



American Society of
Radiologic Technologists

ENROLLMENT SNAPSHOT OF RADIOGRAPHY, RADIATION THERAPY AND NUCLEAR MEDICINE TECHNOLOGY PROGRAMS

2009

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EXECUTIVE SUMMARY

In early September 2009, an invitation to complete an online questionnaire was sent via e-mail to each of the 1,004 radiography, radiation therapy and nuclear medicine technology programs listed by the American Registry of Radiologic Technologists (ARRT). As of October 16, 2009, 589 programs returned the questionnaire, which represented an overall return rate of 59%.

This report summarizes findings regarding radiologic science program enrollment based on the responses. Verbatim comments appear in Appendix B.

Demographic Analysis

Of the 745 radiography programs, 455 (61%) responded to the survey. Of 122 radiation therapy programs, 62 (51%) responded to the survey. In addition, 66 of 137 (48%) nuclear medicine technology programs and 6 other/unspecified programs responded .

Program directors reported that radiography programs are more likely (65.1%) than radiation therapy (25.9%) and nuclear medicine technology programs (26.4%) to offer only an associate degree. Conversely, radiography programs are less likely (6.1% vs. 33.3% for radiation therapy and 41.5% for nuclear medicine) to confer only a bachelor's degree. Radiation therapy and nuclear medicine technology programs did not differ significantly in either of these respects.

About 97% of the respondents indicated that their program is located in the United States. Program directors were asked what region within the United States they are located. There were no statistically significant differences in the regions by discipline or among the population distribution.

2009 Enrollment Trends

Estimates for first-year enrollments are 16,759 radiography students, 1,505 radiation therapy students and 1,482 nuclear medicine technology students. These estimates represent decreases (ranging from 1.9% for radiography and .5% for radiation therapy to 15% for nuclear medicine technology programs) relative to 2008 enrollments — despite the fact that the number of programs offering education in radiography and nuclear medicine technology have increased.

Student Capacity

Overall, 56% of program directors reported full enrollment in fall 2009 compared with 61.4% in 2008. Directors of programs at full enrollment reported turning away about 20,729 qualified students, while programs not at full enrollment reported unused capacity totaling only 1,747 students.

Near-term Changes

About 9.6% of radiography program directors, 16.7% of radiation therapy program directors and 15.4% of nuclear medicine technology program directors reported that they plan to decrease enrollments. About 8% of radiography program directors, 3.3% of radiation therapy program directors and 15.4% of nuclear medicine technology program directors plan increases. Eight programs indicated that they will be closing and report a mean number of 2.04 years of continuing before closure.

Attrition Analysis

The mean attrition rate for all programs during 2009 was 18.09%. This did not differ significantly from the previous two years. Radiography had the highest attrition rate, with a mean of 20.83% in 2009, compared with 10.98% for radiation therapy and 6.96% for nuclear medicine technology in 2009. When broken down by degree, associate degree programs had the highest attrition rate at 24.11% for 2009, compared with 12.86% for certificate programs and 7.45% for bachelor's degree programs.

Jobs in the United States

About 92.7% of all graduates have taken jobs in the United States.

Articulation Agreement

Program directors of certificate programs with an articulation agreement were asked when graduates receive their associate degree. About 77% indicated that this occurs, "after completion of the certificate program" with 18.2% indicating that it occurs "after successful completion of the ARRT registry exam." Comments in the "Other" response option that fit those two categorical choices were coded and computed in the frequencies and percents.

Forensic Component

About 39% of respondents said that they already have or are interested in adding a forensic component to the curriculum. Only 37% of programs have access to a morgue or medical examiner's office.

BACKGROUND, OBJECTIVES AND METHODOLOGY

This is the ninth in a series of annual reports from ASRT on class enrollments in educational programs for radiographers, radiation therapists and nuclear medicine technologists. (See Appendix A for the full questionnaire.)

In late September 2009 the ASRT e-mailed an invitation to complete an online questionnaire regarding entering-class enrollments to every radiography, radiation therapy and nuclear medicine technology program listed in the ARRT's list of education programs¹ for whom we had an e-mail address. In October, a reminder of the need for participation in the enrollment survey was e-mailed to all program directors who had not explicitly told us that they had responded to the survey.

The 2009 Enrollment Snapshot's primary objective was to document recent trends in the number of students entering educational programs in the primary disciplines of radiologic technology: radiography, radiation therapy and nuclear medicine technology. Program directors were asked to report their entering class sizes during the past three years. However, entering an educational program doesn't guarantee a student's entry into the radiologic technology work force; therefore, the survey also asked program directors to report their programs' attrition rates. Further, graduating from an ARRT-recognized educational program does not guarantee entry into the U.S. radiologic technology labor pool, so program directors also were asked to indicate the country in which their program is located and the approximate percentage of their recent graduates who have taken jobs in the United States. Program directors were surveyed about the future of their programs, including plans for increasing or decreasing enrollments and any possibility that the program might close within the next few years.

Statistical and Mathematical Notes

The high response rate means that the width of confidence intervals around sample means and the likelihood that the direction of a given sample difference matches the corresponding difference in the population are affected not only by absolute sample size (number of program directors responding to the question) but also by the *proportional* sample size. In particular, confidence intervals (the range of values within which there is a 95% chance that the true population value lies) for statistics based on the total sample are narrower by a factor of:

$\sqrt{1 - \frac{n-1}{N-1}} \approx \sqrt{.413} = .490$ than those that would be calculated without this *finite population adjustment*. Similarly,

standard errors (estimated standard deviations of sampling distributions) are smaller by that same factor, so that *t*-ratios and *F*-ratios are larger than they would be without the finite population adjustment. In short, having sampled a high percentage of all programs gives us greater confidence that the results are representative of the population of all radiography, radiation therapy and nuclear medicine technology educational programs.

¹ American Registry of Radiologic Technologists. ARRT-recognized educational programs. www.arrt.org/nd/listOfSchools.ndm/listSchools&iframe=yes . Accessed September 2008.

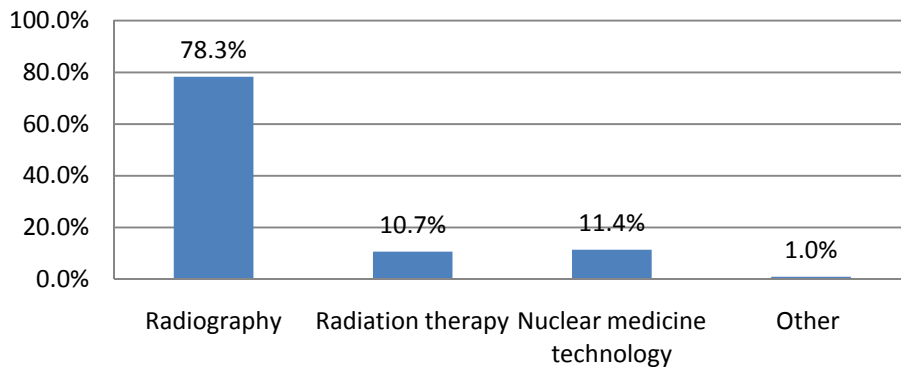
DEMOGRAPHIC ANALYSIS

1. Indicate your type of program.

	Responses		Percent of Cases
	N	Percent	
Radiography	455	77.2	78.3
Radiation therapy	62	10.5	10.7
Nuclear medicine technology	66	11.2	11.4
Other	6	1	1
Total	589	100	101.4 ^a

^aIncludes multiple-discipline programs.

