRY, NURSING, ANCILLARY SERVICES, ETC		
MORE THEORY		
THAT EACH CITY HAD ONLY A LIMITED NUMBER OF RADIATION THERAPISTS. JOBS WERE NOT PLENTIFUL WHEN I GRADUATED. I WOULD HAVE LIKED TO KNOW MORE RETIREMENT. I BELIEVE RETIREMENT BENEFITS SHOULD INCLUDE INSURANCE BENEFITS POST RETIREMENT		
BETTER PREPARED WHEN CALLED IN ON WEEKENDS		
BEING EXPOSED TO SOME KNOWLEDGE OF THE CT PLANNING SYSTEM		
TBIS HOW TO USE DIFFERENT BRANDS OF THE MACHINES, HOW TO DO A WIDE VARIETY OF TXS. HOW TO USE A WIDE VARIETY OF RECORD & VERIFY SOFTWARE PROGRAMS		
I WOULD HAVE WANTED TO KNOW AN OVERVIEW ON SURVIVAL OF PTS FROM THE START. AS WE LEARNED THE DIFFERENT TYPES & TREATMENTS THAT'S WHEN I FOUND OUT (SEPARATELY).		
Movement from starting to advancing in this particular career		
WORK ENVIRONMENT & TRUE NATURE OF MANAGEMENT PRACTICE IN TERMS OF YEARLY RAISES.... MANAGER SAYS ONE THING, SUPERVISOR DOES ANOTHER		
DIFFERENT STYLES OF SET UPS.		
HOW MUCH OF THE JOB INVOLVED CREATIVE SCHEDULING		
MORE ON DEGREES OF STRESS LEVELS WORKING IN HIGH PACED DEPTS		
THE IMPORTANCE OF THE QUALITY OF EQUIPMENT OUT THERE		
COMPUTER SKILLS		
More hands on experience. More basics before I went into clinic.		
I WOULD LIKE MORE CONFIDENCE --> I WISH I WOULD HAVE BEEN PUSHED MORE TO FEEL INDEPENDENT		
General Knowledge/Skill, Specific Procedure		
	15	2.15%
A BETTER UNDERSTANDING OF DOSIMETRY AND SIMULATION		
MORE SIMULATION EXPERIENCE AND TREATMENT PLANNING EXPERIENCE		
HOW TO HANDLE PATIENTS TECHNICAL QUESTIONS BETTER, REFERRAL CHAIN FOR PROBLEMS (PATIENT PROBLEMS). WHAT TO DO WHEN PT SEEMS TO BE GETTING WORSE, ETC... ALSO, BETTER BACKGROUND ON DIFFICULT TECHNICAL SETUPS		
HOW TO DO SIMULATIONS TO NEED LESS WORK IN THE TX ROOM AND WHY		
COMPUTERIZED INNOVATION RE: TROUBLESHOOTING THE MLC MULTILEAF COLLIMATORS		
MORE DOSIMETRY INFORMATION AND SKILLS, PHYSICS		
I WOULD LIKE TO HAVE SPENT MORE TIME IN TREATMENT PLANNING. I FEEL I DID NOT LEARN ADEQUATE DOSIMETRY AND HAND CALCS, GAP CALCS, DOSE DISTRIBUTIONS, ETC.		
UNDERSTANDING THE BUSINESS ASPECT OF ROR ROI & BILLING INTERESTS		
CHEMO DRUGS - MORE ABOUT THEM, IVS, HOW TO MONITOR OR CHANGE THEM. ANY TREATMENT CONSIDERATIONS, MEDICATIONS, X-RAY TECHNIQUES, HDR & BRACHYTHERAPY, MORE SIM EXPERIENCE		
MORE INFO ABOUT HOW THE JOB HAS EVOLVED THROUGH THE YEARS; BETTER SIMULATION PROCEDURES		
1. LOOKING AT PT FILMS, KNOWING WHAT TO LOOK FOR 2 SIMULATIONS		
HAVE MORE SIMULATION AND CONTRAST; ADMINISTRATIVE KNOWLEDGE		
AS FAR AS EDUCATION GOES, I WOULD HAVE LIKED TO HAD MORE EXPERIENCE IN DOSIMETRY AND CAT SCAN		
BETTER OR MORE VERSATILE WAYS OF TREATING PTS --		

CONVENTIONAL VS IMRT -- THEORY BEHIND IT		
WHAT I WOULD HAVE LIKE TO HAVE KNOWN IS HOW TO COMPENSATE FOR PROBLEM SETUPS IE BREAST SETUP		
General Knowledge/Skill, Negative Working Conditions		
340	5	0.72%
HIGH BURN-OUT RATE AND HOW TO DEAL WITH IT	5	0.72%
ALL THE POSSIBLE INJURIES AND WAYS TO AVOID THEM		
WHY PEOPLE ABANDON THIS JOB AFTER A SHORT WHILE; IT IS DIFFICULT TO GET DOSIMETRY CROSS TRAINING		
How to prevent/handle burnout		
HOW TO PROTECT MY BODY FROM WORK RELATED INJURIES AND HOW TO MANAGE STRESS AND HOW TO COMMUNICATE BETTER WITH VARIOUS ETHNIC MINORITIES		
General Knowledge/Skill, Negative Working Conditions, Interpersonal Relations		
	1	0.14%
Better understanding of treatment setups -- more hands on at clinical sites (less of film developing, laundry duties, etc.) and how some Drs are very rude.		
General Knowledge/Skill, Interpersonal Relations		
	29	4.16%
MORE ON HOW TO SURVIVE WITH DIFFICULT COWORKERS Drs are very rude.		
The psychology of the terminally ill pt. How to relate with		
HOW TO DEAL W/DIFFICULT PEOPLE ??? W/PTS		
I think there is so much more now with computers, CT, IMRT that wasn't around		
MORE FOCUS ON COMPASSION FOR THIS FIELD'S PATIENT CLIENTELE. IN THEIR BATTLE AGAINST CANCER, WE MUST BE PREPARED TO GIVE THEM		
MORE PEOPLE SKILL THAN TAUGHT IN SCHOOL		
BETTER PREPARED EMOTIONALLY (CHILDREN)		
THE CHALLENGE OF OLD VS. NEW TECHS & HOW TO DEAL W/THIS ISSUE		
THE AMOUNT OF TIME & SKILL UTILIZED TO HANDLE		
THAT IT TAKES A LOT OF SOCIAL WORK SKILLS TO BE A GOOD THERAPIST.		
THE AMOUNT OF STAFF AND OTHER RADIATION THERAPISTS I'D BE WORKING WITH		
MORE TRAINING ON HOW TO HANDLE PATIENTS AND PATIENTS'		
THE EMOTIONAL ASPECTS OF DEATH AND DYING		
MORE PT TECH RELATIONSHIP - HOW DO YOU HELP PT THRU THE ROUGH TIMES		
MORE INFO/EDUCATION ABOUT DEALING WITH PATIENTS - MORE		
PATIENT AND STAFF COMMUNICATIONS SKILLS		
MORE OF THE PSYCHOLOGY OF THE PATIENT AND THE PATIENT'S FAMILY		
SALARY, DIDACTIC RELATIONSHIPS WITHIN DEPT		
I WOULD LIKE TO HAVE HAD MORE TRAINING IN DEALING WITH THE PSYCHOLOGICAL NEEDS OF CANCER PTS		
More of the psychological aspect in dealing with the patient and patient families.		
THE DYNAMICS OF WORKING RELATIONSHIPS BETWEEN		
MORE ABOUT THE EMOTIONAL/PSYCHOLOGICAL CONDITIONS		
PATIENT, PHYSICIAN AND COWORKER'S BEHAVIOR FACTOR WHICH AFFECT		
HOW TO COMMUNICATE W/THE PTS BETTER ABOUT THEIR DISEASE & THEIR FUTURE		
MORE PERSONAL PEOPLE SKILLS. AN UNDERSTANDING OF HOW		
MORE TRAINING ON PT RELATIONSHIP		
HOW TO HANDLE THENONSENSE OF INTRA-PERSONNEL POLITICS.		
I HAD TO LEARN TO ASK FOR HELP FROM OTHERS		
Side effect management/care. Psychosocial issues.		
General Knowledge/Skill, Specific Procedure, Interpersonal Relations		
	2	0.29%
LIFTING REQUIREMENTS, SIMULATION PRACTICES, HOSPITAL POLITICS		
PSYCHOLOGY OF DEALING WITH PATIENTS WITH TERMINAL DISEASE. KNOWLEDGE OF SOME NURSING PROCEDURES.		

Negative working condition, Interpersonal Relations, General Knowledge/Skill		
	2	0.29%
PEOPLE DIFFERENCES FROM RT(R) TO RT(T) THERAPY IS A VERY STRANGE FIELD. PEOPLE ARE OBSESSIVE IE)"THAT'S MY PATIENT" THERE'S A LOT OF BLAME		
RADIATION THERAPY WASN'T A PROBLEM. HOSTILE COWORKERS WITH NEGATIVE ATTITUDES ARE A CONCERN. HOW TO HANDLE THEM		
General knowledge/skill, General Approach to Profession		
	7	1.00%
NOT ALL FACILITIES' TREATMENTS AND PROCEDURE SETUPS ARE THE SAME. THERE IS MORE THAN ONE WAY TO DELIVER THE TREATMENT		
THINGS SHOULD BE AREN'T ALWAYS THE WAY IT IS		
I WOULD HAVE LIKED TO HAVE KNOWN THAT THERE ARE MANY WAYS TO DO THINGS AND ACHIEVE THE SAME GOAL. YOU NEED TO BE PREPARED TO LEARN A LOT YOUR FIRST YEAR AND ON		
PRIMARILY, THAT THERE ARE DIFFERENT WAYS TO DO THINGS - NOT JUST 1 WAY & ALL ACHIEVE SAME THING		
I WOULD HAVE WANTED TO KNOW THAT THERE ARE A MULTITUDE OF TREATMENT MACHINES, TECHNIQUES, AND PLANNING. IF YOU ARE TRAINED ON VARIAN EQUIPMENT WITH 3-D PLANNING AND SAD TECHNIQUES, YOU ARE NOT PREPARED TO WORK WITH SIEMENS, 2-D PLANNING AND SSD TECHNIQUES. YOU SHOULD TRY TO WORK AT A CENTER THAT DOES SIMILAR WAYS TO WHAT YOU ARE TRAINED.		
HOW THE OTHER TX MODALITIES INTEGRATE & HOW OTHER MED STAFF VIEW RADIATION IE IS IT A VIABLE MODALITY & OPPORTUNITIES FOR GROWTH & CE EG MASTERS, PHD, ETC		
THE AMOUNT OF TEAMWORK NECESSARY AMOUNG ENTIRE STAFF AND IMPORTANCE OF COMMUNICATION		
General Knowledge/Skill, Negative Working Conditions, Comment on Profession		
	1	0.14%
I WOULD HAVE LIKED TO KNOW THAT THE FIELD WOULD ADVANCE SO RAPIDLY, TREATMENTS AND DOSIMETRY TO BECOME SO MUCH MORE ADVANCED, BUT NO MINIMAL CRITERIA FOR STAFFING. WE TREAT THE SAME NUMBER OF PATIENTS BUT TAKE TWICE AS LONG WITH INSUFFICIENT STAFF.		
General Knowledge/Skill, Interpersonal Relations, Comment on Profession		
I WISH SOMEONE WOULD HAVE EXPLAINED HOW ATTACHED YOU MIGHT GET TO YOUR PTS. THIS IS NEVER ADDRESSED IN ANY PROGRAM I KNOW OF.		
HOSPITAL POLITICS - DOING MORE WITH LESS EVERY YEAR		
General Knowledge/Skill, NA		
General Knowledge/Skill, Other		
	1	0.14%
THAT IT WOULD BECOME SO ADVANCED....IMRT IS NOT FOR ME!!!		
Interpersonal Relations		
	4	0.57%
I WOULD LIKE TO KNOW WHO IS KIND AND RESPECTFUL TO PATIENTS AND FELLOW RTT'S. ATTITUDE IS EVERYTHING!		
How better to deal with patients on an emotional level		
HOSPITAL POLITICS		
A COURSE IN WORKING with OTHER THERAPISTS AND THE EXPECTATION AS A NEW STAFF THERAPIST		
General Approach to Profession		
	24	3.44%
THAT THE PREFORMANCE OF YOUR EQUIPMENT AND DOCTORS CAN MAKE A MAJOR IMPACT ON OVERALL JOB SATISFACTION		
I THINK TECHNOLOGISTS ARE AN ESSENTIAL PART OF A TEAM AND SHOULD SPEAK OUT AS TO WHAT		