1. Indicate your type of program.

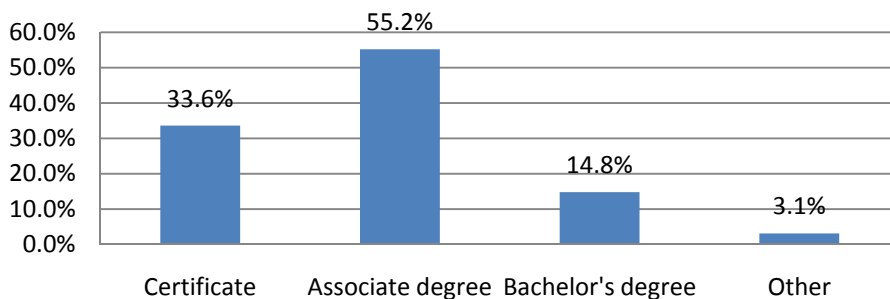


2. What is the terminal degree earned by your graduates

	Responses		Percent of Cases
	N	Percent	
Certificate	195	31.5	33.6
Associate degree	320	51.7	55.2
Bachelor's degree	86	13.9	14.8
Other	18	2.9	3.1
Total	619	100	106.7 ^a

^aIncludes multiple-discipline programs.

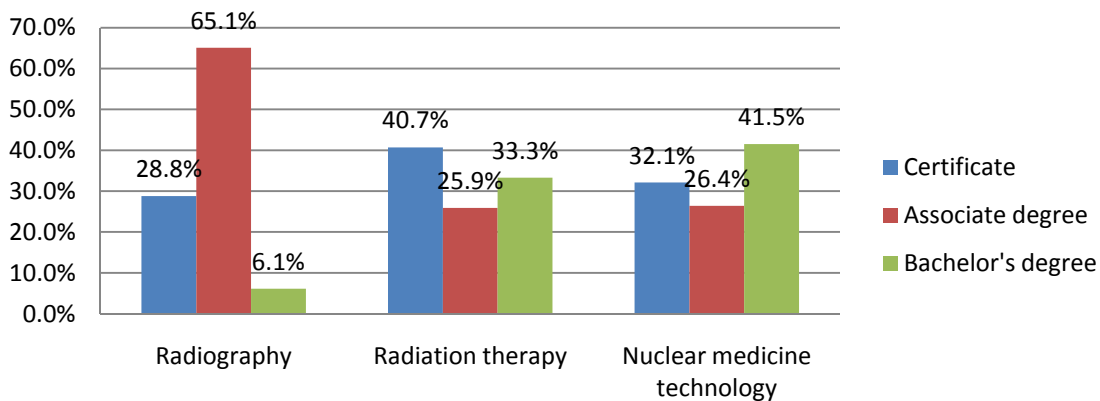
2. What is the terminal degree earned by your graduates?



2. What is the terminal degree earned by your graduates? By Discipline

		Discipline			Total
		Radiography	Radiation Therapy	Nuclear Medicine Technology	
Certificate	Count	123	22	17	162
	%	28.8	40.7	32.1	30.3
Associate degree	Count	278	14	14	306
	%	65.1	25.9	26.4	57.3
Bachelor's degree	Count	26	18	22	66
	%	6.1	33.3	41.5	12.4
Total	Count	427	54	53	534
	%	100	100	100	100
Statistically significant differences		Radiography programs are more likely (65.1%) than radiation therapy (25.9%) and nuclear medicine technology programs (26.4%) to offer only an associate degree [$\chi^2(1) = 25.51, p < .001$]. Conversely, they are less likely (6.1% vs. 33.3% vs. 41.5%) to confer only a bachelor's degree [$\chi^2(1) = 23.81, p < .001$]. Radiation therapy and nuclear medicine technology programs did not differ significantly in either of these respects.			

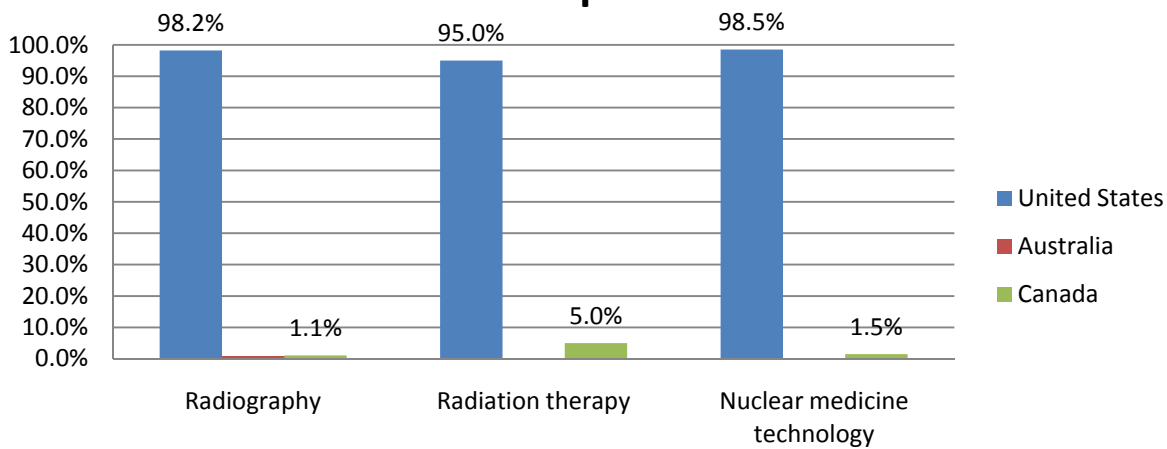
2. What is the terminal degree earned by your graduates? By discipline



4. In what country is your program located? By discipline

		Type of Program			Total
		Radiography	Radiation Therapy	Nuclear Medicine Technology	
United States	Count	444	57	64	565
	%	98.2	95.0	98.5	97.9
Australia	Count	3	0	0	3
	%	0.7	0	0	.5
Canada	Count	5	3	1	9
	%	1.1	5.0	1.5	1.6
Total	Count	452	60	65	577
	%	100	100	100	100
Statistically significant differences	None				

4. In what country is your program located? By discipline

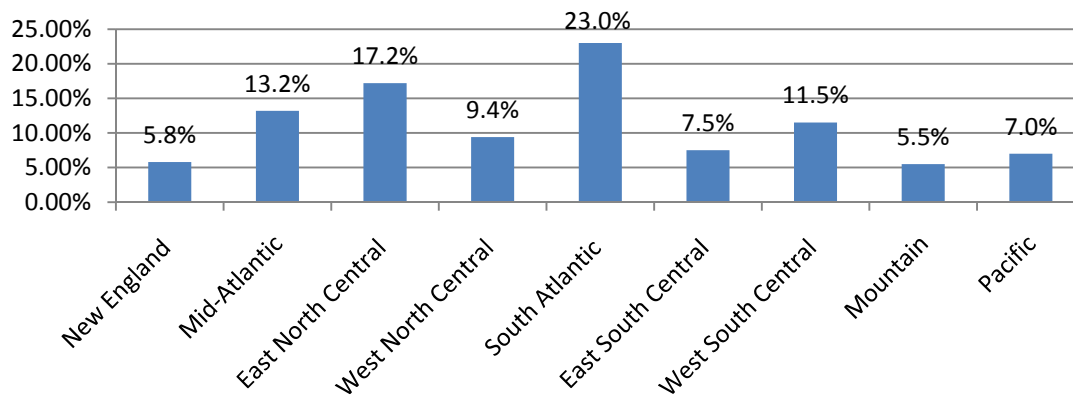


5. In what region is your program located? By discipline

		Type of program			Total	Population Distribution	Sample Return Percent of Population
		Radiography	Radiation Therapy	Nuclear Medicine Technology			
New England (ME, NH, VT, MA, RI, CT)	Count	24	8	4	36	55	65.45
	%	5.4	14	6.3	6.3	5.8	
Mid-Atlantic (NY, PA, NJ)	Count	56	8	10	74	125	59.20
	%	12.7	14	15.9	13.1	13.2	
East North Central (WI, MI, IL, IN, OH)	Count	84	9	10	103	163	63.19
	%	19	15.8	15.9	18.3	17.2	
West North Central (ND, SD, NE, KS, MN, IA, MO)	Count	39	7	7	53	89	59.55
	%	8.8	12.3	11.1	9.4	9.4	
South Atlantic (DE, MD, DC, VA, WV, NC, SC, GA, FL, PR)	Count	98	10	15	120	218	55.05
	%	22.2	17.5	23.4	21.8	23	
East South Central (KY, TN, MS, AL)	Count	33	2	6	41	71	57.75
	%	7.5	3.5	9.5	7.3	7.5	
West South Central (OK, TX, AR, LA)	Count	54	9	9	72	109	66.06
	%	12.2	15.8	14.3	12.8	11.5	
Mountain (ID, MT , WY, NV UT, CO, AZ, NM)	Count	23	0	2	25	52	48.08
	%	5.2	0	3.2	4.5	5.5	
Pacific (AK, WA, OR, CA, HI)	Count	31	4	1	36	66	54.55
	%	7	7	1.6	6.4	7	
Total	Count	442	57	64	563	948 ^a	59.07
	%	100	100	100	100	100	
Statistically significant differences	There were no statistically significant differences in the regions by discipline or among the population distribution.						

^aTotal does not include the 56 programs outside of the United States.

Population Distribution of Programs by Region

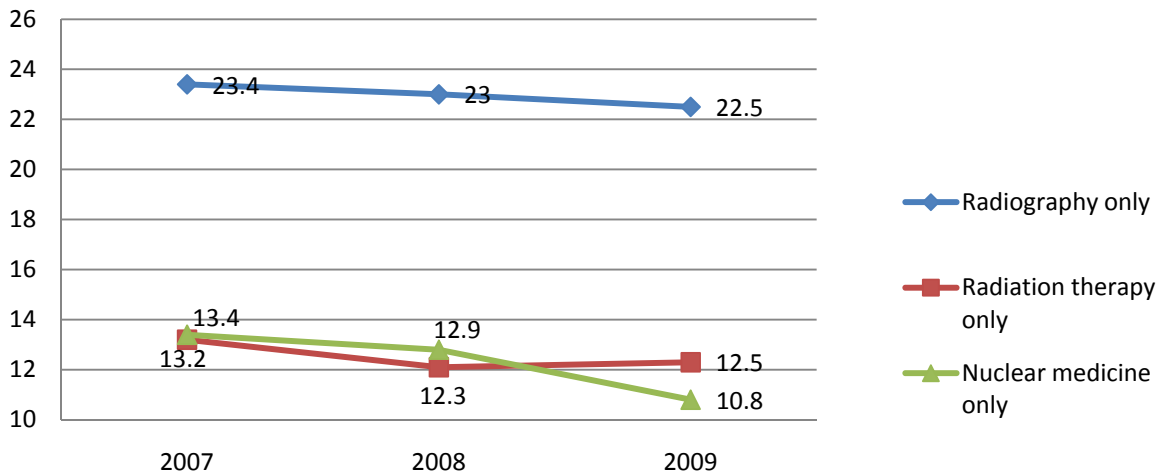


ENROLLMENT TRENDS

6. How many students entered your program in each of the following years? By discipline

Program Discipline	Mean Number of Students in Entering Class			Change 2007 - 2008	Change 2008- 2009	Statistically Significant Differences
	2007	2008	2009			
Radiography	23.4	23.0	22.5	-0.4 (-1.7%)	-0.5 (-2.2%)	2008 > 2009 ($p = .012$)
Radiation therapy	13.2	12.3	12.5	-0.9 (-6.8%)	0.2 (1.6%)	None
Nuclear medicine technology	13.4	12.9	10.8	-0.5 (-3.7%)	-2.1 (-16.3%)	2008>2009 ($p < .001$)
Overall	21.2	20.7	20.1	-0.5 (-2.4%)	-0.6 (-2.9%)	None

6. Mean Number of Students in Entering Class By Discipline

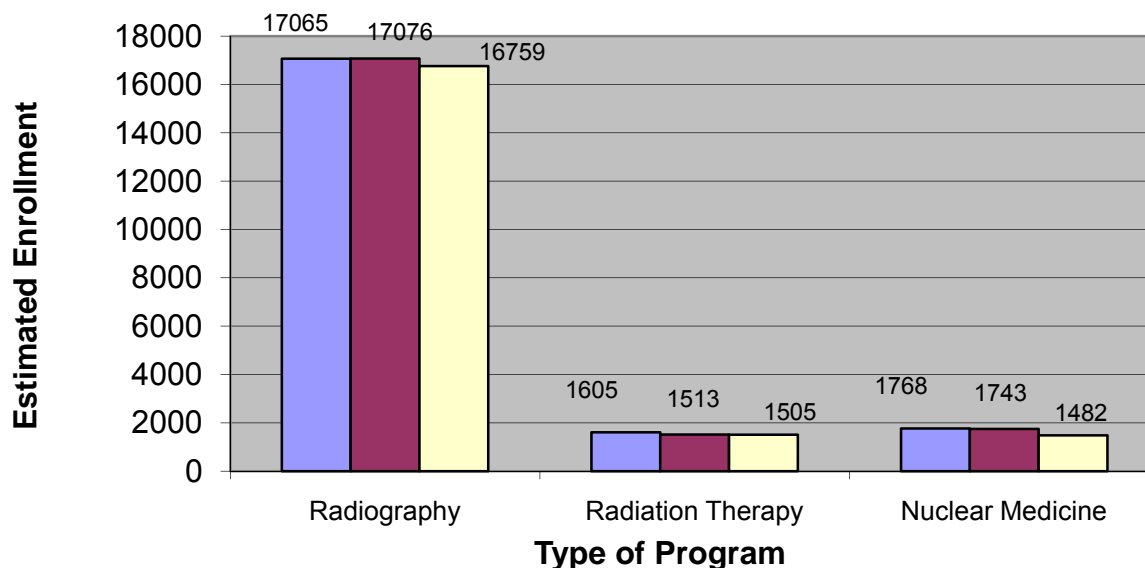


Crucial Results from Previous Tables and Graph

	Year	Mean No. of Entering Students	Programs Reporting Enrollments	No. of ARRT-Recog. Prog.	Total Reported Enrollment From Survey	Estimated Total, All Programs ^a	Percent Change From Previous Year	Return Rate (% of the Year's PDs Who Responded)
Radiography	2007	23.4	445	729	10,417	17,065	---	61.04
	2008	23.0	447	742	10,287	17,076	0.1	60.24
	2009	22.5	448	745	10,078	16,759	-1.9	60.13
Radiation Therapy	2007	13.2	59	122	776	1,605	---	48.36
	2008	12.1	59	125	714	1,513	-5.7	47.20
	2009	12.3	60	122	740	1,505	-0.5	49.18
Nuclear medicine technology	2007	13.4	64	132	857	1,768	---	48.48
	2008	12.8	65	136	833	1,743	-1.4	47.79
	2009	10.8	65	137	703	1,482	-15	47.45

^a [(No. of ARRT recognized programs)/(Programs reporting enrollments)] x (total reported enrollment from survey)
PDs – program directors.

Estimated Entering Class Enrollment: All ARRT-listed Programs



Comparison with Enrollment Trends Reported in 2008

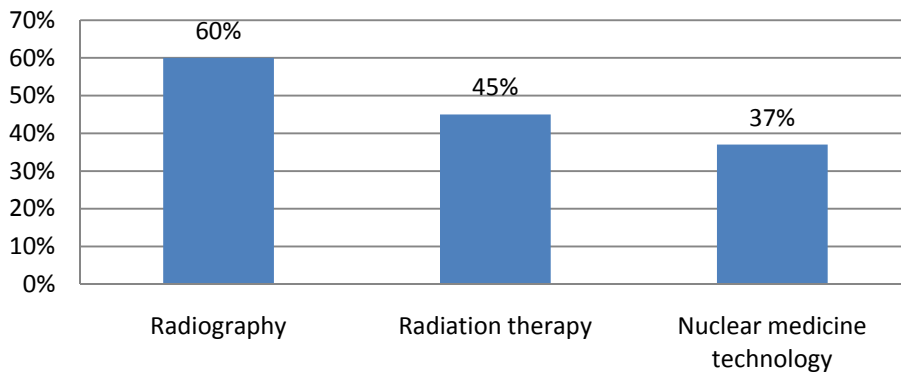
The changes in estimated total entering-class enrollments from 2007 to 2008 reported above are generally consistent with those reported in ASRT's Enrollment Snapshot 2008 for radiography (0.1% based on 2009's retrospective reports vs. -2.4% reported in Snapshot 2008), radiation therapy (-5.7% vs. -3%) and nuclear medicine technology (-1.4% vs. -9.7%). These discrepancies could just be a result of sampling fluctuation (i.e., because of chance differences between the sample of program directors who responded to this year's snapshot and those who responded to last year's.) For instance, the 95% confidence interval around this year's estimate of the 2007 total enrollment figure for radiography is ± 962 students. That is, the true total enrollment in the 729 radiography programs that were in operation in 2007 could be as low as 16,103 students or as high as 18,027 students.