INVOLVES ALL ASPECTS OF PATIENT CARE (MEDICAL, PHYSICAL, EMOTIONAL, TECHNICAL)		
SPECIALIZING IN DOSIMETRY BEING ABLE TO CONTINUE MY TRAINING THROUGH A DIDACTIC & CLINICAL PROGRAM		
CAN'T THINK OF ANYTHING NOW...OBVIOUSLY TECHNOLOGY CHANGES QUICKLY OVER THE YEARS & WE ALL MUST ADAPT TO CHANGES AS WE GO ALONG...IMRT, ULTRASOUND LOCALIZATIONS, ETC.. FOR EXAMPLE		
THAT SCHOOL IS ONLY HALF THE EDUCATION. YOU LEARN A WHOLE LOT IN YOUR 1ST JOB AS WELL		
MUST BE WILLING TO ADAPT TO CONSTANTLY CHANGING METHODS OF TREATMENTS AND NEW EQUIPMENT		
NEVER TAKE A JOB THAT OFFERS A SIGN-ON BONUS, BECAUSE THERE IS MOST LIKELY SOMETHING WRONG WITH THE DEPARTMENT DYNAMICS.		
DON'T STOP YOUR EDUCATION		
AN ACCURATE IDEA OF THE PAY SCALE		
EVERYONE MAKES MISTAKES! JUST BE CAREFUL, BE AWARE, AND ALWAYS, ALWAYS, ALWAYS HONESTLY ADMIT YOUR MISTAKES AND CORRECT THEM!		
EVERYONE CAN MAKE MISTAKES, JUST BE HONEST AND ADMIT THEM		
HOW TO MAKE INDEPENDENT DECISIONS		
ABOUT CONTINUING EDUCATION		
UPON GRADUATION THE ONLY THING I LACKED WAS EXPERIENCE. I HAD THE KNOWLEDGE, BUT I NEEDED TO WORK TO DEVELOP FINESSE AND PROFESSIONAL JUDGMENT		
NO WEEKENDS; NO NIGHT SHIFTS		
IT'S BEST TO GET ALL EDUCATION DONE BEFORE LANDING A JOB		
JUST THAT YOU HAVE TO BE A DETAIL ORIENTATED PERSON & ORGANIZED		
THAT CHOOSING A GOOD WORK ENVIRONMENT FOR YOURSELF IS MORE IMPORTANT THAN THE MONEY THEY OFFER YOU		
ADVANCEMENT		
I WISH I WOULD HAVE STAYED IN SCHOOL FOR 4 YEARS AND GRADUATED WITH A BACHELORS DEGREE		
CONFIDENCE		
TO BE SUCCESSFUL, YOU NEED TO HAVE YOUR ORGANIZATIONAL SKILLS AND BE ABLE TO MULTITASK		
To realize fully the importance of organization and documentation. Some places were very disorganized when I went there.		
THAT YOU WON'T CARE FOR EVERYONE (MY CONCEPTION WAS TO CURE ALL)		
General Approach to Profession, Negative Working Condition		
	8	1.15%
THAT IN THIS OCCUPATION THE THERAPIST MUST REALLY FIGHT FOR PATIENT CARE ABOVE THE THERAPY ASPECT & YOU ARE ALWAYS THE "CLEAR LEADER" FOR YOUR PATIENTS		
THAT IT GETS TO YOU AFTER TIME AND THAT YOU CAN, SHOULD HAVE TO LET IT GO - CRY - SCREAM - YELL - OR IT WILL EAT YOU UP. IF IT DOESN'T YOU ARE IN THE WRONG PROFESSION		
THAT THERE IS A SHORTAGE OF RTT. SO EITHER MAKE SURE THAT THERE ARE PLENTY OF THERAPISTS IN A FACILITY OR AT MINIMUM BE COMPENSATED VERY WELL FOR THE EXTRA LOAD THAT YOU WILL HAVE TO BEAR		
I had no idea how fast you can burn out. Vacation time is just as important as salary.		
I WISH I REALIZED THAT NOT EVERYWHERE YOU WORK IS GOING TO HAVE REPONSIBLE STAFF THT DO THEIR JOBS...SO BEWARE TO KNOW YOUR DUTIES WELL AND KNOW MORE THAN THAT, KNOW THEIR JOBS TOO! KNOWLEDGE IS POWER.		
HOW HARD WORKING AS AN R.T. IS. PHYSICALLY AND MENTALLY, JOB BURNOUT IS HIGH. TO PREPARE FOR A 2ND CAREER.		
THIS IS A STRESSFUL ENVIRONMENT/JOB. SO BE SURE TO CHOOSE A JOB YOU LIKE DOING INSTEAD OF JUST FOR THE MONEY		

I WOULD HAVE LIKED TO HAVE HEARD FIRST-HAND FROM OTHER THERAPISTS ABOUT HOW THEY FEEL REGARDING BURNOUT, KEEPING EXCITED ABOUT YOUR CAREER, ALSO HOW IT IS TO WORK AMIDST DEPARESSED AND OFTEN DYING PEOPLE DAY IN, DAY OUT.		
General Approach to Profession, Interpersonal Relations		
	7	1.00%
IT TAKES COMPASSION & PATIENCE ALONG WITH ACCURACY		
BE CAREFUL NOT TO GET ATTACHED TO YOUR PATIENTS		
HOW IMPORTANT IT IS TO HAVE COMPASSION AND A PEOPLE PERSONALITY THAT IT TAKES TO BE A GOOD RADIATION THERAPIST		
THAT IT ISN'T WHAT YOU KNOW IT IS WHO YOU KNOW		
DON'T GET TO CLOSE TO YOUR PTS		
IT'S ALL ABOUT THE QUALITY OF CARE TO PATIENT AND RESPECT OF FELLOW THERAPISTS. TEAMWORK IS AN ABSOLUTE MUST!!		
IT IS ALL HUMAN INTERACTION & CARING THAT MAKES A DIFFERENCE		
Comment on Profession		
	71	10.19%
MY FIRST JOB WAS IN THE HOSPITAL IN WHICH I TRAINED, SO I FELT VERY CONFIDENT AND ALSO VERY NURTURED BY THE OTHER STAFF THERAPISTS		
I'D BEEN EMPLOYED IN RADIATION ONCOLOGY DEPT. AS A STUDENT. ALWAYS LIKED THIS DISCIPLINE.		
Nothing. Since I was trained in the hospital setting, you could see what you were in for.		
I feel that I knew everything necessary prior to my first job. I trained at a hospital based program		
I FEEL I WAS VERY PREPARED FOR MY JOB BECUASE I CAME FROM A LARGE PROGRAM & WAS TRAINED IN EVERY AREA		
I DID PLENTY OF RESEARCH BEFORE ENTERING THE FIELD		
I WAS WELL PREPARED AND QUALIFIED. MY PROGRAM WAS ??? THOSE EDUCATING ME WERE PROUD TO GRADUATE KNOWLEDGEABLE HIGH SCORING STUDENTS. IT WAS PERSONAL.		
I TRAINED IN A HOSPITAL BASED PROGRAM & WORKED THERE FOR A YEAR AFTER GRADUATING. SO THERE WEREN'T ANY SITUATIONS I WASN'T PREPARED FOR.		
I DON'T NOTICE ANYTHING IN PARTICULAR, BUT YOU GET THE EXPERIENCE, IN TIME		
I THINK I WAS VERY WELL PREPARED FOR MY FIRST POST CERTIFICATION JOB BY 1 YR CERTIFICATION PROGRAM		
I FELT LIKE I HAD A GOOD UNDERSTANDING OF WHAT IT WAS ALL ABOUT BY GOING THROUGH SCHOOL & TO SO MANY DIFFERENT CLINICS		
I HAD A UNIQUE SITUATION; I WORKED IN THERAPY FOR ABOUT 14 YRS BEFORE I GOT MY CERTIFICATE. I WAS REGISTERED IN X-RAY ONLY BUT WAS ABLE TO DO RAD THERAPY, AS THERE IS NO LICENSURE IN MY STATE		
I CAME IN WITH BOTH FEET RUNNING. I WAS VERY WELL TRAINED, BUT THAT WAS A HOSPITAL BASED PROGRAM & NOT AN ASSOCIATE PROGRAM		
FORGET EVERYTHING ABOUT THE PROCEDURES YOU LEARNED IN SCHOOL BECAUSE EACH FACILITY HAS ITS OWN QUIRKS		
HMOS HAVE CHANGED PT CARE. THE NAME OF THE GAME IS TO TREAT AS MANY PTS AS YOU CAN IN THE SHORTENED PERIOD OF TIME		
THE THING I WISHED I HAD KNOWN WAS THAT I COULD HAVE X-TRAINED INTO DOSIMETRY		
HOW MANY PEOPLE FAIL, THEN COME BACK WITHIN 1 YEAR		
YOU WILL WORK ALONE A LOT		
THAT RELATIVELY UNSKILLED UNPROFESSIONAL SO CALLED THERAPISTS CAN OBTAIN STAFF POSITIONS & PASS THE ARRT EXAM. UNSKILLED MEANING TECHNICAL ASPECTS AS WELL AS HUMAN RELATIONS ASPECTS WHEN DEALING W/CANCER PTS. BEING A RTT IS MORE THAN JUST PASSING ARRT EXAM		
THE BENEFITS OF GOING TO UNIVERSITY PROGRAM VS A CERTIFICATE PROGRAM		
NOT EVERYONE IN THIS FIELD IS CUT OUT TO DO THIS JOB WELL. FORTUNATELY A LOT OF THOSE PEOPLE GO INTO OTHER FIELDS EX: DOSIMETRY OR SOMETHING LESS PATIENT ORIENTED		

I DON'T AGREE WITH R.T.S STAFFING ONCOLOGY DEPARTMENTS WITHOUT SEPARATE TRAINING AND BOARD CERTIFICATION. THE WASHBURN PROGRAM IS REALLY GRADUATING POOR RTTS.		
UNLESS YOU LIVE IN A LARGE CITY JOBS CAN BE SCARCE		
THE POLITICS OF THE MEDICAL FIELD		
THE PUSH FOR A BA DEGREE		
UPON STARTING MY JOB, I HAD NO IDEA THAT THERE WERE WORKING THERAPISTS IN THE RADIATION THERAPY COMMUNITY THAT WERE NOT THERAPY REGISTERED OR EVEN REGISTRY ELIGIBLE.		
WIDE VARIANCE IN WORKING SHIFT TIMES		
How difficult it is to get trained in dosimetry.		
MOST TREATMENTS HAVE BECOME SO COMPLEX THAT VERY LITTLE TIME IS TO SPEAK WITH THE PATIENT. IF A PATIENT HAS A PROBLEM THEY MUST BE REFFERED TO A NURSE TO CLEAR THE TREATMENT MORE QUICKLY		
A LOT		
I STARTED IN RADIOGRAPHY AND WENT BACK TO SCHOOL FOR RAD THERAPY. RADIATION THERAPISTS TO ME SEEM TO LACK FLEXIBILITY AND EXPERIENCE IN HANDLING EMERGENCIES AS DIAGNOSTIC IMAGING TECHS DO.		
THAT S0 MANY CENTERS WOULD CROP UP AND CAUSE SHORTAGES AND BRING IN A DOLLAR CHASING CLASS OF TECHS THAT IS MORE CONCERNED ABOUT NONPATIENT THINGS		
WIDE SALARY DIFFERENCES		
MEN WITH THE SAME AMOUNT OF SCHOOLING OR EXPERIENCE MAKE MORE THAN A WOMAN.		
THAT EVERY TREATMENT IS NOT FOR THE PATIENT, IT IS JUST FOR THE MONEY, $$$		
The increase in job duties including office duties (filing, charging, making new charts, phone answering, etc.). Doing more with less people, less time, less satisfaction!		
THAT I (BEING EDUCATED) AM EXPECTED TO CARRY THOSE WHO HAVE ONLY HAD ON THE JOB TRAINING OR THE INTERNET COURSE. I DO MOST OF THE WORK AND THEY ARE CONSIDERED THE SAME AS I AM IN LICENSING AND CERTIFICATION.		
THAT I WOULD HAVE TO TEACH THERAPISTS WHO ARE REGISTERED BUT JUST OUT OF SCHOOL ABOUT BASIC POSITIONING, SIMULATIONS, BASIC CONCEPTS OF RAD THERAPY IN GENERAL		
UNLESS THE DOCTOR WANTS A PROCESS/PROCEDURE CHANGED - IT WONT HAPPEN		
HOW LITTLE TIME THE DRS SPEND WITH THE PATIENT.		
VERY FEW FREESTANDING CLINICS, USUALLY JOBS IN URBAN OR BIG MONEY FACILITIES		
A GLOSSARY FOR FOREIGNERS TAKING ARRT CERTIFICATION OF MOST USED EXPRESSIONS		
THERAPISTS ARE TRULY THE PTS EDUCATION/MOTIVATION. THE JOB REQUIRES NOT ONLY HIGHLY SKILLED TECHNICAL TRAINING & KNOWLEDGE BUT ALSO A HIGH LEVEL OF PSYCOSOCIAL SKILLS TO HELP PEOPLE DEAL W/DISEASE & TREATMENT		
THE DIFFERENCE BETWEEN THE SCIENCE SPECIALITIES EG. DIAGNOSTIC, THERAPY, CT ETC		
IT MAKES A DIFFERENCE ON HOW GOOD YOUR PHYSICS DEPARTMENT IS.		
THAT ALL THE GREAT NEW TREATMENT DEVELOPMENTS DON'T NECESSARILY MEAN LONGER SURVIVAL FOR THE PT		
When I went to school as a general rule you had to work in the field 5 years before being considered for dosimetry. Now that is considered out of school too long.		
DIFFERENT FACILITIES HAVE DIFFERENT SKILL LEVLES AND DIFFERENT ABILITIES.		
THE AMOUNT OF MONEY THAT PRIVATE PRACTICE MAKES AND HOW THE "WEALTH" COULD BE BETTER SHARED		
NEW CANCERS ARE OFTEN UNTREATED		

Training in a University Hosp. setting, where physicians & therapists are all employees, did not prepare me for working for a physician in private practice who shows little to no respect to staff		
THAT SO FAR GETTING A BACHELOR'S DEGREE IN RADIATION THERAPY DOES NOT GET YOU ANYWHERE HIGHER COMPARED TO AN ASSOCIATES. (I.E. SALARY)		
TAKES MUCH MORE EDUCATION TO BECOME A THERAPIST THAN IT TAKES TO BECOME A NURSE. (THEY OFTEN GET MORE RESPECT IN SPITE OF THIS, WHICH IS WRONG)		
WHEN I GRADUATED THERE WEREN'T A LOT OF OPTIONS. MOSTLY HOSPITALS HAD FACILITIES FOR RT. I WISH I HAD THE OPPORTUNITY TO TRAVEL LIKE LOCUMS.		
HOW MUCH CHEAPER IT IS TO GO THROUGH AN ASSOCIATES/CERTIFICATION PROGRAM		
THAT PATIENT CARE IS 2ND TO PROFITS		
The more money therapists make the lazier they get.		
MOST PEOPLE DO NOT REALIZE THE AMOUNT OF EDUCATION/INTELLIGENCE, ETC. TO BECOME/MAINTAIN POSITION -- I'M OFTEN ASKED IF "I WENT TO SCHOOL TO LEARN THIS".		
ALL THE NEW THINGS GOING ON IN THERAPY HAVE JUST COME W/THE TIMES		
CLINICAL TRAINING SHOULD BE TAKEN TWICE AS IMPORTANT AS ACADEMIC STUDIES		
EACH FACILITY DOES SETUP DIFFERENTLY		
PT LOAD VARIES		
Managers haven't been trained in group dynamics, communication, or management. They either fall into the position or they are the highest person in yrs. in the dept.		
IT SEEMED TO BE EASIER THAN SCHOOL/ CLINICAL WAS		
The differences and variations in treatment throughout the United States and the treatment you receive from place to place and the kinds of education available.		
THE POTENTIAL FOR CROSSTRAINING INTO A PHYSICS POSITION		
WOULD HAVE LIKE TO KNOW HOW MUCH TECHNOLOGY WOULD CHANGE		
THAT TREATING PATIENTS IN HOSPITALS OR PRIVATE CLINIC IS MORE OF A BUSINESS THAN ANYTHING ELSE. PATIENT CARE IS NOT AS IMPORTANT AS THE REVENUE COMING IN		
FELT AS IF ALL BASES IN RADIATION THERAPY WERE COVERED THROUGH MY SCHOOLING		
FELT WELL INFORMED NOT DISPLEASED WITH DECISION		
Comment on Profession, Positive Working Conditions, Negative Working Conditions		
	1	0.14%
THAT A nurse manager of an R.T. Dept DOES NOT WORK and that is the most emphatic opinion of the area cancer centers for a 100 mile radius. I enjoy working for a RTT director so much more. It's easier to get the things you need.		
Comment on Profession, Negative Working Conditions		
	48	6.89%
I KNEW WHAT I WAS GETTING INTO		
MORE TRAINING WOULD HELP REDUCE THE STRESS LEVEL OF THE WORK		
TIMES HAVE CHANGED SINCE I STARTED IN THE FIELD. I USED TO HAVE TIME TO SPEND WITH PATIENTS AND DOING WHAT NEEDED TO BE DONE. NOW I FEEL AS IF I AM WORKING IN A FACTORY		
THERAPISTS WITH BS DEGREES ARE NOT PAID MORE MONEY THAN THOSE JUST CERTIFIED WITH AA DEGREES		
THAT THE AMOUNT OF SUPPORT FROM THE '80S WOULDN'T LAST. CUTBACKS, FASTER WORK WITH LESS HELP.		
THERE'S LITTLE ROOM FOR ADVANCEMENT		
THAT MANY SO CALLED PROFESSIONALS I'D WORK WITH ONE DAY WOULD BE SO APATHETIC AND LACK ACCOUNTABILITY AND PRIDE FOR PATIENT CARE		
IT CAN BE VERY LIMITING AS FAR AS ADVANCEMENT GOES ADMINISTRATORS ARE NOT		