STUDENT CAPACITY

7. Is your program currently at full enrollment? By discipline

	N	Mean Percent "Yes"	Std. Deviation
Radiography	447	60	49%
Radiation therapy	60	45	50.2%
Nuclear medicine technology	65	37	48.6%
Total	572	56	49.7%
Statistically significant differences	Radiog > nuc med ($p < .001$)		

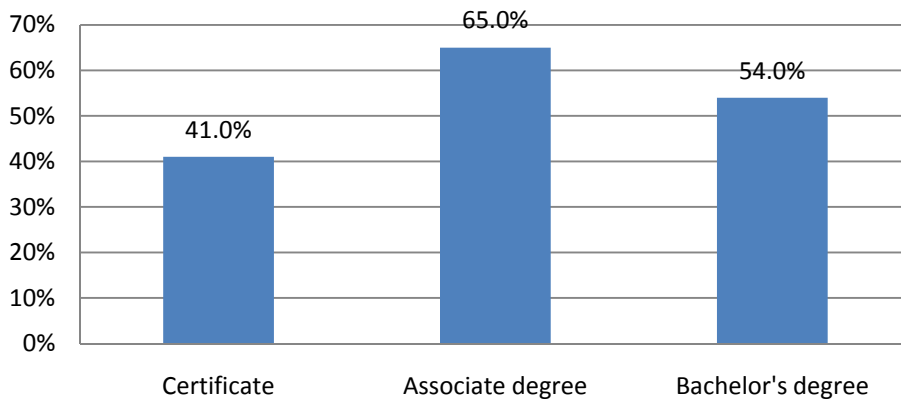
7. Is your program currently at full enrollment? By discipline



7. Is your program currently at full enrollment? By degree

	N	Mean % "Yes"	Std. Deviation (%)
Certificate	160	41	49.4
Associate degree	305	65	47.9
Bachelor's degree	67	54	50.2
Total	532	56	49.7
Statistically significant differences	Assoc > Certif ($p < .001$)		

7. Is your program currently at full enrollment? By degree

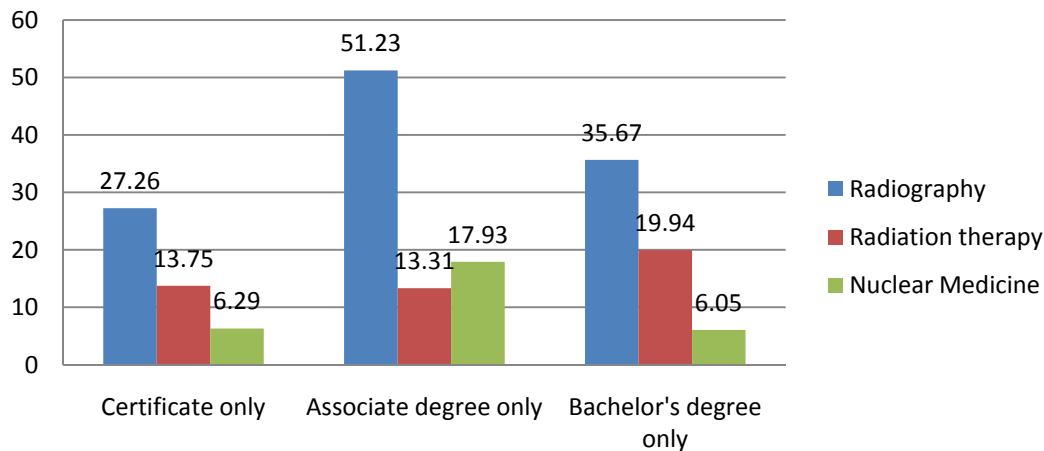


8. Approximately how many qualified students did you turn away this fall?

Only one program	Education	N	Mean	Std. Deviation	Statistically Significant Differences	Total No. Of Programs	Proportion of Programs at Full Enrollment	Estimated Total Over-supply ^a
Radiography	Certificate only	118	27.26	45.303	Assoc. > Certif. (P < .001)	745	.60	19,386
	Associate degree only	265	51.23	51.570				
	Bachelor's degree only	24	35.67	66.863				
	Total	407	43.37	51.897				
Radiation therapy	Certificate only	20	13.75	15.532	None (Including with finite population correction)	122	.45	869
	Associate degree only	13	13.31	13.683				
	Bachelor's degree only	18	19.94	23.127				
	Total	51	15.82	18.109				
Nuclear medicine technology	Certificate only	17	6.29	7.848	Assoc. > Certif. and Bach. (P = .04, .02)	137	.37	473
	Associate degree only	14	17.93	19.971				
	Bachelor's degree only	21	6.05	9.211				
	Total	52	9.33	13.493				
Total						1,004		20,729

^a(No. of programs in population) x (proportion not at full enrollment) x (total mean no. of additional students)

8. Mean Number of Students Turned Away

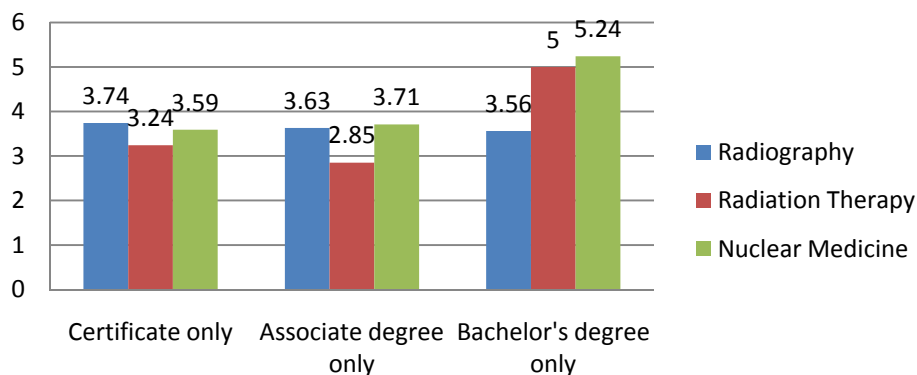


9. Approximately how many additional students could be accommodated by your program?

Only one program	Education	N	Mean	Std. Deviation	Statistically Significant Differences among the means	Total no. of Programs in Population	Proportion of Programs at Full Enrollment	Estimated Total Expansion Capacity ^a
Radiography	Certificate only	121	3.74	9.43	None	745	.40	1,088
	Associate degree only	265	3.63	8.11				
	Bachelor's degree only	25	3.56	5.33				
	Total	411	3.66	8.37				
Radiation therapy	Certificate only	21	3.24	3.38	None (Including with finite population correction)	122	.55	243
	Associate degree only	13	2.85	5.19				
	Bachelor's degree only	17	5.00	7.39				
	Total	51	3.73	5.42				
Nuclear medicine technology	Certificate only	17	3.59	5.11	None (Including with finite population correction)	137	.63	416
	Associate degree only	14	3.71	4.51				
	Bachelor's degree only	21	5.24	6.82				
	Total	52	4.29	5.68				
Total						1,004		1,747

^a (No. of programs in population) x (proportion not at full enrollment) x (total mean no. of additional students)

9. Mean Number of Students Who Could Be Accommodated



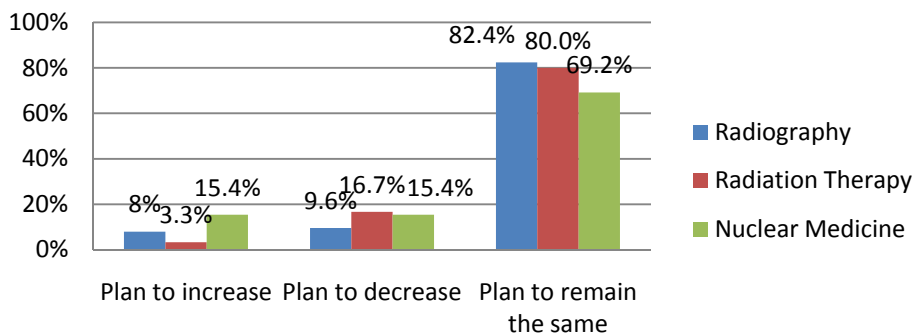
NEAR-TERM CHANGES

10. Do you plan any changes related to enrollment? By discipline

		Type of program			Total
		Radiography	Radiation Therapy	Nuclear Medicine Technology	
Plan to increase	Count	36	2	10	48
	%	8	3.3	15.4	8.3
Plan to decrease	Count	43	10	10	63
	%	9.6	16.7	15.4	11
Plan to remain the same	Count	371	48	45	464
	%	82.4	80	69.2	80.7
Total	Count	450	60	65	575
	%	100	100	100	100

Means Analysis (-1=Plan to decrease, 0=Remain the same, 1=Plan to increase)	-0.02	-0.13	0.00	-0.03
Statistically significant differences among the means	None			

10. Do you plan any changes related to enrollment? by discipline

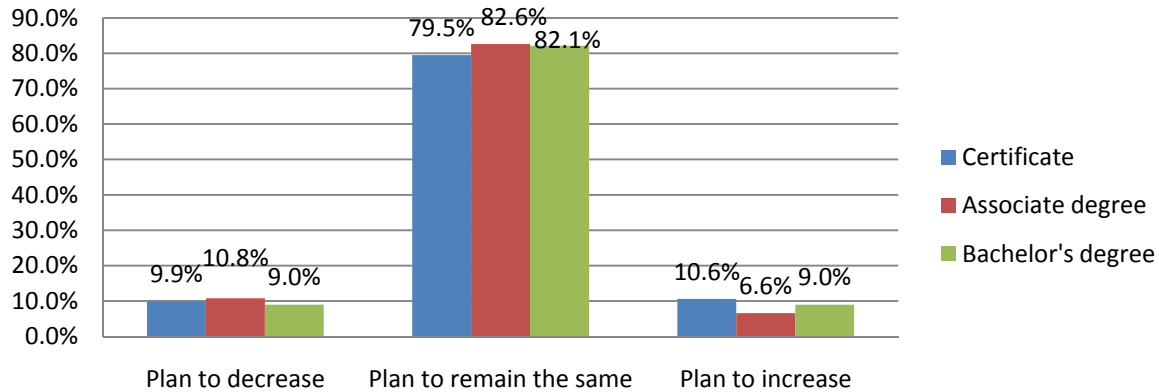


10. Do you plan any changes related to enrollment? By degree

		2. What is the terminal degree earned by your graduates?			Total
		Certificate	Associate degree	Bachelor's degree	
Plan to decrease	Count	16	33	6	55
	%	9.9	10.8	9	10.3
Plan to remain the same	Count	128	252	55	435
	%	79.5	82.6	82.1	81.6
Plan to increase	Count	17	20	6	43
	%	10.6	6.6	9	8.1
Total	Count	161	305	67	533
	%	100	100	100	100

Means Analysis (-1=Plan to decrease, 0=Remain the same,1=Plan to increase)	-0.01	-0.04	0.00	-0.02
Statistically significant differences among the means	None			

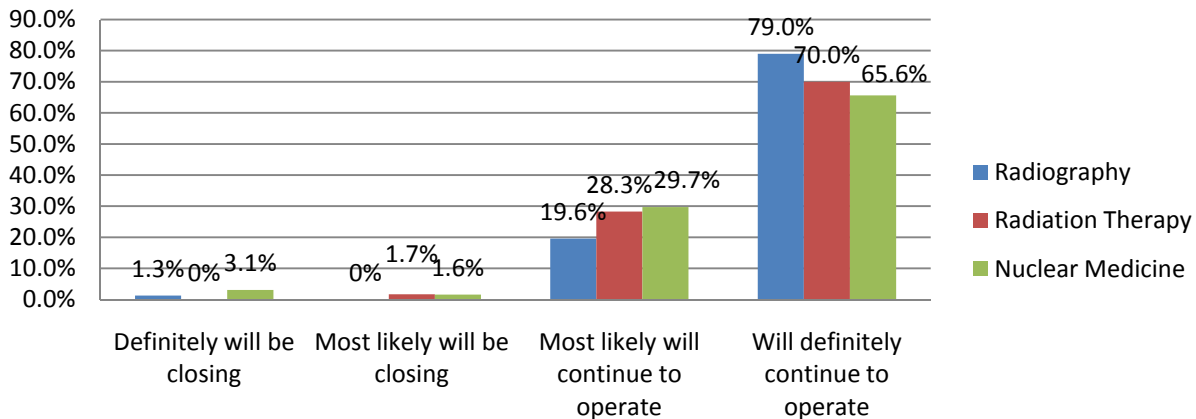
10. Do you plan any changes related to enrollment? by Degree



11. How viable is your program over the next few years? By discipline

		Type of Program.			Total
		Radiography	Radiation therapy	Nuclear Medicine Technology	
Definitely will be closing	Count	6	0	2	8
	%	1.3	0	3.1	1.4
Most likely will be closing	Count	0	1	1	2
	%	0	1.7	1.6	0.3
Most likely will continue to operate	Count	88	17	19	124
	%	19.6	28.3	29.7	21.7
Will definitely continue to operate	Count	354	42	42	438
	%	79	70	65.6	76.6
Total	Count	448	60	64	572
	%	100	100	100	100
Means Analysis (0=Definitely closing...3=Definitely continue to operate)		2.76	2.68	2.58	2.73
Statistically significant differences among the means		Radio > Nuclear med ($p = .029$)			

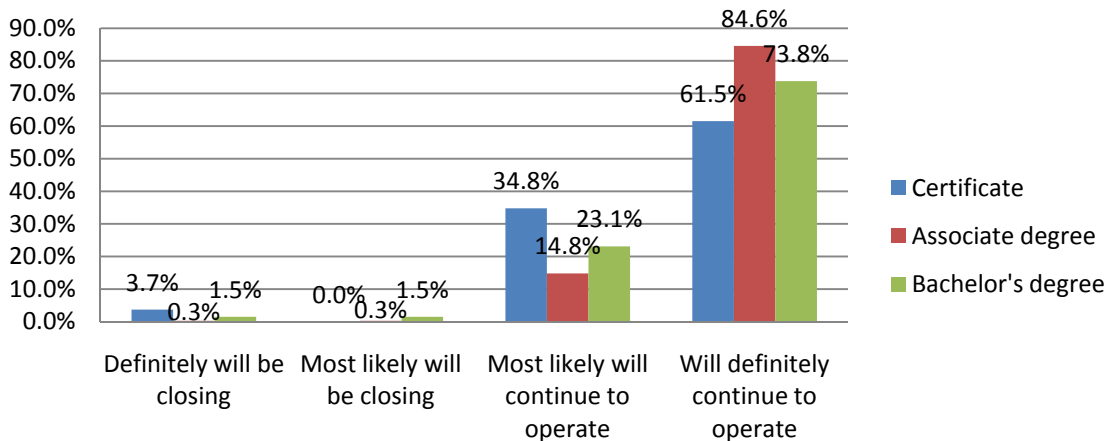
11. How viable is your program over the next few years? By Discipline



11. How viable is your program over the next few years? By degree

		Terminal Degree Earned by Graduates			Total
		Certificate	Associate degree	Bachelor's degree	
Definitely will be closing	Count	6	1	1	8
	%	3.7	0.3	1.5	1.5
Most likely will be closing	Count	0	1	1	2
	%	0	0.3	1.5	0.4
Most likely will continue to operate	Count	56	45	15	116
	%	34.8	14.8	23.1	21.8
Will definitely continue to operate	Count	99	258	48	405
	%	61.5	84.6	73.8	76.3
Total	Count	161	305	65	531
	%	100	100	100	100
Means Analysis (0=Definitely closing...3=Definitely continue to operate)		2.54	2.84	2.69	2.73
Statistically significant differences among the means		Associate > Certificate (<i>P</i> < .001)			