ALWAYS RECEPTIVE TO IDEAS THAT DON'T FIT IN W/THEIR BOTTOM LINE		
ALL THE DIFFERENCES IN ONCOLOGISTS TRAINING		
LONG HOURS WHEN PT LOAD GOES UP HARD TO CONTROL HRS. NOT A 9-5 JOB. MINIMAL OPPORTUNITY TO MOVE UP W/O RETRAINING INTO DOSIMETRY/MANAGEMENT		
HOW LITTLE SENIOR EXPERIENCE SEEMS TO BE VALUED IN CURRENT WORK ENVIRONMENT AND HOW UNDERVALUED RTS' SKILLS ARE BY HOSPITAL ADMINS & MANY ONCOLOGISTS AND SOME PHYSICISTS		
MOSTLY A DEAD END JOB - LITTLE ROOM FOR CAREER ADVANCEMENT NO CAREER LADDER - LACK OF RESPECT FROM ANYONE HIGHER THAN THERAPIST/NURSE - ESP AT NATIONAL MEETINGS - ASTRO THERE'S A DEFINITE "PECKING ORDER" IN THIS FIELD		
I WOULD HAVE LIKE TO KNOW THE PHYSICAL, MENTAL & EMOTIONAL IMPACT OF THE JOB. I SHOULD HAVE NOTICED THAT THER ARE VERY FEW PEOPLE WORKING IN THIS FIELD WHO ARE 50-60 YEARS OLD. I WISH I HAD KNOWN ABOUT LIMITED JOB OPTIONS COMPARED TO OTHER CAREERS SUCH AS NURSING		
I WISH I HAD KNOWN THAT DR'S FREQUENTLY TREAT PATIENTS FOR THE MONEY, EVEN WHEN THEY KNOW IT'S NOT HELPING. IT'S ALL ABOUT THE MONEY & THAT IS VERY DISCOURAGING TO ME.		
THAT MONEY WOULD GREATLY INFLUENCE PT CARE. PT CARE TAKES SECOND PLACE TO REVENUE		
HONEST ANSWERS REGARDING rotation TO DOSIMETRY - WE DON'T! WE WEREN'T TOLD THIS		
MANY MANY TIMES PEOPLE ARE TREATED WHEN I FEEL IT IS NOT NEEDED. PATIENT WILL NOT BENEFIT (VERY OLD & SICK) THIS HAS BECOME A BUSINESS		
FAST PACED - IT IS POSSIBLE TO RETIRE FROM THIS PROFFESSION WE ARE NOT TREATED AS PROFESSIONALS, INSTEAD WE ARE TREATED AS TECHNICAL STAFF. QUALITY OF PT CAR DOESN'T MEAN THE SAME TO EVERYONE, SAD BUT TRUE		
HOW REPETITIVE THE DAY IS, THE BUREAUCRACY OF HOSPITAL ADMINISTRATION, HOW PHYSICALLY STRAINING THE JOB IS ON YOUR BODY, HOW MENTALLY/EMOTIONALY EXHAUSTING IT CAN BE		
THAT I WOULD BE "SCRUTINIZED" BY THE GENERAL PUBLIC FOR QUOTE/UNQUOTE "BURNING UP PEOPLE" I'M TIRED OF DEFENDING MY PROFESSION		
NOT OPPORTUNITY TO DO MORE THAN GO INTO DOSIMETRY		
THAT PATIENT LOAD WOULD CONTINUE TO INCREASE, DESPITE EQUIPMENT AND STAFFING INSUFFICIENCY		
That most places do not continue to further our education. By advancement, i.e. dosimetry, QA, admin., etc.		
HOW MUCH PHYSICIAN GROUPS CONTROL OUR PRACTICE AND MARKET, AND HOW LITTLE ARRT DOES NOT BENEFIT ITS MEMBERS. WE NEED STRONG REPRESENTATION AT THE NATIONAL LEVEL - A UNION. ARRT HAS PHYSICIANS ON ITS BOARD AND THEREFORE, WILL NEVER ACT IN THE BEST INTEREST OF MEMBERS. ASRT COULD FILL THIS VOID		
THAT THE CHANGE IN "MEDICINE" WOULD COME DOWN TO FAR FEWER THERAPISTS TO DO THE JOBS OF FAR MORE! THE LIABILITY IS HORRIFIC & THE ADMIN WHO SHOULD CARE IS MORE WORRIED ABOUT INCOMING CASH		
STILL NOT CONSIDERED PROFESSIONAL; JUST A TECH		
STAGNATION IN CAREER ADVANCEMENT, NO OPPORTUNITY TO ADVANCE TO DOSIMETRY		
PT LOAD & THAT CHRONIC SHORTAGE WASN'T BEING ADDRESSED. NOW ANYONE TRYING TO ASSIGN "THERAPIST ASSISTANTS" THEY ARE MORE A BURDEN THAN HELP. DOCTORS JUST TRYING TO GET AROUND HIRING THERAPISTS AT A DECENT WAGE		
HOW GREEDY DOCTORS/ADMINISTRATORS ARE, THAT PATIENT CARE IS ALWAYS COMPRIMISED FOR THE BOTTOM LINE - MONEY		
HOW DOSIMETRISTS, PHYSICISTS, AND MEDICALC- DOCTORS CAN MISMANAGE, HAVE GEOGRAPHIC MISSES, AND CARE		

DETRIMENTAL TO THE PATIENT. DO IT WITHOUT ACCOUNTABILITY/RESPONSIBILITY		
THAT MANY PRECERTIFIED THERAPISTS MADE LIFE HELL/WHEN I 1ST GRADUATED		
NOBODY IN ADMINISTRATION UNDERSTANDS WHAT WE DO EXCEPT PROVIDE FUNDS THAT KEEP HOSPITALS FUNCTIONING		
THAT MANY DEPARTMENTS ARE UNDERSTAFFED		
HOW STRESSFUL AND LABOR INTENSIVE IT IS AND THAT NOT EVERYONE IS HELD TO THE SAME STANDARDS		
I WOULD HAVE LIKED TO KNOW THE AVERAGE THERAPIST IS NOT A COLLEGE GRADUATE AND DOESN'T CONSIDER THEMSELVES A PROFESSIONAL. I STUDIED IN AN AREA WHERE THERAPISTS ALL HAD B.S.RT(T) AND ACTED PROFESSIONALLY		
I FEEL THAT THERE IS TOO MUCH GOSSIP AS FAR AS "THE QUALITY" OF THE RADIATION THERAPISTS. SOMETIMES PEOPLE CANNOT GET JOBS BECAUSE OF WHAT IS BEING SAID FROM ONE DEPARTMENT TO ANOTHER AND FROM ONE THERAPIST TO ANOTHER		
NOT MUCH OPPORTUNITY FOR JOB ADVANCEMENT		
THE IMPENDING THERAPIST SHORTAGE/LONG HOURS/NOT THE GREATEST PAY & THE FACT YOU CAN WORK FOR A GREAT CANCER INSTITUTE. BUT IF HOSPITAL ADMINISTRATORS ARE NO GOOD THAT WON'T SUPPLY CANCER CENTER WITH GOOD EQUIP, SUFFICIENT STAFF AND OVERALL GOOD MENTAL HEALTH, THUS ENDING AN 8 YR CAREER TO START OVER AS THE STAFF SR LEAD!		
NOT MUCH ROOM FOR CAREER ADVANCEMENT WHEN THERAPIST DOES NOT WANT TO BE DOSIMETRIST		
THE ENORMOUS RESPONSIBILITY ON THERAPIST WHEN THE DOCTORS ARE NOT IN THE CLINICS/DEPARTMENTS AND HOW FREQUENT IT HAPPENS		
I WOULD LIKE TO HAVE KNOWN THAT THE DEPT'S RADIATION THERAPY WAS NOT RECOGNIZED AS A DIFFERENT PAY SCALE SEPERATE FROM X-RAY'S (CT, MRI...) CERTIFICATION. UNTIL YEARS LATER, AFTER A LONG DISCUSSION (HR) AND A PAY ADJUSTMENT LATER		
THAT THE HRS OF OPERATION WERE NO LONGER MON-FRI 8-4:30. THAT 2 THERAPISTS/TREATMENT/PT WAS NOT A REQUIREMENT FOR DEPARTMENT OPERATIONS. THIS IS A BAD DEAL		
IF YOU DO NOT WORK IN A TEACHING HOSPITAL THE WORK CAN BECOME VERY REPETITIVE. IT HAS BECOME A BUSINESS		
THAT THE DEMAND FOR THERAPISTS WOULD INCREASE -- OUR SHORTAGE OF THERAPISTS HAS INCREASED THE WORKLOAD SO MUCH.		
I WOULD HAVE LIKE TO KNOW THAT ADVANCING WITHIN THE FIELD IS VERY LIMITED. DOSIMETRY IS AVAILABLE BUT THERE ARE VERY FEW "FORMAL SCHOOLS" & FORMAL SCHOOLING REQUIRES YOU TO QUIT YOUR DAY JOB		
THE LACK OF LATERAL SHIFT IN THE FIELD. OTHER THAN DOSIMETRY OR EDUCATION, THERE IS VERY LITTLE YOU CAN DO WITH YOUR 30 YRS OF EXPERIENCE.		
THAT THERAPY WAS MOSTLY A BUSINESS INSTEAD OF A CARING FIELD. WHY SO MANY PTS W/SO LITTLE TIME AVAILABLE TO REALLY CARE FOR THEM? SOMETIMES I FEEL LIKE I'M ON A PRODUCTION LINE		
TRUE EXPOSURE TO THERAPISTS. I STILL AM NOT SATISFIED WITH THE INFO PROVIDED BY THE "SAFETY" PHYSICIST.		
HOW PHYSICALLY & MENTALLY DEMANDING IT IS. THIS IS AN EXTREMELY STRESSFUL JOB - YET REWARDING WORKING DAILY WITH THE PATIENTS I PROBABLY WOULD HAVE CHOSEN A DIFFERENT FIELD!		
Negative Working Conditions, Interpersonal Relations, Comment on Profession		
	10	1.43%
I THOUGHT I WAS JUST IN A JOB TO HELP PATIENTS. THE 'POLITICS' SURROUNDING THE JOB HAVE BEEN OVERWHELMING...OFTEN "GETTING IN THE WAY" OF ACTIVE CARE. I WISH WE COULD RELY ON ADMINISTRATION TO ADMINISTRATE AND THE "NONPATIENT" ORIENTED ACTIVITIES SUBSTANTIALLY DETRACTS FROM THE DEGREE OF PATIENT CARE I BELIEVE WE OWE OUR PATIENT		
I THINK A SOCIAL WORKER SHOULD BE INVOLVED IN THE TRAINING OF THERAPISTS. IT'S HARD, ESP IN THE BEGINNING TO SEE PEOPLE IN THE LAST STAGES OF LIFE. NO AMOUNT OF LEARNING PREPARES YOU FOR THIS		