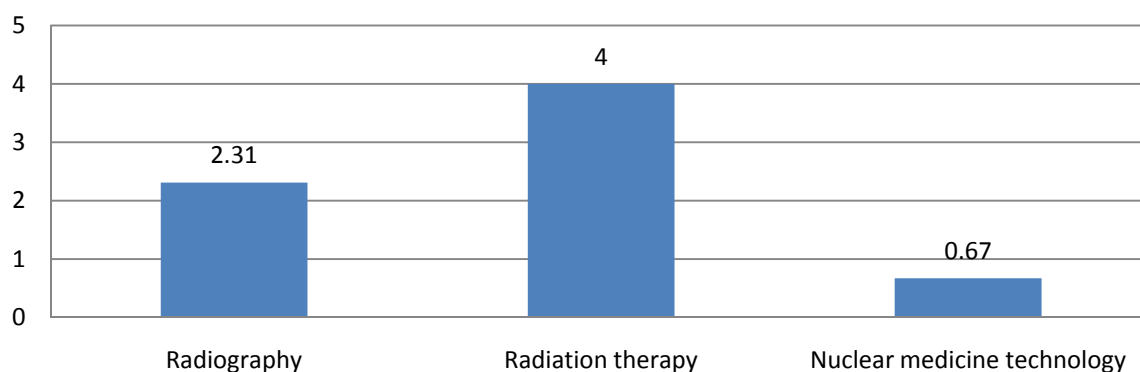
11. How viable is your program over the next few years? By Degree



12. If your program is closing, how many more years will it continue to operate, including this academic year? By discipline

	N	Mean	Std. Deviation
Radiography	8	2.31	1.71
Radiation therapy	1	4.00	NA
Nuclear medicine technology	3	0.67	.577
Total	12	2.04	1.69

12. If your program is closing, how many more years will it continue to operate, including this academic year? Mean Response

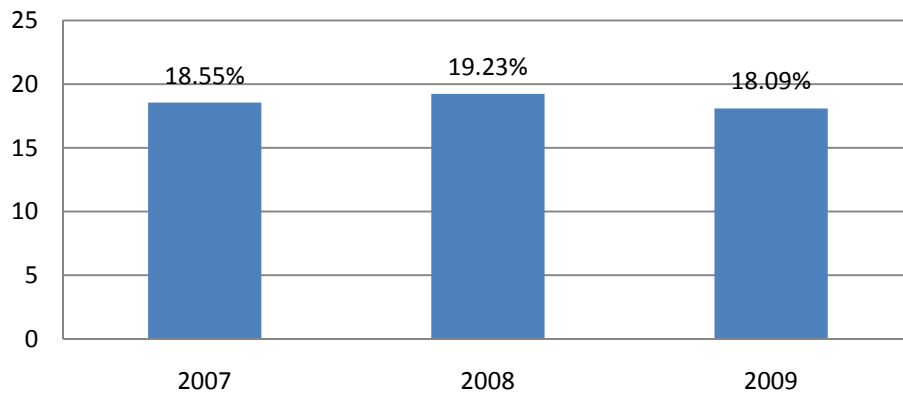


ATTRITION ANALYSIS

13. What was the attrition rate for your program?

	N	Mean (%)	Std. Deviation (%)	Statistically Significant Differences
2007	541	18.55	23.12	None
2008	546	19.23	23.77	
2009	519	18.09	24.09	

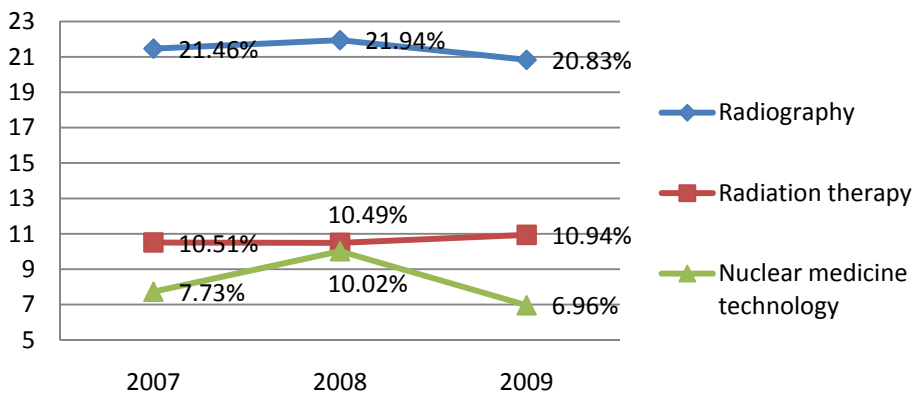
13. What was the attrition rate for your program?



13. What was the attrition rate for your program? By discipline

		N	Mean (%)	Std. Deviation (%)	Statistically Significant Differences
Radiography	2007	416	21.46	23.76	None
	2008	421	21.94	24.52	
	2009	403	20.83	24.83	
Radiation therapy	2007	58	10.51	19.60	None
	2008	58	10.49	19.97	
	2009	52	10.94	24.21	
Nuclear medicine technology	2007	63	7.73	16.46	None (Including with finite population correction)
	2008	63	10.02	17.47	
	2009	60	6.96	12.28	

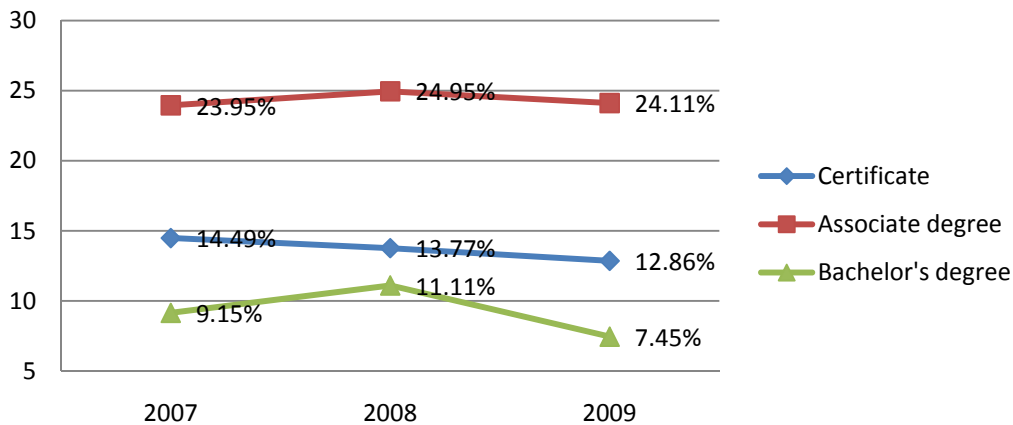
13. What was the attrition rate for your program? By discipline



13. What was the attrition rate for your program? By degree

		N	Mean (%)	Std. Deviation (%)	Statistically Significant Differences
Certificate	2007	158	14.49	21.50	None (Including with finite population correction)
	2008	161	13.77	21.84	
	2009	152	12.86	22.03	
Associate Degree	2007	280	23.95	24.30	None
	2008	279	24.95	24.79	
	2009	266	24.11	25.33	
Bachelor's Degree	2007	63	9.15	18.06	None (Including with finite population correction)
	2008	63	11.11	19.21	
	2009	61	7.45	15.53	

13. What was the attrition rate for your program? By degree

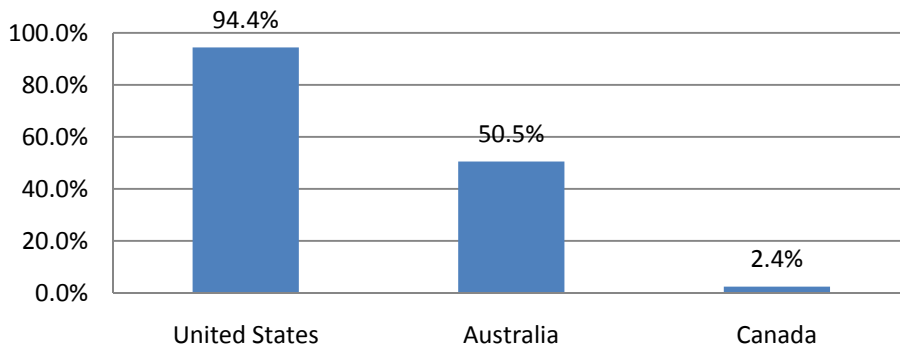


JOBS IN THE UNITED STATES

14. Over the past five years, what percent of your program's graduates have taken jobs in the United States, including U.S. territories and Puerto Rico?