HOW STRESSFUL THE JOB WOULD BECOME OVER THE YEARS. AND HOW LITTLE THE PARITY BETWEEN MD AND RTT WOULD BE		
HOW TERRITORIAL THE POSITIONS OF DOSIMETRIST, THERAPISTS, CHIEF THERAPIST, AND LEAD THERAPIST ARE. ADVANCEMENT IS LIMITED AND STYMIED BY INTERNAL BICKERING.		
Lack of respect for therapists as professionals. Would not recommend this career to any one. Low pay; spend 4 year college education on something worthwhile.		
THAT I WOULD BE WORKING WITH DOCTORS THAT DIDN'T CARE ABOUT THE PATIENTS, ONLY THE MONEY		
THE "EMOTIONAL ROLLER-COASTER" THAT IS PUT ON THERAPIST AND NOBODY SEEMS TO CARE ABOUT THE THERAPIST'S NEED TO "GET AWAY" SOMETIMES FROM PATIENT CONTACT. ADMINSTRATION NEED TO LET THERAPIST GET AWAY FROM EXTRACURRICULAR ACTIVITIES LIKE WEEKEND FUND RAISERS, ETC.		
THEY WANT YOU TO MISLEAD PATIENTS THAT EVERYTHING WILL BE FINE AND IT WON'T ALWAYS BE, I AM ALWAYS NICE & HONEST		
THE THERAPIST IS RESPONSIBLE FOR THE DEPT. WORKLOAD. NOT ENOUGH RESPECT GIVEN TO THERAPISTS.		
THE RAPID CHANGE IN TECHNOLOGY DEALING WITH DEATH & DYING ON A DAILY BASIS...		
Comment on Profession, General Knowledge/Skill		
	26	3.73%
I TRAINED IN A LARGE STATE-OF-THE-ART TEACHING FACILITY AND NOW WORK IN A COMMUNITY HOSPITAL. IT WOULD HAVE BEEN NICE TO HAVE A ROTATION IN A SMALLER FACILITY TO EXPERIENCE THE DIFFERENCE IN WORKING ENVIRONMENTS. BOTH SETTINGS OFFER VASTLY DIFFERENT LEARNING EXPERIENCES.		
That some easier methods of shaping fields would take place in the future. A little too late for some therapists working since the 70s.		
NEVER ENDING TECHNICAL CHANGES		
BE SKILLED MORE IN HANDS ON USE OF MACHINES, WHICH IS ONLY ALLOWED IN SR YEAR IN SOME FACILITIES		
HOW QUICKLY IT CHANGES		
I WISH I HAD A BROAD KNOWLEDGE OF BASICS THAT STUDENTS GET IN COLLEGE TO HAVE BEEN A MORE ROUNDED THERAPIST. I HAD MINIMAL "TECH" SKILLS AND ALMOST NO OTHER "WORLDLY" LEARNING TO HELP ME COPE & MAKE ME A BETTER PROBLEM SOLVER & COMMUNICATION WITH PTS AND COLLEAGUES		
IT WOULD'VE BEEN HELPFUL TO KNOW MOST THERAPISTS WHO HAVE BEEN IN THE FIELD FOR MANY YEARS HAVE LOST THEIR COMPASSION & ENTHUSIASM FOR THEIR JOB		
DIDN'T REALIZE ALL OF THE RESPONSIBILITIES THAT I WOULD HAVE IN A SMALL DEPT. I TRAINED IN A LARGE DEPT(S), JUST DIDN'T HAVE THE EXPERIENCE OF A SMALL DEPT.		
I DID NOT FORESEE THE CONSTANT CHANGE IN TECHNOLOGY! YOU NEED THE MIND SET FOR CONTINUING EDUCATION		
I WOULD HAVE LIKED TO KNOW HOW LIMITED ONE IS AS A THERAPIST. OTHER THAN DOSIMETRY & MANAGEMENT, OUR OVERALL USEFULNESS IN THE HOSPITAL IS CONFINED TO RADIATION ONCOLOGY		
MORE SCHOOLING BETTER KNOWLEDGE		
BETTER UNDERSTAND SIMULATION AND TREATMENT PLANNING - NOT A GOOD TRAINING EXPERIENCE		
HOW MEDICAL CARE HAS BECOME A MONEY MAKING/FOR PROFIT BUSINESS WHICH OFTEN IS MORE IMPORTANT THAN ACTUAL CARE OF THE PATIENT		
HOW DIFFERENTLY PATIENTS CAN BE TREATED FROM FACILITY TO FACILITY -CHARGE DRIVEN TREATMENT PLANNING VS WHAT'S BEST FOR THE PATIENT		
How much of it is not an exact science.		
I WOULD HAVE LIKE TO KNOW THAT CERTIFICATE & BS GRADUATES MAKE THE SAME SALARY & HAVE THE SAME OPPORTUNITY FOR ADVANCEMENT		
I wish I would have had x-ray experience before going into the therapy field. I think a lot of skills		

would have been learned quicker with the basic knowledge in radiology.		
I DID NOT CORRECT CORD DOSE WITH OFF CORD PLANNING. I GUESS PLANNING THE TREATMENTS WAS TAUGHT VERY CASUALLY BY THE TECHS. IT SHOULD BE VERY IMPORTANT DURING TRAINING.		
RTTS ARE MEDICAL PROFESSIONALS WHO HAVE KNOWLEDGE OF MANY ASPECTS OTHER THAN JUST TREATMENT.		
WHEN I FIRST STARTED I WAS VERY UNFAMILIAR WITH THIS FIELD, EVERYTHING WAS FAIRLY NEW TO ME		
HAVING BEEN TRAINED IN ONE FACILITY, IT WOULD HAVE BEEN NICE TO HAVE GONE TO OTHER PLACES TO SEE HOW THEY TREAT (EVERY PLACE DOES THINGS DIFFERENTLY).		
I WISH I HAD MORE HANDS-ON CLINICAL EXPERIENCE SIDE BY SIDE WITH AN EXPERIENCED THERAPIST WITHOUT THE DREAD OF PERFORMING A COMPETENCY LIKE A TRAINED SEAL. I CAME FROM A 1-YEAR CERTIFICATE PROGRAM.		
HOW LIMITING THE SKILLSET IS AS OPPOSED TO RADIOGRAPHY		
SPECIFIC SETUP PROCEDURES INDIVIDUAL TO EACH CLINIC. I DID A MAJORITY OF CLINICAL HOURS AT A UNIV HOSP & FOUND I DID NOT USE HALF THE KNOWLEDGE AT MY CURRENT WORK IN THE BEGINNING		
HOW MUCH YOU CAN TAKE ON THE PERSONAL SIDE OF THERAPY. I BELIEVE THERE NEEDS TO BE MORE TRAINING IN THE PERSONAL LEVEL.		
THE BUREAUCRATIC HEALTHCARE POLICITICS IS WHAT rules THE RADIATION THERAPIST'S WORLD & IT'S A BATTLE TO GIVE THE BEST CARE POSSIBLE TO ONE'S PTS. MAYBE MORE INFO ON THE POLITICAL CLIMATE OF HEALTH CARE		
Comment on Profession, Interpersonal Relations		
	3	0.43%
Doctors can be s.o.b.s. Not all of them care -- as the best of them do.		
THAT THE DAY WOULD COME WHEN POLITICS PLAY SUCH A BIG ROLE IN PAT CARE		
Comment on Profession, General Approach to Profession		
	9	1.29%
I FEEL THAT I WAS VERY PREPARED IN ALL ASPECTS.		
I FEEL MY PROGRAM ADEQUATELY TRAINED ME, HOWERVER, NOTHING GAVE ME CONFIDENCE ABOUT TREATING AND PRACTICING RADIATION THERAPY LIKE JUMPING IN AND JUST GETTING EXPERIENCE		
CLINICAL EXPERIENCE IS THE MOST IMPORTANT PART OF ANY PROGRAM		
THAT I SHOULD HAVE GOTTEN AN X-RAY TECH LICENSE FIRST SO I COULD SUPPLEMENT MY INCOME		
THIS IS NOT A FIELD JUST FOR THE MONEY, WHICH IS WHY MOST STUDENTS ARE NOW DOING IT. WHEN I ENTERED SCHOOL IT WAS THAT YOU WERE EITHER X-RAY CERTIFIED OR EXPERIENCED, OR KNEW SOMEONE IN THE FIELD!		
I specialized in a restricted field. Advancement is possible into dosimetry or administration.		
There needs to be more time and less stress in the workplace. Better staffing so radiation therapists have more time. It's getting to know their patients and threat them as people!!		
THE STUDENTS COME TO EARN LARGE SALARIES BUT OVERLOOK THE TREMENDOUS RESPONSIBILITIES THEY WILL BE HELD ACCOUNTABLE FOR. THEIR APPROACH TO THIS NEW CAREER IS VERY WRONG		
THE FACT OF THE GROWTH & SPEED OF TECHNOLOGY IN THIS FIELD AND TO BE MORE AWARE OF WHAT'S GOING ON AND WHY AND IS IT BETTER.		
Other		
	9	1.29%
WEAR SUPPORT HOSE DAILY - THE LEGS ARE THE FIRST TO GO		
THE NUMBER OF DOSIMETRY SCHOOLS AVAILABLE		
THE LARGE DIFFERENCE IN PAY SCALE		
THAT A SCHOOL WAS READILY AVAILBLE IN 1978 I COULD HAVE ATTENDED		
THERE'S NO CURE FOR CANCER		
THE STATE OF THE ART EQUIPMENT MEANS SO MUCH		

THIS IS MY FIRST JOB		
You gain 5-10 lbs eating chocolate. [Smiley face added.]		
THAT HEALTH CARE SYSTEM IN LA COUNTY WOULD COLLAPSE		
Other, Negative Working Condition		
	2	0.29%
THAT A STARTING SALARY OF $30,000 A YEAR ISN'T SQUAT! I WAS "SO" DISAPPOINTED WHEN I RECEIVED MY FIRST PAYCHECK. I JUST SPENT FIVE YEARS IN COLLEGE FOR THIS?! BIG DISAPPOITNMENT! THEN AGAIN THAT'S PROBABLY NOT WHAT YOU'RE ASKING.		
THAT PEOPLE CAN GIVE UNPLEASANT REFERENCES ABOUT YOU THAT WILL AFFECT YOUR WHOLE CAREER EVEN THOUGH THEY MAY NOT HAVE INTENDED IT TO BE THAT WAY. THEY MAY SAY SEEMINGLY HARMLESS THINGS ABOUT YOU IN A JOB REFERENCE		
Other, General Approach to Profession		
	1	0.14%
THAT I WOULD RATHER BE A STAFF THERAPIST THEN A CHIEF THERAPIST		
Other, Comment on Profession		
	2	0.29%
That most centers only offer full-time positions. There really aren't any part-time opportunities in this field.		
THAT AN X-RAY BACKGROUND COULD BE BENEFICIAL		
Total	697	100.00% of Responses
Missing	1414	66.98% of Total
Total	2111	

52 Admin, 47 Staff. What other impacts have technological developments had on your department over the past few years?

Administrators

Response	Frequency	Percent
Blank, N/A, indecipherable	376	63.3
3-D PLANNING WITH ADAC TREATMENT PLANNING SYSTEM. USE OF CT FOR 3-D PLANNING.	1	.2
A GREATER AMOUNT OF TIME NEEDED TO TREAT PTS (PRESENT INTO THE FUTURE)	1	.2
ADDED MANY NEW COMPUTERS TO THE DEPARTMENT	1	.2
ADDED STRESS BROUGHT ON BY NEW TECHNOLOGY DOWN-TIME	1	.2
ALTHOUGH BETTER FOR THE PATIENTS, IT HAS INCREASED WORKLOAD FOR THERAPISTS ADDED STRESS	1	.2
AS ABOVE, INCREASED IMRT GIVEN US MORE BEAMS TO USE, AND INCREASED TREATMENT TIME 180-BEAMLETS COMPARED TO 8 BEAMS	1	.2
AUTOMATED QA SOFTWARE AND IMPAC SYSTEMS GREATLY INCREASE PRODUCTIVITY	1	.2
BEEN USING 3-D TX PLANNING FOR QUITE SOME TIME, BUT GOT NEW ZIONGX WTH MLC THIS YEAR AND PLAN TO IMPLEMENT IMRT THIS YEAR OR BEGINNING OF NEXT	1	.2
BETTER CARE FOR PTS	1	.2
BETTER COMMUNICATION AND BETTER DOCUMENTATION BY THERAPIST WITH ELECTRONIC MEDICAL RECORD	1	.2
BETTER IMMOBILIZATION	1	.2
BILLING LEARNING WHAT WE CANNOT BILL FOR, TRAINING THE STAFF AND IMPLEMENTING THESE	1	.2
BRINGING ON IMRT SERVICE CLEARLY IS A DEMONSTRATION OF THE STRENGTHS OF THE ENTIRE STAFF MORESO THAN ANYTHING ELSE IMRT IS A TEAM SPROT	1	.2
BUDGET CUTS, SALARY ISSUES, BONUS ON HIRING	1	.2
CAN BE USED AS JUSTIFICATION FOR FEWER FTE'S, BUT ALSO WE ARE EXPECTED TO DO MORE WITH ANY TIME SAVINGS THAT ARE INCURRED	1	.2
CHANGE OF PROCESSES, BILLING, MORE ATTENTION TO COMPUTER SKILLS	1	.2
CHANGES THE ENTIRE WORK PROCESSES. ELECTRONIC CHARTING, IMRT & MLC MACHINES HAVE CHANGED NEARLY EVERY PROCESS & PROCEDURE	1	.2
CHEMOTHERAPY HAS CONTROLLED THE MARKET AND RADIATION RECEIVING PTS THAT ARE MORE PALLIATIVE	1	.2
COMPLEX PT TREATMENTS IE IMRT GREATER THERAPISTS CONCENTRATION, GREATER AMOUNT OF TREATMENT SETUP AND TREATMENT	1	.2
COMPLEXITY OF IMMOBILIZATION AND DAILY TREATMENT SETUP	1	.2
COMPLEXITY OF TREATMENTS REQUIRE GREAT SUPPORTING STAFF I.E. DOSIMETRY, PHYSICIST	1	.2
CONSTANT LEARNING PROCESS FOR ALL STAFF AS NEW DEVELOPMENTS ARE INTRODUCED	1	.2
CONT EDUC OF STAFF HAS BECOME WEEKLY MANDATE, ADMINISTR BELIEVES NEW TECH EXPEDITES TX THEREFORE MORE PATIENTS BUT COMPLEXITY OF TX PLAN UPFRONT	1	.2
CREATING LONGER TREATMENT TIMES AND EXTENDED WORK DAYS FROM [ABRUPT END]	1	.2
CT SIMULATION & VIRTUAL SIMULATION. PATIENT DOES NOT HAVE TO BE PRESENT FOR BOOST PLANS & ADAC PINNACLE TX PLANNING SYSTEM ALLOWS DOSIMETRIST TO IDENTIFY SET-UP COMPLICATIONS IN THE BEAM'S EYE VIEW, ROOM'S EYE VIEW & SKIN RENDERING WITH BEAMS TURNED ON BEFORE PATIENTS 1ST TX	1	.2
CT SIMULATION INCREASED ACCURACY OF TX	1	.2
CYBERKNIFE	1	.2
Decreased physical stress, increased mental stress	1	.2
DECREASED SIDE EFFECTS TO PATIENTS	1	.2

DECREASED THE NUMBER OF "REPETITIVE ACTION" INJURIES TO RTTS (MICRO, LEAD BLOCKS TO MLC); INCREASED THE COST OF RUNNING THE SERVICE	1	.2
DECREASED THE USE OF CERRO BLOCKING - DECREASING PHYSICAL DEMAND - MLC AND FORWARD PLANNING DECREASE NUMBER OF TIMES THE THERAPIST NEED TO GO INTO CLINIC ROOM	1	.2
DECREASES TIME AVAILABILITY TO SPEND IN QA OF EACH PT'S CHART FOR RTT'S	1	.2
DO MORE WITH LESS	1	.2
DUE TO COSTS HARDER TO GET CAPITAL DOLLARS TO FUND ALL OF THE NEW TECHNOLOGY	1	.2
DUE TO STAFF SHORTAGES WE FIND WE HAVE TO LIMIT THE AMOUNT OF PATIENTS WE CAN SIMULATE AND TREAT. WE HAVE ACTUALLY HAD TO CLOSE THE SIMULATOR AND DELAY IMRTS DUE TO INSUFFICIENT STAFF & THE ADMIN REFUSAL TO HIRE AND USE TEMPS	1	.2
EFFICIENTLY WITH MIC'S (NO BLOCKS TO CUT) & VARIS (RECORD AND VERIFY). DECREASE IN PAPER WORK WITH RECORD AND VERIFY SYSTEMS	1	.2
ENABLED THE THERAPISTS TO BECOME VALUABLE MEMBERS OF THE TREATMENT TEAM ALONG WITH PHYSICIANS AND PHYSICISTS	1	.2
ENHANCED OUR DEPT/HOSPITAL REPUTATION IN COMMUNITY	1	.2
EVENING SHIFT	1	.2
EXPANDED PATIENT REFERRAL BASE.	1	.2
FEWER PATIENTS TREATED PER HOUR MORE ATTENTION TO CONFORMAL THERAPIST	1	.2
FINANCIAL IMPACTS	1	.2
GENERATED MORE INTERACTION WITH PHYSICISTS AND OTHER STAFF, MORE INTERESTING ANC CHALLENGING WORK	1	.2
GREAT CONTINUING EDUCATION & THE WILLINGNESS TO LEARN!! INPUT FROM ALL STAFF WITH THE IMPLEMENTATION OF THE NEW DEVELOPMENTS TEAMWORK	1	.2
GREATER COMPLEXITY MORE COMPUTER KNOWLEDGE REQUIRED SYSTEM (OR PROCEDURE) SPECIALIZATIONS	1	.2
GREATER DEMAND ON TRAINING/DOCUMENTATION/BILLING ISSUES	1	.2
GREATER NEED FOR THERAPISTS TRAINING, INSERVICES, TECHNICAL SUPPORT	1	.2
GREATLY REDUCED TREATMENT RELATED SIDE EFFECTS OF OUR PATIENTS	1	.2
HAD TO DO LOTS OF TRAINING FOR NEW PROCEDURES (IMRT, BAT)	1	.2
HAD TO START OUR OWN TRAINING WITH ____ UNIVERSITY	1	.2
HAS MADE WORK MORE DIFFICULT BUT MORE CHALLENGING HAS DECREASED THE AMT OF TIME WHICH CAN BE SPENT INTERACTING WITH PT	1	.2
HAVE ACTUALLY SLOWED DOWN THE TREATMENT TIME - IE-MORE COMPLEX TX'S TAKE MORE TIME	1	.2
HAVE HAD TO DO MORE EXTENSIVE TRAINING WITH STAFF THERAPISTS IN USE OF EQUIPMENT, MORE COMPLEX PLANNING, ETC	1	.2
HIGH EXPENSE TO DEPT, HIGH WORKLOAD FOR DEPT HIGH, QUALITY OF CARE, LOW COMMON SENSE	1	.2
HIRING OF THERAPISTS HAS TO BE MORE SELECTIVE	1	.2
HUGE CHANGES - PORTAL IMAGING LED TO GOING FILMLESS, ELECTRONIC CHARTING	1	.2
HUGE LEARNING CURVE FOR STAFF - IMRT, BAT, CT SIM, MLC, ETC. NEED TO BE OPEN TO CHANGE	1	.2
I BELIEVE TECHNOLOGICAL DEVELOPMENTS HAVE INCREASED THE OVERALL QUALITY OF CARE	1	.2
I BELIEVE THESE DEVELOPMENTS HAVE KEPT OUR STAFF SHARPER. WE'VE HAD TO LEARN NEW THINGS TOGETHER UTILIZING EACH OTHERS' STRENGTHS & WEAKNESSES	1	.2
IMPACTS STAFFING THROUGHOUT THE DEPT - NURSING, PHYSICS, DOSIMETRY, RADIATION ONCOLOGISTS. IMPACTS QUALITY OF CARE AND IMPROVES OUTCOMES. SOME THERAPISTS, HOWEVER, CHOOSE TO WORK IN "SIMPLER" LESS COMPLEX ENVIRONMENTS, THUS OUR RTT SHORTAGE IS A REAL CHALLENGE	1	.2
IMPROVED COMPUTERS HAVE LED TO IMPROVED PLANNING	1	.2
IMPROVED QUALITY OF CARE	1	.2

IMPROVED STAFF MORAL	1	.2
IMPROVED WORK ENVIRONMENT & TIME INVOLVED IN PROCEDURES. VERY HELPFUL TO THERAPIST/DOSIMETRIST	1	.2
IMRT HAS INCREASED TREATMENT TIME PER PT	1	.2
IMRT OFTEN INCREASES THE AMOUNT OF TIME IT TAKES TO TX A PT & HAS NEGATIVELY IMPACTED THE RELIABILITY OF THE LINEAR ACCELERATORS. ITS HARD ON THE MACHINES	1	.2
IMRT PTS CAN NOT START AS QUICKLY. APPROXIMATELY ONE WEEK DELAY FROM DAY OF SIMULATION	1	.2
IMRT TAKES MORE TIME SO LESS PATIENT TREATED PER MACHINE	1	.2
IMRT, BAT, 3-D	1	.2
IMRT/EDW REFINED COMPUTER USAGE	1	.2
INADEQUATE SUPPORT STAFF (IT PEOPLE) TO MAINTAIN NEW EQUIPMENT AND COMPUTER STORAGE SYSTEMS. LACK OF TRAINING. TREATMENTS HAVE BECOME MORE COMPLEX	1	.2
INCREAED TECH REQUIRED INCREASED STAFF #'S	1	.2
INCREASED COMPLEXITY MAKING FOR HIGHER WORKLOAD PER PT	1	.2
INCREASE IN PROCEDURE TIME W/NO INCREASE IN STAFF	1	.2
INCREASE THE DAY BECAUSE IMRT TREATMENTS TAKE LONGER TO DELIVER	1	.2
INCREASED ANXIETY/STRESS AS THE PRESSURE TO LEARN MORE INCREASES	1	.2
INCREASED COMPUTER KNOWLEDGE	1	.2
INCREASED COSTS FOR UPDATING FOR NEW TMT. TECHNIQUES, INCREASED TIME BETWEEN SIM. TO ACTUAL TMT OF PT., ADMIN. WANTING MORE DONE WITH LESS STAFF TO OFF-SET THE COSTS OF THE NEW PROCEDURES	1	.2
INCREASED EFFICIENCY	1	.2
INCREASED HOURS OF OPERATION BUT IS COMPENSATED WITH SHIFT SHARING AND FLEXIBLE HOURS	1	.2
INCREASED KNOWLEDGE AND APPLICATION OF DIAGNOSTIC IMAGING DATA	1	.2
INCREASED KNOWLEDGE OF THE FIELD AND INTEREST	1	.2
INCREASED NEED FOR PHYSICS/DOSIMETRY, MORE RESPONSIBILITIES PLACED ON THERAPISTS, MORE COMPLICATED SETUPS/TREATMENTS, ADDED STEPS TO PLANNING	1	.2
INCREASED PAPERWORK WHICH SLOWS DOWN PROCEDURE	1	.2
INCREASED PATIENT KNOWLEDGE; REBIRTH OF STAFF INTERESTS TO LEARN	1	.2
INCREASED PHYSICS SUPPORT	1	.2
INCREASED PT LOAD. HIRED A PART-TIME NURSE TO ASSIST OUR FULL TIME NURSE	1	.2
INCREASED PT TIME ON MACHINE DUE TO MORE COMPLEX PLANS, INCREASED PAPERWORK; DECREASED BLOCKS DROPPED	1	.2
INCREASED RELIANCE ON COMPUTER TECHNOLOGY/KNOWLEDGE	1	.2
INCREASED REVENUE	1	.2
INCREASED ROLE ????	1	.2
INCREASED STRESS LEVEL, OVERTIME & STAFF SHORTAGE	1	.2
INCREASED STRESS RESULTING IN BURNOUT	1	.2
INCREASED STRESS, DESIRE FOR MORE SALARY	1	.2
INCREASED THE COST OF PROVIDING TREATMENT TO PATIENTS	1	.2
INCREASED THE NEED FOR BETTER QUALITY ASSURANCE	1	.2
INCREASED TREATMENT TIME FOR PATIENTS (IMRT) BUT THIS PROVIDES BETTER TREATMENT FOR CERTAIN DISEASES	1	.2
INCREASES PATIENT TREATMENT TIME	1	.2
IT HAS INCREASED OUR PATIENT LOAD, AND NOW WITH THE ADDITION OF OUR 21EX TREATMENT MACHINE OUR PATIENT LOAD SHOULD AGAIN INCREASE	1	.2
IT HAS TAKEN THEIR MINDS OFF THE STAFFING SHORTAGE	1	.2
KEPT THERAPISTS IN A "LEARNING MODE" PUT FINANCIAL PRESSURE ON DEPT, INCREASED THE NUMBER OF PTS TREATED FOR COMPLEX PROCEDURES	1	.2
LESS BLOCK MAKING, RECORD (VERIFY, COMPUTERIZED SCHEDULE, LESS WORK AND HEAVY LABOR REQUIREMENTS)	1	.2
LESS ERRORS	1	.2
LESS INJURIES, FASTER, MORE QA CHECKS	1	.2
LESS PHYSICALLY DEMANDING ON RTTS (LESS BLOCK LIFTING) AS ??HAVE INSURANCE; ??? IMRT, LESS PHYSICALLY DEMANDING ON RTTS - LESS ???	1	.2
LESS PHYSICALLY DEMANDING ON THERAPISTS (LIFTING BLOCKS)	1	.2

LESS TIME DEDICATED FOR QA ION PATIENT	1	.2
LESS TIME FOR EACH PATIENT. ATTRACTED NEW GRADUATES. ABILITY TO USE THIS IN HOSPITAL ADVERTISING/MARKETING/COMMERCIALS	1	.2
LESS WALKING IN & OUT OF THE TX ROOM THANKS TO IMRT; NO NEED FOR A BLOCK PERSON EITHER	1	.2
LOCAL PRIVATE RAD THERAPY PRACTICE OFFERS ALL THE NEW TECHNOLOGIES, PROSTATE SEAL, IMRT, MAMMOSITE, AND OUR HOSPITAL HAS NOT ADVANCED TO ANY OF THESE OUR VOLUMES DECREASE EACH YEAR	1	.2
LONGER LEARNING CURVES	1	.2
LONGER TREATMENT TIMES - LONGER SIM TIMES	1	.2
LOTS OF CHANGES IN PROCEDURES	1	.2
MADE MY DEPARTMENT A MORE DESIRABLE PLACE TO WORK	1	.2
MADE OUR DEPARTMENTS MORE OBSOLETE	1	.2
MADE OUR JOBS EASIER	1	.2
Made the job both harder and easier	1	.2
MADE THINGS SLOWER DUE TO MORE COMPUTERIZATION	1	.2
MADE TREATING GENERALLY FASTER & EASIER	1	.2
MAKES OUR TIME SPENT MORE ON PATIENTS RATHER THAN BLOCK CUTTING OR CHARTING	1	.2
MAMMOSITE, FORWARD TREATMENT PLANNING	1	.2
MLC DECREASED BACK AND NECK INJURIES	1	.2
MLC HAS BEEN THE BEST ADVANTAGE FOR OUR DEPARTMENT. WE CAN TREAT MORE PATIENTS & ITS MUCH EASIER FOR OUR THERAPISTS	1	.2
MLC HAS VIRTUALLY ELIMINATED CUSTOM BLOCKING, MAKING IT EASIER ON THERAPISTS. DIGITAL EQUIPMENT IS VERY RELIABLE. LITTLE DOWN TIME	1	.2
MLC REDUCED NEED FOR BLOCKMAKING (HAZARDOUS MAT.) AND BACK INJURIES FROM LIFTING; IMAGE CAPTURE SIGNIFICANTLY DECREASED COSTS OF FILM, PROCESSING CHEMICALS, & POLAROID FILM.	1	.2
MORE ACCURATE TREATMENTS AND CT PLANNING NO MORE BLOCKS WITH GREAT ACCURACY IMPAC R & V SYSTEM????	1	.2
MORE COMPLEX PROCEDURES, MORE PORTALS PER PATIENT HAVE INCREASED SKILLS, NEEDS OFFSET SOME BY BETTER TECHNOLOGY	1	.2
MORE DOWN TIME ON TREATMENT UNITS	1	.2
MORE PAPERWORK-HIGHER STRESS FROM COMPUTER SOFTWARE & NEW EQUIPMENT. MORE STEMS FOR SAME END RESULT	1	.2
MORE PATIENTS, MORE ACCURATE TX, LESS SIDE EFFECTS AND LESS TREATMENT BREAKS FROM PATIENTS BEIN ON HOLD	1	.2
MORE STAFF NEEDED	1	.2
MORE STRESS	1	.2
MORE THERAPIST STRESS	1	.2
MORE TIME NEED IN SIM & CT & MRI. MORE PHYSICIAN TIME NEEDED IN DOSIMETRY TO GET THINGS READY.	1	.2
MORE TIME RESTRAINTS DUE TO INCREASED TREATMENT TIME FOR IMRT CASES	1	.2
MUCH MORE COMPLEX TREATMENTS, COMPLEXITY OF EQUIPMENT & COMPUTERS	1	.2
MUCH MORE COMPUTER WORK FOR A THERAPIST TO LEARN AND RUN. NO INCREASE IN STAFFING DUE TO ALL THE ADVANCEMENTS	1	.2
MUCH MORE EFFICIENT	1	.2
MUCH MORE SOPHISTICATED TREATMENT DELIVERY & PLANNING. IMRT HAS A SIGNIFICANT INCREASE IN DAILY TX TIME.	1	.2
MULTILEAF HAS HELPED WITH REDUCING PHYSICAL STRESS AND MADE IT SAFER FOR PATIENTS (NO LOADING BLOCKS ABOVE THEM)	1	.2
NEED AN UPDATED STANDARDIZED MANUAL FOR RTT. ON QA & QC OF NEW TECHNOLOGY	1	.2
NEED FOR INCREASED TRAINING AND CONTINUED TRAINING	1	.2
NEED MUCH MORE COMPUTER SKILLS AND LOGICAL THINKING FOR A DIGITAL AND ELECTRONIC CHARTING ENVIRONMENT	1	.2
Need new equipment. [On q 51, checked all but "recent grads"	1	.2
NEED TO BRING LESS COMPUTER LITERATE THERAPISTS UP TO SPEED	1	.2
NEEDS FOR STAFF	1	.2
NEW COMPUTER SYSTEMS NEW MACHINES NEW PLANNING	1	.2