	N	Mean (%)	Std. Deviation (%)
United States	539	94.4	12.7
Australia	2	50.5	70
Canada	9	2.4	3.7
Total	550	92.7	17.5

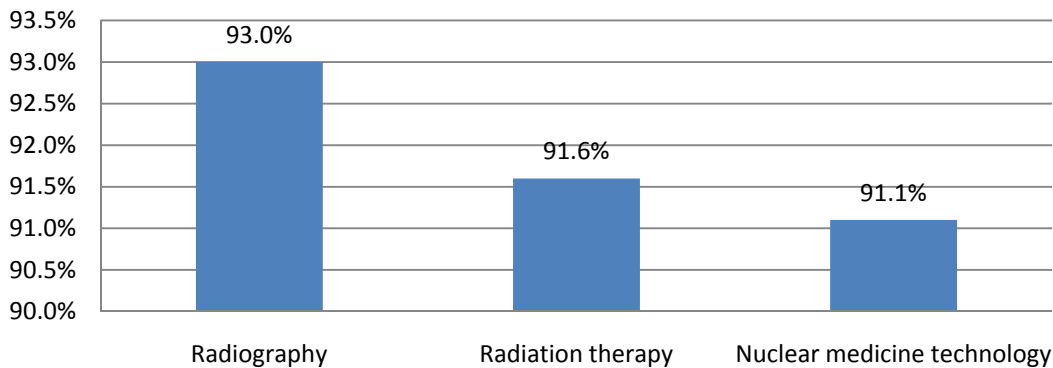
Proportion of graduates who have taken jobs in the United States vs. other countries



14. Over the past five years, what percent of your program’s graduates have taken jobs in the United States, including U.S. territories and Puerto Rico by program type? By discipline

	N	Mean (%)	Std. Deviation (%)
Radiography	426	93	16.9
Radiation therapy	59	91.6	22.4
Nuclear medicine technology	61	91.1	17.9
Total	546	92.7	17.7
Statistically significant differences	None		

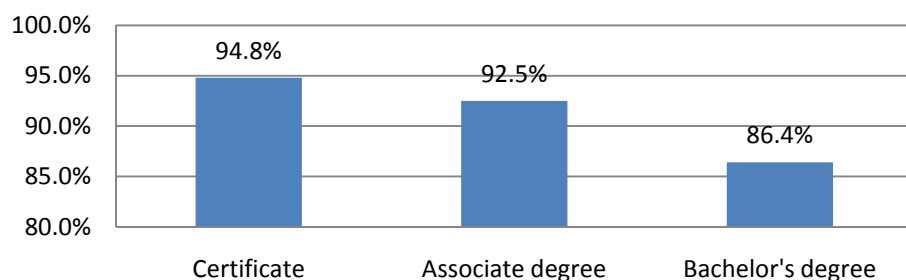
14. Percent of program graduates who have taken jobs in the United States and Puerto Rico By discipline



14. Over the past five years, what percent of your program’s graduates have taken jobs in the United States, including U.S. territories and Puerto Rico by education level? By degree.

	N	Mean (%)	Std. Deviation (%)
Certificate	155	94.8	15
Associate degree	291	92.5	15.5
Bachelor’s degree	60	86.4	29.6
Total	506	92.5	17.8
Statistically significant differences	Certif and Assoc > Bach ($p = .006, .048$)		

14. Percent of graduates from program type who have taken jobs in the United States and Puerto Rico by degree



*A significantly higher percent of graduates of programs that grant certificates and associate degrees enter the U.S. job market than bachelor-level programs. However, the relatively low percentage of graduates with bachelor’s degrees taking U.S. jobs is largely attributable to the fact that a substantially higher percentage of bachelor’s degree programs than of associate and certificate programs are located in Australia or Canada.

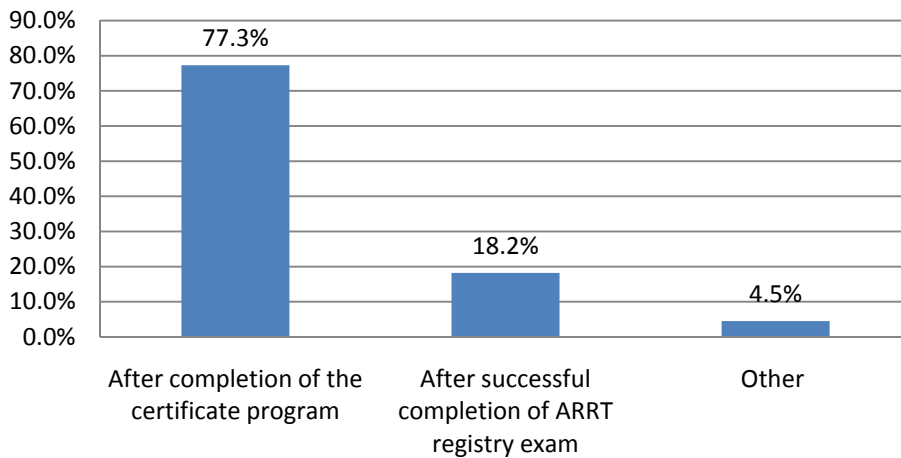
ARTICULATION AGREEMENT

3. If yours is a certificate program with an articulation agreement, when do your graduates receive their associate degree?^a

	Frequency	Percent	Valid Percent
After completion of the certificate program	102	17.6	77.3
After successful completion of ARRT registry exam	24	4.1	18.2
Other	6	1	4.5
Total	132	22.7	100
Missing	449	77.3	
Total	581	100	

^aComments in the "Other" response option that fit the categorical choices were coded and computed in the frequencies and percents.

**3. If yours is a certificate program
with an articulation agreement,
when do your graduates receive their
associate degree?**

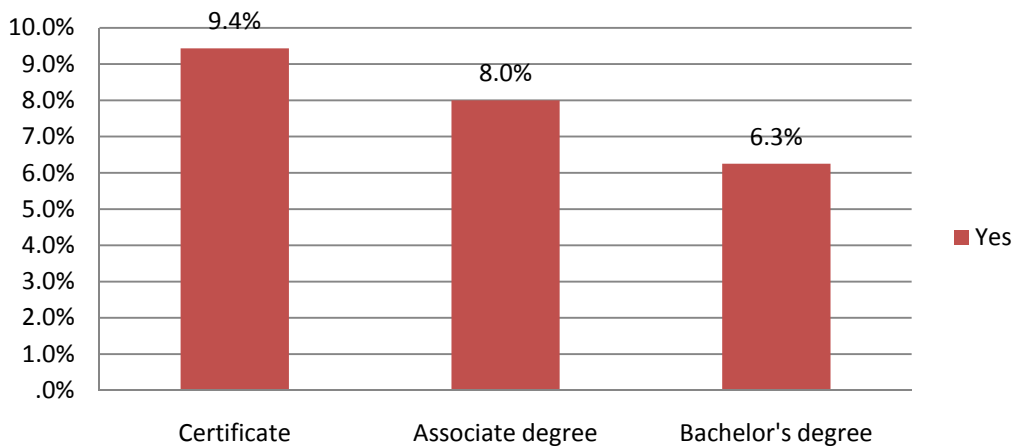


FORENSIC QUESTIONS

15. Do you currently include forensics in your curriculum? By degree

		Terminal Degree Earned by Graduates			Total	
		Certificate	Associate degree	Bachelor's degree		
15. Do you currently include forensics in your curriculum?	No	Count	144	276	60	480
		%	90.6	92	93.8	91.8
	Yes	Count	15	24	4	43
		%	9.4	8	6.3	8.2
Total		Count	159	300	64	523
		%	100	100	100	100
Statistically significant differences		None				