NEW DEPT	1	.2
NEW GRADS HAVE LOST ABILITY TO DEVELOP EXCELLENT JUDGMENT & CLINICAL SKILLS DUE TO THE FOCUS ON COMPUTER SKILLS NEEDED THEY DON'T KNOW WHY THEY ARE TREATING	1	.2
NEW GRADUATES NEED COMPUTER SKILLS! VERY IMPORTANT, OLDER TECHS HAVE COMPUTER PROBLEM, LONGER LEARNING CURVES	1	.2
NEW TREATMENT MODALITIES HAVE INCREASED THE NEED FOR MORE THERAPISTS AND IT HAS BEEN DIFFICULT TO ACHIEVE THAT NEED	1	.2
NONE	1	.2
NOTHING YET, WE ARE BUILING A NEW CANCER CENTER	1	.2
OFFER GREATER VARIETY OF TREATMENT MODALITIES	1	.2
ON Q48: KNOWLEDGE COMES WITH EXPERIENCE; IT'S NOT A MATTER OF BETTER OR WORSE	1	.2
Organizational communications through e-mail: Staff need to take time to read e-mail, thus time taken away from pt. care & treatment	1	.2
OTHER HOSPITALS ARE IN A RACE TO GET THE LATEST EQUIPMENT MAKING PT CARE MORE OF A BUSINESS	1	.2
OUR DEPARTMENT HAS NOT SEEN ANY OF THE NEW TECHNOLOGIES EG. IMRT HDR CT SIM SO IT IS VERY DIFFICULT TO EVALUATE	1	.2
OUR DEPT ENJOYS DEVELOPMENTS. OUR MOST DIFFICULT HURDLE IS GETTING FTES FOR INCREASED WORK.	1	.2
PATIENT SELECTION FOR ADVANCED TECHNOLOGY TREATMENTS IS CRITICAL LIMITED RESOURCES FOR THOSE PROCEDURES REQUIRE SELECTING PATIENTS THAT ARE COMPLIANT WITH THE TREATMENT PROGRAM	1	.2
PATIENTS ARE EDUCATED - THEY WANT THE LATEST & GREATEST IN RT - IT IS DEFINITELY HELPFUL IN MARKETING. THE THERAPISTS ENJOY THE CHALLENGE AND STIMULATION OF NEW TECHNIQUES & TECHNOLOGY	1	.2
PATIENTS ARE MORE INFORMED	1	.2
PATIENTS HAVE BECOME MORE AWARE OF THE TYPES OF SERVICES THEY CAN HAVE	1	.2
PORTAL VISION COST SAVING EFFICIENT CT/SIM IS ACCURATE AND REQUIRES LESS TIME FOR PATIENT ON TABLE CT PET MRI FUSION FOR PLANNING GREAT FOR ACCURACY	1	.2
PORTAL VISION HAS DECREASED TURNAROUND TIME FOR PHYSICIAN PORT CHECKS	1	.2
PRESSURE TO STAY TECHNICALLY ADVANCED	1	.2
PROCEDURES TAKE MORE TIME (IMRT) - MORE PLANNING SUCH AS PREPARING - NEED TO LEARN MORE MODALITIES SUCH AS CT, US, MR	1	.2
PUSH FROM ADMINISTRATION TO INCREASE NUMBER OF PATIENTS TO OFFSET THE COSTS	1	.2
PUT ALL OPERATIONS IN A CATCH-UP MODE FOR THE PAST YEAR - HAVEN'T QUITE RECOVERED YET - NEVER CAUGHT UP	1	.2
QUESTION #51--WE HAVE ALL RANGES OF TECHS AND ALL HAVE ADAPTED	1	.2
RECENT (< 5 YRS) GRADS CATCH ON MORE QUICKLY BUT DO NOT RECOGNIZE AND QUESTION POTENTIAL MISTAKES AS WELL	1	.2
RECORD, VERIFY, SCHEDULING, PORTAL VISION SYSTEMS TAKE UP A GREAT DEAL OF TIME. ENTERING DATA IS TIME CONSTRAINING.	1	.2
REDUCED OPERATING COSTS (IE FILM/BLOCK SUPPLIES)	1	.2
REDUCED TIME SPENT FABRICATING CUSTOM BLOCKS	1	.2
REMOVED SOME OF PERSONAL INTERACTION BETWEEN STAFF AND PTS	1	.2
REQUIRED MORE SEASONED THERAPIST TO WORK HARDER TO LEARN NEW THCHNOLOGY.	1	.2
RISK [COUPLE OF ILLEGIBLE WORDS] DIAGNOSIS IMPACT. SCHEDULING PTS.	1	.2
SIDE EFFECTS TO PATIENTS SKIN, CONFIDENCE OF WHOLE DEPT & PATIENT W/NEW TECHNOLOGY	1	.2
SOME GOOD AS FAR AS DOSIMETRY PLANNING IE 3-D PLANNING COMPUTERS	1	.2
SRT, SRS	1	.2
STAFFING	1	.2
STRESS! TIME!	1	.2
TAKE MORE TIME PER PATIENT (IMRT PATIENTS MAY TAKE 20 MIN TO TREAT AS OPPOSED TO 10 MIN)	1	.2

TECHNOLOGY CHANGES DAILY IN RAD THERAPY, I BELIEVE IT IS HARDER TO STAY STATE OF THE ART AND KEEP ALL THERAPISTS UP TO DATE ON NEW TECHNOLOGY	1	.2
TECHS TODAY NEED TO BE COMPUTER LITERATE AND ABLE TO LEARN NEW TECHNIQUES WITHOUT LOSING THE BASICS	1	.2
THE LONGER OT PLAN TREATMENT AND LONGER TO SIMULATE. BETTER QUALITY CONTROL ON TREATMENT SIDE (AND FASTER)	1	.2
THE NEW TECHNOLOGY FOR TXS SEEM BENEFICIAL (ON PAPER BUT WE HAVE LESS TIME TO SPEND WITH EACH PT (THERE IS MORE RUSHING)	1	.2
THERAPISTS HAVE NEEDED TO DEVELOP A MORE KEEN AWARENESS OF 3-D IMAGING, INCREASE THEIR COMPUTER SKILLS. HAS BECOME MORE STRESSFUL, MORE QA INVOLVED	1	.2
THIS IS AN ESTABLISHED DEPT MANY NEW DEVELOPMENTS ARE SLOWER TO BE IMPLEMENTED IN A COMMUNITY HOSPITAL SETTING	1	.2
TIME PER TREATMENT, STAFF TRAINING, OLDER STAFF DO NOT REQUIRE NEW SKILL SET EASILY	1	.2
TOO LIGHT TO DECIPHER	1	.2
TOO MANY DIFFERENT SOFTWARE PROGRAMS TO INTERFACE WITH DAILY	1	.2
TRACKING OF PATIENTS IN THE DEPARTMENT, TIME EVALUATION, USING DMLC FOR IMRT ON 70% OF PATIENT POP. WHICH REDUCES SIDE EFFECTS. MLC REDUCED THE USE OF CUSTOM BLOCK MAKING, NO NEED FOR FTE IN MOLD ROOM	1	.2
TRAINING DOWN TIME	1	.2
TRAINING TOO FAST AND NOT ENOUGH FOLLOW-UP ON ADEQUATE TRAINING. EXPECTATION OF USING NEW TECH WITH MINIMAL TRAINING	1	.2
TREATMENT IS GETTING A LOT MORE COMPLEX THAN BEFORE	1	.2
TREATMENT PLANNING MUCH MORE COMPLEX REQUIRING MORE DOSIMETRISTS AND PHYSICISTS	1	.2
TREATMENT SETUPS ARE MORE COMPLEX. MORE TIME FOR TREATMENT IS REQUIRED INCREASED FROM 12-15 MIN APPTS	1	.2
TREATMENTS ARE MORE ??? CONFIDENCE THAT ??? HAS IMPROVED	1	.2
TREATMENTS ARE MUCH MORE COMPLEX THAN IN PREVIOUS YEARS -- SO MORE SIMPLE SETUPS FOR ANYTHING SO EVEN THOUGH NEW TECHNOLOGY FOR TREATMENT, VERY LITTLE TIME SAVINGS	1	.2
TRYING TO KEEP UP WITH THE EVER CHANGING ADVANCEMENTS. THE FEELING THAT YOU HAVE NOT MASTERED ONE AREA BEFORE IT CHANGES AGAIN	1	.2
TYPE OF PERSON CHOSEN ABILITY TO COMMUNICATE DEMONSTRATES TEAMWORK	1	.2
UPDATED EQUIPMENT - IMPLEMENTED NEW PROCEDURES - OPEN ADMNISTRATION MINDS TO ADVANCEMENT OF RADIOLOGIC SERVICES FOR INCREASE IN QUALITY PT CARE	1	.2
USING IMRT ALOT ON PROSTATES LIKE THAT PTS CAN BE MORE IMMOBILIZED LOVE GATING SYSTEMS FOR LUNG FLDS	1	.2
VERY LITTLE	1	.2
WE ARE ABLE TO OFFER PATIENTS STATE-OF-THE-ART TECHNOLOGIES AND ARE EXTREMELY ADEPT	1	.2
WE ARE GETTING A NEW MACHINE, NEW DEPARTMENT BUILT & WILL BE USING IMRT. ALSO GETTING A NEW CT SIM AND GETTING RID OF CONVENTIONAL SIMULATOR ALL TO BE DONE MARCH 2004	1	.2
WE ARE GETTING NEW MACHINE FOR IMRT	1	.2
WE ARE IN THE PROCESS OF MOVING FROM A 4000 SQ FT DEPT TO A 21000 SQ FT DEPT W/A NEW CT/SIM	1	.2
WE HAVE BECOME EVEN MORE PRECISE IN OUR TREATMENTS	1	.2
WE WILL BEGIN TO USE MLC VERY SOON AND I EXPECT THAT WE CAN REDUCE TREATMENT TIME SPENT PER PT	1	.2
WITH 3-D CONFORMAL THERAPY AND IIMRT IT HAS MADE THE DELIVERY OF TX MORE TIME CONSUMING	1	.2
WITH ALL THE COMPUTERS; THE THERAPISTS' ROLE HAS CHANGED IT IS SO IMPORTANT TO KEEP UP CLINICAL SKILLS AND NOT BECOME BUTTON PUSHERS	1	.2
WITH MANY OLDER THERAPIST R&V WAS SLOW TO TAKE ON AS WAS PORTAL VISION	1	.2

WITH NEW TECHNOLOGIES THE JOB BECOMES MORE COMPLICATED BECAUSE DOCTORS WANT TO USE THE NEW TECHNOLOGY BUT WON'T LET GO OF OLD HABITS	1	.2
WITH LONG IMRT TREATMENTS, I'VE SEEN THERAPIST BEAM THE MACHINE ON AND WALK AWAY TO PERFORM SOME OTHER TASK	1	.2
WORKLOAD COMPLEXITY AND THERAPIST HAVE RISEN. HIGH SPEED OFFSET BY HIGH COMPLEXITY	1	.2
Total	594	100.0

Appendix B: The Questionnaires

Environmental Scan of the Radiation Therapist's Workplace: Administrators' Version

Professional Profile

1. State in which your primary workplace is located _____ (*Please use* t*wo-letter postal abbreviation*)

2. Are you currently working in radiation therapy?
___Yes (*Skip to question 6)* ___No (*Continue to question 3)*

If you answered "No" to question 2:

3. How many years did you work in radiation therapy? _____ (*Please round to nearest year*)

4. Are you unemployed or employed outside radiation therapy due to
___ retirement ___ career change ___ job unavailability
___ other reason (*Please specify*_____)

5. Are you planning on returning to radiation therapy?
___Yes (*Continue to question 6*) ___No (*Stop now and return this questionnaire*)

6. How many years (not necessarily consecutively) have you practiced in the radiologic sciences?
_____ years *(Round to nearest full year. Do not include years for preparatory education.)*

7. In what year did you obtain your first ARRT certificate? _____
In what radiologic specialty did you obtain your first certification? _____

8. From what type of radiation therapy educational program did you graduate to qualify for the registry exam in radiation therapy?
___1-year certificate program ___2-year certificate program ___Associate degree program
___Bachelor's degree program, with general education requirements satisfied prior to beginning radiation therapy didactic and clinical work
___Bachelor's degree program, with general education requirements satisfied after radiation therapy didactic and clinical work were completed
___ Bachelor's degree program, with integrated general education and radiation therapy didactic and clinical work
___Bachelor's degree program, followed by a one- or two-year RTT certificate program
___Other (*Please specify*_____)

9. How long have you practiced in radiation therapy (excluding preparatory education)?
_____ years (*Round to nearest full year – need not be consecutive years*)

10. How long have you practiced in your current position?
_____ years *(Round to nearest full year – should be consecutive years)*

11. Are you employed:
___Full-time ___Part-time ___PRN ___Temporary staff

12. Which of the following most aptly describes your current position?
___Staff radiation therapist ___Chief radiation therapist
___Medical dosimetrist ___Educator/instructor
___Educational program director ___Clinic director
___Department manager (*Please specify department*_____)
___Director of (*Please specify*_____)
___Other (*Please specify*_____)

13. In how many years do you plan to retire or leave the profession? _____ years
If leaving the profession other than for retirement, what will be your new career?
___Dosimetry ___Medical physics
___Other radiologic technology modality (*Please specify*_____)
___Other allied health profession (*Please specify*_____)
___Medical degree (*Please list specialty*_____)
___Other (*Please specify*_____)

Workplace Profile

14. Which of the following categories best describes your radiation therapy department/facility?
___Community hospital ___Government hospital ___University medical center
___Freestanding clinic ___Private physician practice
___Other (*Please specify*_____)

15. Please estimate how many patient starts your department/facility had in the past year.
_____

16. What is the total number of treatments/procedures (on average) carried out daily in your facility? _____

17. How many full-time radiation therapists work in your department/facility? ____
Please enter the number of these full-time therapists who are
____ARRT-registered _____Not registered, but ARRT eligible
____Neither registered nor eligible for ARRT certification

18. How many part-time or PRN radiation therapists work in your department/facility?
Please enter the number of these part-time/PRN therapists who are
____ARRT-registered _____Not registered, but ARRT eligible
____Neither registered nor eligible for ARRT certification

19. How many temporary/traveling/locum tenens therapists work in your department/facility?
___
What is the FTE total accounted for by these temporary radiation therapists? _____ FTE(s)

20. Would you describe your radiation therapy facility as
___Appropriately staffed ___Understaffed by _____ positions
___Overstaffed by _____ positions ___Don't know

21. If "understaffed," is it due to
___A budgeted FTE number that is too low for the department's workload
___Inability to fill budgeted positions
___Disagreement as to the appropriate staffing level for your department
___Other reason (*Please specify*_____)

22. For each of the following types of treatment unit, please indicate the average number of radiation therapists assigned per patient per unit of that type. Please also indicate what you believe, given the patient load per unit, would be the ideal number of radiation therapists per unit.

Number of radiation therapists assigned per treatment unit (*Please use "NA" if not applicable or if you do not use the equipment*)							
	Megavoltage	Simulator	CT/SIM	Brachytherapy	Stereotactic	Block/Mold	Other (*Please Specify*) _____
Actual Number							
Ideal Number							

23. Does your facility provide the following services? (C*heck all that apply*)

___CT/simulation
___PET
___PET/CT
___Pediatric radiation therapy
___Conformal radiation therapy delivery
___BID/TID vs. single treatment delivery
___High-dose rate brachytherapy
___Single dose stereotactic radiation therapy
___Fractionated dose stereotactic radiation therapy
___Total body irradiation
___LDR
___Gated delivery
___Total skin/electron
___Intraoperative
___Hyperthermia
___IMRT
___Ultrasound localization
___Image-guided localization
___Other (*Please specify*) _____

24. Compared to five years ago, are treatments at your facility:
___More complex ___Less complex ___About the same complexity ___Don't know

Practice Profile

25. Which of the following activities and procedures do the radiation therapy staff you supervise perform on a regular basis?

___Daily treatment
___CT simulation
___Basic care duties (nursing)
___Computerized dosimetry
___Treatment charting and documentation
___Conventional brachytherapy
___General office work
___Equipment quality assurance
___Laboratory procedures
___Patient care charting and documentation
___Patient monitoring
___Catheterization
___Venipuncture
___Loading of brachytherapy sources
___High-dose rate brachytherapy (HDR)
___IMRT
___Hyperthermia
___Simulation
___Hand calculations
___Custom block cutting
___Student clinical education
___Billing (charge capture)
___Side effect management
___Electrocardiography
___3D treatment planning
___Patient education
___Stereotactic radiation therapy
___Conformal therapy
___Contrast administration
___PET/CT
___Other (*Please specify*)_____

26. Currently, how many minutes, <u>on average</u>, do your radiation therapists spend with each patient? _____ minutes

27. Currently, how many patients per FTE do your radiation therapists treat in an <u>average</u> week? ____ patients per FTE staff therapist

28. How many patient visits does your department have per day? ____ patients

29. What percentage of your therapists' patient work is…? *(Write in percentages to total 100%)*
Inpatient care _____% Outpatient care_____%
Do not work with patients…..[ ]

30. What shift do you supervise more than half the time? *(Select one only)*

❑$_1$ Day Shift ❑$_2$ Evening Shift ❑$_3$ Extended Shifts ❑$_4$ Swing/Rotating Shift

31. What is your typical commute time from your home to your work (One way)?
_____ minutes *(Whole number please, no ranges. Write in <u>one way</u> total minutes.)*

32. How many hours do you work in a <u>typical workweek</u> in or supervising radiation therapy? *(Select one only)*
❑$_1$ Under 16 ❑$_2$ 16-25 ❑$_3$ 26-35 ❑$_4$ 36-45 ❑$_5$ 46-55 ❑$_6$ Over 55

Overall Satisfaction

Please answer all questions in this section in terms of your job in radiation therapy only. Do not include other jobs you may have.

33. Using the scale below, please rate your overall satisfaction with the following: *("X" one box for each)*

	☹ Very Dissatisfied	Some-what Dissatisfied	Neither Satisfied nor Dissatisfied	Some-what Satisfied	Very Satisfied ☺	Does Not Apply
	1	2	3	4	5	X
The primary facility you work at	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your department	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your job	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your direct supervisor(s)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your radiation oncologist(s)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your physicist(s)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your coworkers	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your radiation therapy administration	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Overall administration of the larger facility (e.g., hospital) within which your department is located	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Quality of patient care	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Broad Workplace Environment Preferences

34. Next, we would like to see your preference, if any, between selected attributes.

> **First**, an example: If you totally prefer dogs over cats then you would circle the 4 under "Dogs." If you prefer dogs over cats but still like cats a little then you would circle either 3, 2 or 1 on the "Dogs" side of 0, depending on your preference. You would circle 0 if you have equal preference. If you preferred cats over dogs then you would circle 1, 2, 3 or 4 on the "Cats" side of 0 depending on amount of preference.

Do you prefer dogs or cats?				Equal					
	Cats			Preference				Dogs	
	4	3	2	1	0	1	2	3	4

Indicate your broad workplace/professional environment preferences:

Would you rather work on a swing/rotating shift or always on the same shift?	Same Shift			Equal Preference				Swing Shift	
	4	3	2	1	0	1	2	3	4
Would you rather work on an inpatient care basis or an outpatient care basis?	Out-patient			Equal Preference				In-patient	
	4	3	2	1	0	1	2	3	4
Would you rather have a great salary or work in a great environment?	Great work Environment			Equal Preference				Great Salary	
	4	3	2	1	0	1	2	3	4
Would you rather work in an urban or a rural setting?	Rural			Equal Preference				Urban	
	4	3	2	1	0	1	2	3	4
Would you rather work in a hospital or a nonhospital setting such as a clinic?	Non-hospital			Equal Preference				Hospital	
	4	3	2	1	0	1	2	3	4
Would you rather work as a therapist or an administrator?	Administrator			Equal Preference				Therapist	
	4	3	2	1	0	1	2	3	4

Detailed Evaluation of Current Workplace

35. Please rate your current workplace on each of the following.

Once again, we are speaking about your current job at your primary facility

(Please mark only one answer per statement.)

	Very ☹Poor	Poor	Fair	Good	Very Good☺
This facility's reputation	1	2	3	4	5
How well therapists are educated in their jobs	1	2	3	4	5
Radiation therapists receive performance evaluations based on job specifications	1	2	3	4	5
Adequacy (numbers, types) of support staff	1	2	3	4	5
Therapist input is valued	1	2	3	4	5
Proper compensation for extra hours therapists put in	1	2	3	4	5
Wages for radiation therapists compared to other facilities in the area	1	2	3	4	5
Compliance with occupational safety guidelines for radiation and disease exposure	1	2	3	4	5
Safety of workplace in terms of neighborhood and building security	1	2	3	4	5
Radiation therapy equipment age and state-of-the-art capabilities	1	2	3	4	5
The overall department layout facilitates the radiation therapist's job	1	2	3	4	5
Employer-provided insurance benefits	1	2	3	4	5
Employer-provided retirement benefits	1	2	3	4	5
Ability to tailor my work schedule to fit personal needs	1	2	3	4	5
Radiation therapists' ability to spend the proper amount of time with each patient	1	2	3	4	5
The respect therapists receive from radiation oncologists	1	2	3	4	5
The respect therapists receive from dosimetrists	1	2	3	4	5
The respect therapists receive from physicists	1	2	3	4	5
The respect therapists receive from nurses	1	2	3	4	5
Therapists' ability to provide accurate treatment	1	2	3	4	5
Therapists' ability to control their careers	1	2	3	4	5
The adequacy of internal/on-site training provided to radiation therapists	1	2	3	4	5
The extent to which personal needs of staff (e.g., convenient location, daycare, senior care) are met	1	2	3	4	5
The condition of this building's basic operational equipment (elevators, lighting, etc)	1	2	3	4	5

Communication within the department	1	2	3	4	5
Radiation therapists' reimbursement for professional activities	1	2	3	4	5
Job security (few or no concerns about being laid off)	1	2	3	4	5
Department staff act professionally	1	2	3	4	5
Equipment reliability	1	2	3	4	5

36. Would you consider where your main work location: *(Select one only)*
❑$_1$ Urban ❑$_2$ Suburban ❑$_3$ Rural

37. Using your best estimate, what is the average length of time (tenure) the radiation therapists you supervise have been working at your primary workplace?
_____ average years radiation therapy staff employed *(Round to nearest full year)*

Issues in Radiation Therapy

For this section, please think about the new graduates of radiation therapy programs you have hired in the past three years.

38. What percentage of these newly hired graduates are prepared to work:
___Unsupervised **___ With minimal supervision**
___Only under direct supervision
___ Under other conditions (*Please specify*) _____

39. When provided the appropriate level of supervision, what proportion of the procedures in your department can they perform?
___All ___Almost all ____Most
___Fewer than half ___Only a few
___None without extensive additional training

40. If you checked anything other than "all procedures," which procedures are these newly hired new graduates least prepared to perform?
_____
_____
_____

41. In your opinion, is the lack of skills with new graduates you hire due primarily to
___Their educational program
___Their individual characteristics
___Both of the above equally
___Other factor(s) (*Please specify)*_____
___N/A; I'm fully satisfied with new graduates' skills.

42. Do you apply different hiring criteria when faced with a shortage of radiation therapists?
If so, please explain briefly how the shortage affects your hiring decisions. _____
_____
_____

43. Do the new graduates you hire identify procedure errors
___More readily than the other therapists in your department
___About as often as the other therapists
___Less often than the other therapists
If "less often", have you noticed any particular kinds of errors that the new graduates are especially likely to miss?
___Yes ___No
If "Yes", please specify: _____
_____

44. Do you use any assessment tool(s) to evaluate the new graduates you hire?
___Yes ___No
If "Yes," please describe: _____
_____

45. What percentage of the new graduates you have hired over the past three years came from:
___1-year certificate programs ___2-year certificate programs
___Associate degree programs
___Bachelor's degree programs in which general education requirements are satisfied prior to
beginning radiation therapy didactic and clinical work
___Bachelor's degree programs in which general education requirements are satisfied after radiation therapy didactic and clinical work are completed
___Bachelor's degree programs that are followed by a one- or two-year RTT certificate program
___ Bachelor's degree program, with integrated general education and radiation therapy didactic and clinical work
___Other (*Please specify*) _____
___Don't know / haven't noticed

46. Do you believe there is a difference in the skills of students graduating from the above types of programs?
___Yes ___No ___Don't know / haven't noticed
___No, but I believe there are substantial differences among particular programs' graduates
If "Yes," please explain the nature of the differences (especially which types of programs produce the most skilled graduates)_____
_____
If "No, but …," is there anything about the programs that produce relatively skilled vs. relatively unskilled graduates to which you can attribute these differences? ___No ___Yes

If "Yes," please explain:_____
_____

47. What would you like new graduates to know about radiation therapy and its practice that they don't seem to know? _____
_____

48. In your experience, how do new graduates compare with therapists with three or five years of experience?

(-3 = much worse 0 = about the same +3 = much better)

Skill or characteristic	Rating of New Graduates Relative to Therapists with 3 years experience	with 5 years experience
Clinical evaluation	_____	_____
Patient care (education, assessment, management)	_____	_____
Therapeutic decision making	_____	_____
Pre-treatment procedures (planning, localization, simulation)	_____	_____
Delivery of treatment	_____	_____
Professional role/development	_____	_____
Quality assurance	_____	_____
Safety assurance	_____	_____
Billing/charge capture	_____	_____
Ability to assist with special procedures:		
HDR	_____	_____
LDR	_____	_____
IMRT	_____	_____
Gamma knife	_____	_____
Stereotactic radiosurgery	_____	_____
Prostate seed implants	_____	_____
Therapeutic radionuclides	_____	_____
Intraoperative	_____	_____
Computer skills & comfort level	_____	_____

Now we'd like your help in assessing the recent and future impact of new technologies on the practice of radiation therapy.

49. How have technological developments over the past five years affected the number of patients your department can treat in a given week?

_____ Increased number of patients treated per FTE staff therapist greatly
_____ Increased number of patients treated per FTE staff therapist somewhat
_____ Had very little effect on the number of patients treated per FTE staff therapist
_____ Decreased number of patients treated per FTE staff therapist somewhat
_____ Decreased number of patients treated per FTE staff therapist greatly

_____ Other (*Please specify*_____)

50. How have technological developments over the past five years affected the quality of care your department delivers to patients?
_____ Increased quality of care greatly
_____ Increased quality of care somewhat
_____ Had very little effect on quality of care
_____ Decreased quality of care somewhat
_____ Decreased quality of care greatly
_____ Other (*Please specify*_____)

51. In general, which of the following kinds of staff therapists have you found to be most able to adapt to and make use of technological developments in their practice?
____Recent graduates of radiation therapy programs
____Therapists with 3 - 5 years of work experience in radiation therapy
____Therapists with 6-10 years of work experience in radiation therapy
____Therapists with 11-20 years of work experience in radiation therapy
____Therapists with more than 20 years of work experience in radiation therapy

52. What other impacts have technological developments had on your department over the past few years?
_____
_____
_____

Demographics

Finally, a few general, demographic questions:

53. Your Year of Birth: _____ 54. Gender: ___Male ___Female

54. Marital Status: ❑$_1$ Married ❑$_2$ Single

55. How many people live in your household? *(Select one only)*
❑$_1$ One ❑$_2$ Two ❑$_3$ Three ❑$_4$ Four ❑$_5$ Five ❑$_6$ More than 5

56. How many children under the age of 18 live in your household? *(Select one only)*
❑$_0$ None ❑$_1$ One ❑$_2$ Two ❑$_3$ Three ❑$_4$ Four ❑$_5$ Five ❑$_6$ More than 5

57. Which of the following best describes your ethnic background?
❑$_1$ African-American ❑$_2$ Asian/Pacific Islander ❑$_3$ Caucasian ❑$_4$ Hispanic ❑$_5$ Other:_____

58. What is the highest educational level you have completed?
___High school or equivalent ___Baccalaureate degree

___Certificate
___Advanced certificate(s)
___Associate degree
___Master's degree
___Doctoral degree
___Other (Please specify_____)

Thank you for your help. Please return the survey in the postage paid envelope by Sept. 15, 2003.

Environmental Scan of the Radiation Therapist's Workplace:
Staff and Senior Staff Therapists' Version

Professional Profile

1. State in which primary workplace is located _____ (*Please use two-letter postal abbreviation*)

2. Are you currently working in radiation therapy?
___Yes (*Skip to question 6)* ___No (*Continue to question 3)*

If you answered "No" to question 2:

3. How many years did you work in radiation therapy? _____ (*Please round to nearest year*)

4. Are you unemployed or employed outside radiation therapy due to
___ retirement ___ career change ___ job unavailability
___ other reason (*Please specify*_____)

5. Are you planning on returning to radiation therapy?
___Yes (*Continue to question 6*) ___No (*Stop now and return this questionnaire*)

6. How many years (not necessarily consecutively) have you practiced in the radiologic sciences?
_____ years *(Round to nearest full year. Do not include years for preparatory education.)*

14. In what year did you obtain your first ARRT certificate? _____
In what radiologic specialty did you obtain your first certification? _____

15. From what type of radiation therapy educational program did you graduate to qualify for the registry exam in radiation therapy?
___1-year certificate program ___2-year certificate program ___Associate degree program
___Bachelor's degree program, with general education requirements satisfied prior to beginning radiation therapy didactic and clinical work
___Bachelor's degree program, with general education requirements satisfied after radiation therapy didactic and clinical work were completed
___ Bachelor's degree program, with integrated general education and radiation therapy didactic and clinical work
___Bachelor's degree program, followed by a one- or two-year RTT certificate program
___Other (*Please specify*_____)

9. How long have you practiced in radiation therapy (excluding preparatory education)?
____ years. (*Round to nearest full year – need not be consecutive years*)

10. How long have you practiced in your current position?

_____ years *(Round to nearest full year – should be consecutive years)*

11. Are you employed:
___Full-time ___Part-time ___PRN ___Temporary staff

12. Which of the following most aptly describes your current position?
___Staff radiation therapist ___Chief radiation therapist
___Medical dosimetrist ___Educator/instructor
___Educational program director ___Clinic director
___Department manager (*Please specify department*_____)
___Director of (*Please specify*_____)
___Other (*Please specify*_____)

13. In how many years do you plan to retire or leave the profession? _____years
If leaving the profession other than for retirement, what will be your new career?
___Dosimetry ___Medical physics
___Other radiologic technology modality (*Please specify*_____)
___Other allied health profession (*Please specify*_____)
___Medical degree (*Please list specialty*_____)
___Other (*Please specify*_____)

Workplace Profile

14. Which of the following categories best describes your radiation therapy department/facility?
___Community hospital ___Government hospital ___University medical center
___Freestanding clinic ___Private physician practice
___Other (*Please specify*_____)

15. Please estimate how many patient starts your department/facility had in the past year. _____

16. What is the total number of treatments/procedures (on average) carried out daily in your facility? _____

17. How many full-time radiation therapists work in your department/facility? _____
Please enter the number of these full-time therapists who are
____ARRT-registered _____Not registered, but ARRT eligible
____Neither registered nor eligible for ARRT certification

18. How many part-time or PRN radiation therapists work in your department/facility? ____
Please enter the number of these part-time/PRN therapists who are
____ARRT registered _____Not registered, but ARRT eligible
____Neither registered nor eligible for ARRT certification

19. How many temporary/traveling/locum tenens therapists work in your department/facility?
___
What is FTE total accounted for by these temporary radiation therapists? _____ FTE(s)

20. Would you describe your radiation therapy facility as:
___Appropriately staffed ___Understaffed by ___ positions
___Overstaffed by ___ positions ___Don't know

21. If "understaffed," is it due to
___A budgeted FTE number that is too low for the department's workload
___Inability to fill budgeted positions
___Disagreement as to the appropriate staffing level for your department
___Other reason (*Please specify*_____)

22. For each of the following types of treatment unit, please indicate the average number of radiation therapists assigned per patient per unit of that type. Please also indicate what you believe, given the patient load per unit, would be the ideal number of radiation therapists per unit.

Number of radiation therapists assigned per treatment unit (*Please use "NA" if not applicable or if you do not use the equipment*)							
	Megavoltage	Simulator	CT/SIM	Brachytherapy	Stereotactic	Block/Mold	Other (*Please Specify*) _____
Actual Number							
Ideal Number							

23. Does your facility provide the following services? (*Check all that apply*)
___CT/simulation
___PET
___PET/CT
___Pediatric radiation therapy
___Conformal radiation therapy delivery
___BID/TID vs. single treatment delivery
___High-dose rate brachytherapy
___Single dose stereotactic radiation therapy
___Fractionated dose stereotactic radiation therapy
___Other (*Please specify*) _____
___Total body irradiation
___LDR
___Gated delivery
___Total skin/electron
___Intraoperative
___Hyperthermia
___IMRT
___Ultrasound localization
___Image-guided localization

24. Compared to five years ago, are treatments at your facility:
___More complex ___Less complex ___About the same complexity ___Don't know

PRACTICE PROFILE

25. Which of the following activities and procedures do you perform on a regular basis?

___Daily treatment ___IMRT

___CT simulation
___Basic care duties (nursing)
___Computerized dosimetry
___Treatment charting and documentation
___Conventional brachytherapy
___General office work
___Equipment quality assurance
___Laboratory procedures
___Patient care charting and documentation
___Patient monitoring
___Catheterization
___Venipuncture
___Loading of brachytherapy sources
___High-dose rate brachytherapy (HDR)
___Hyperthermia
___Simulation
___Hand calculations
___Custom block cutting
___Student clinical education
___Billing (charge capture)
___Side effect management
___Electrocardiography
___3D treatment planning
___Patient education
___Stereotactic radiation therapy
___Conformal therapy
___Contrast administration
___PET/CT
___Other (*Please specify*)_____

26. Currently, how many minutes, <u>on average</u>, do you spend with each patient? _____ minutes

27. Currently, how many patients do you treat in an <u>average</u> week? ____ patients

28. How many patient visits do you have per day? ___ patients

29. What percentage of your patient work is…? *(Write in percentages to total 100%)*
Inpatient care _____% Outpatient care_____%
Do not work with patients…..[ ]

30. On which shift do you practice more than half the time? *(Select one only)*

❑$_1$ Day Shift ❑$_2$ Evening Shift ❑$_3$ Extended Shifts ❑$_4$ Swing/Rotating Shift

31. What is your typical commute time from your home to your work (one way)?
_____ minutes *(Whole number please, no ranges. Write in <u>one way</u> total minutes.)*

32. How many hours do you work in a <u>typical work week</u> in radiation therapy? *(Select one only)*
❑$_1$ Under 16 ❑$_2$ 16-25 ❑$_3$ 26-35 ❑$_4$ 36-45 ❑$_5$ 46-55 ❑$_6$ Over 55

Overall Satisfaction

Please answer all questions in this section in terms of your job in radiation therapy only. Do not include other jobs you may have.

33. Using the scale below, please rate your overall satisfaction with the following: *("X" one box for each)*

	☹ Very Dissatisfied	Some-what Dissatisfied	Neither Satisfied nor Dissatisfied	Some-what Satisfied	Very Satisfied ☺	Does Not Apply
	1	2	3	4	5	X
The primary facility you work at	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your department	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your job	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your direct supervisor(s)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your radiation oncologist(s)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your physicist(s)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your coworkers	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Your radiation therapy administration	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Overall administration of the larger facility (e.g., hospital) within which your department is located	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Quality of patient care	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Broad Workplace Environment Preferences

34. Next, we would like to see your preference, if any, between selected attributes.

> **First**, an example: If you totally prefer dogs over cats then you would circle the 4 under "Dogs." If you prefer dogs over cats but still like cats a little then you would circle either 3, 2 or 1 on the "Dogs" side of 0, depending on your preference. You would circle 0 if you have equal preference. If you preferred cats over dogs then you would circle 1, 2, 3 or 4 on the "Cats" side of 0 depending on amount of preference.

Do you prefer dogs or cats?				Equal					
	Cats			Preference				Dogs	
	4	3	2	1	0	1	2	3	4

Indicate your broad workplace/professional environment preferences:

Would you rather work on a swing/rotating shift or always on the same shift?	Same Shift			Equal Preference				Swing Shift	
	4	3	2	1	0	1	2	3	4
Would you rather work on an inpatient care basis or an outpatient care basis?	Out-patient			Equal Preference				In-patient	
	4	3	2	1	0	1	2	3	4
Would you rather have a great salary or work in a great environment?	Great work Environment			Equal Preference				Great Salary	
	4	3	2	1	0	1	2	3	4
Would you rather work in an urban or a rural setting?	Rural			Equal Preference				Urban	
	4	3	2	1	0	1	2	3	4
Would you rather work in a hospital or a nonhospital setting such as a clinic?	Non-hospital			Equal Preference				Hospital	
	4	3	2	1	0	1	2	3	4
Would you rather work as a therapist or an administrator?	Administrator			Equal Preference				Therapist	
	4	3	2	1	0	1	2	3	4

Detailed Evaluation of Current Workplace

35. Please rate your current workplace on each of the following.

Once again, we are speaking about your CURRENT JOB at your PRIMARY FACILITY
(Please mark only ONE ANSWER per statement.)

	Very ☹Poor	Poor	Fair	Good	Very Good☺
This facility's reputation	1	2	3	4	5
How well therapists are educated in their jobs	1	2	3	4	5
Radiation therapists receive performance evaluations based on job specifications	1	2	3	4	5
Adequacy (numbers, types) of support staff	1	2	3	4	5
Therapist input is valued	1	2	3	4	5
Proper compensation for extra hours therapists put in	1	2	3	4	5
Wages for radiation therapists, compared to other facilities in the area	1	2	3	4	5
Compliance with occupational safety guidelines for radiation and disease exposure	1	2	3	4	5
Safety of workplace in terms of neighborhood and building security	1	2	3	4	5
Radiation therapy equipment age and state-of-the-art capabilities	1	2	3	4	5
The overall department layout facilitates the radiation therapist's job	1	2	3	4	5
Employer-provided insurance benefits	1	2	3	4	5
Employer-provided retirement benefits	1	2	3	4	5
Ability to tailor my work schedule to fit personal needs	1	2	3	4	5
Radiation therapists' ability to spend the proper amount of time with each patient	1	2	3	4	5
The respect therapists receive from radiation oncologists	1	2	3	4	5
The respect therapists receive from dosimetrists	1	2	3	4	5
The respect therapists receive from physicists	1	2	3	4	5
The respect therapists receive from nurses	1	2	3	4	5
Therapists' ability to provide accurate treatment	1	2	3	4	5
Therapists' ability to control their careers	1	2	3	4	5
The adequacy of internal/on-site training provided to radiation therapists	1	2	3	4	5
The extent to which personal needs of staff (e.g., convenient location, daycare, senior care) are met	1	2	3	4	5
The condition of this building's basic operational equipment (elevators, lighting, etc)	1	2	3	4	5

Communication within the department	1	2	3	4	5
Radiation therapists' reimbursement for professional activities	1	2	3	4	5
Job security (few or no concerns about being laid off)	1	2	3	4	5
Department staff act professionally	1	2	3	4	5
Equipment reliability	1	2	3	4	5

36. Would you consider your main work location: *(Select one only)*
❑$_1$ Urban ❑$_2$ Suburban ❑$_3$ Rural

37. Using your best estimate, what is the average length of time (tenure) the radiation therapy staff has been working at your primary workplace?
_____ average years radiation therapy staff employed *(Round to nearest full year)*

Issues in Radiation Therapy

Next, we would like to get your opinions on a number of issues of concern to radiation therapists.

First, we would like your opinion about how well your educational program for certification in radiation therapy prepared you for practice as a radiation therapist.

38. Upon arriving at your first post-certification job, were you prepared to work:
___Unsupervised **___ With minimal supervision**
___Only under direct supervision
___Under other conditions (*Please specify*_____)

39. When provided the appropriate level of supervision, what proportion of the procedures in your department could you perform?
___All ___Almost all ____Most
___Fewer than half ___Only a few
___None without extensive additional training

40. If you checked anything other than "all procedures," which procedures were you least prepared to perform?
_____
_____
_____

41. What percentage of the new radiation therapy program graduates with whom you have worked over the past three years came from:

___1-year certificate programs ___2-year certificate programs
___Associate degree programs
___Bachelor's degree programs in which general education requirements are satisfied prior to beginning radiation therapy didactic and clinical work
___Bachelor's degree programs in which general education requirements are satisfied after radiation therapy didactic and clinical work are completed
___Bachelor's degree programs that are followed by a one- or two-year RTT certificate program
___ Bachelor's degree program, with integrated general education and radiation therapy didactic and clinical work
___Other (*Please specify*_____)
___Don't know / haven't noticed

42. Do you believe there is a difference in the skills of students graduating from the above types of programs?

___Yes ___No ___Don't know / haven't noticed
___No, but I believe there are substantial differences among particular programs' graduates
If "Yes," please explain the nature of the differences (especially which types of programs produce the most skilled graduates):_____
_____
If "No, but …," is there anything about the programs that produce relatively skilled vs. relatively unskilled graduates to which you can attribute these differences? ___No ___Yes
If "Yes," please explain: _____
_____

43. What would you like to have known about radiation therapy and its practice that you didn't know when you began your first post-certification job in radiation therapy?

_____
_____

Next, we'd like your help in assessing the recent and future impact of new technologies on the practice of radiation therapy.

44. How have technological developments over the past five years affected the number of patients you and your coworkers can treat in a given week?

_____Increased number of patients treated per FTE staff therapist greatly
_____Increased number of patients treated per FTE staff therapist somewhat
_____Had very little effect on the number of patients treated per FTE staff therapist
_____Decreased number of patients treated per FTE staff therapist somewhat
_____Decreased number of patients treated per FTE staff therapist greatly
_____Other (*Please specify* _____)

45. How have technological developments over the past five years affected the quality of care you are able to deliver to your patients?
_____Increased quality of care greatly
_____Increased quality of care somewhat
_____Had very little effect on quality of care
_____Decreased quality of care somewhat
_____Decreased quality of care greatly
_____ Other (*Please specify*
_____)

46. How would you rate your eagerness, as well as your ability to adapt to and make use of technological developments in your practice?
____ I find it very difficult to get "up to speed" in the use of new technology, given the pace at which such new technologies appear today
____While I find learning to use new technology difficult, I'm willing and able to do so
____I find that the time it takes me to learn to use new technology well is minimal, given the potential benefits
____I eagerly seek out and quickly get "up to speed" in the use of new technology
____Other (*Please specify*)_____

47. What other impacts have technological developments had on your department over the past few years?
_____
_____

Demographics

Finally, a few general, demographic questions:

48. Your Year of Birth: _____ 56. Gender: ___Male ___Female

49. Marital Status: ❑$_1$ Married ❑$_2$ Single

50. How many people live in your household? *(Select one only)*
❑$_1$ One ❑$_2$ Two ❑$_3$ Three ❑$_4$ Four ❑$_5$ Five ❑$_6$ More than 5

51. How many children under the age of 18 live in your household? *(Select one only)*
❑$_0$ None ❑$_1$ One ❑$_2$ Two ❑$_3$ Three ❑$_4$ Four ❑$_5$ Five ❑$_6$ More than 5

52. Which of the following best describes your ethnic background?
❑$_1$ African-American ❑$_2$ Asian/Pacific Islander ❑$_3$ Caucasian ❑$_4$ Hispanic ❑$_5$ Other:_____

53. What is the highest educational level you have completed?
___High school or equivalent ___Baccalaureate degree

___Certificate
___Advanced certificate(s)
___Associate degree
___Master's degree
___Doctoral degree
___Other (*Please specify* _____)

Thank you for your help. Please return the survey in the postage paid envelope by Sept. 15, 2003.