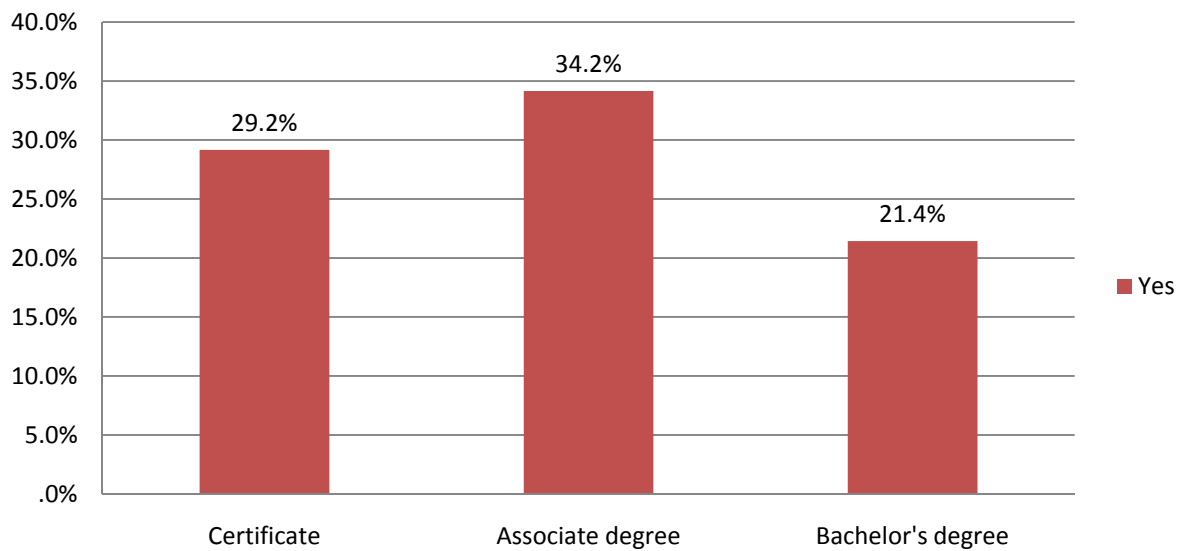
15. Do you currently include forensics in your curriculum? By degree



16. If you answered “no” to the above question, is your proram interested in adding a forensic component to your curriculum? By degree

			Terminal Degree Earned by Graduates			Total
			Certificate	Associate Degree	Bachelor's Degree	
	No	Count	102	187	44	333
		%	70.8	65.8	78.6	68.8
	Yes	Count	42	97	12	151
		%	29.2	34.2	21.4	31.2
Total		Count	144	284	56	484
		%	100	100	100	100
Statistically significant differences			None			

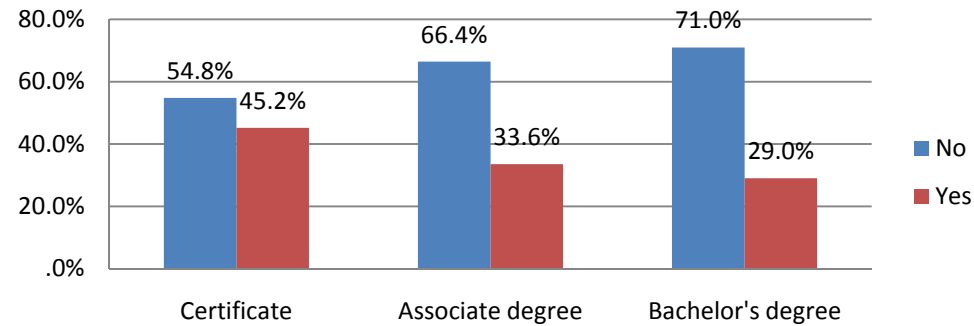
16. If you answered “no” to the above question, is your program interested in adding a forensic component to your curriculum? By degree



17. Does your program have access to a morgue or medical examiner's office? By degree

			Terminal Degree Earned by Graduates			Total
			Certificate	Associate Degree	Bachelor's Degree	
No	Count	86	198	44	328	
	%	54.8	66.4	71	63.4	
Yes	Count	71	100	18	189	
	%	45.2	33.6	29	36.6	
Total		Count	157	298	62	517
		%	100	100	100	100
Statistically significant differences among the means			Bach and Assoc > Certif ($P = .047$)			

**17. Does your program have access to a morgue or medical examiner's office?
By degree**



APPENDIX A: QUESTIONNAIRE AND COVER LETTER

Dear Program Director:

As director of an educational program you have a direct impact on the supply of radiologic technologists entering the radiologic profession. In each of the past eight years, at least 65 percent of program directors in radiography, nuclear medicine technology and radiation therapy participated in ASRT's enrollment surveys.

We would once again appreciate your participation in the 2009 enrollment survey at your earliest convenience. The information you provide will allow the ASRT to compile an accurate snapshot of enrollment trends. Please click on the following link to complete the questionnaire:

<http://asrt.checkboxonline.com/enrollmentsurvey2009.aspx>

We will summarize the data from programs in each discipline and the results will be made available this fall. If you have any questions please contact Director of Research John Culbertson (800-444-2778, Ext. 1297 or jculbertson@asrt.org). Thank you very much for your help in gathering this vital information.

Sincerely,

Myke Kudlas
Vice President of Education and Research

Note: If yours is a multiple-discipline program, or includes multiple educational levels, please complete this online questionnaire once for each discipline or educational level your program represents.

1. Indicate your type of program.

- Radiography
- Radiation therapy
- Nuclear medicine technology
- Other (Please specify below)

If you checked "Other" above, please specify that type of program.

2. What is the terminal degree earned by your graduates of your program?

- Certificate
- Associate degree
- Bachelor's degree
- Other (Please specify below)

If you checked "Other" above, please specify the terminal degree earned by your graduates.

3. If yours is a certificate program, with an articulation agreement, when do your graduates received their associate degree?

- After completion of the certificate program
- After successful completion of ARRT registry exam
- Other (Please specify below)

If you checked "Other" above, please specify when your graduates received their associate degree.

4. In what country is your program located?

- USA
- Australia
- Canada
- Other (Please specify below)

If you checked "Other" above, please specify that country:

5. If you chose the United States in the question above, please indicate which region your program is located.

- New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut)
- Mid-Atlantic (New York, Pennsylvania, New Jersey)
- East North Central (Wisconsin, Michigan, Illinois, Indiana, Ohio)
- West North Central (North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri)
- South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida)
- East South Central (Kentucky, Tennessee, Mississippi, Alabama)
- West South Central (Oklahoma, Texas, Arkansas, Louisiana)
- Mountain (Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico)
- Pacific (Alaska, Washington, Oregon, California, Hawaii)

6. How many students entered your program each of the following years? (

	2007	2008	2009
Number of students	<input type="text"/>	<input type="text"/>	<input type="text"/>

7. Is your program currently at full enrollment?

- Yes
- No

8. Approximately how many qualified students did you turn away this fall?

9. Approximately how many additional students could be accommodated by your program?

10. Do you plan any changes related to enrollment?

- Plan to increase
- Plan to decrease
- Plan to remain the same

Please add any additional comments you have regarding enrollment.

11. How viable is your program over the next few years?

- Will definitely continue to operate
- Possibly will be closing
- Will be closing

12. If your program is closing, how many more years will it continue to operate, including this academic year?

13. What was the attrition rate for your program over the past few years (percentage of entering students who did not complete the program)?

Attrition rate (in percent)

	2007	2008	2009
Attrition rate	<input type="text"/>	<input type="text"/>	<input type="text"/>

14. Over the past five years, what percent of your program's graduates have taken jobs in the United States, including U.S. territories and Puerto Rico?

	Percent	Do not know
Students taking jobs	<input type="text"/>	<input type="text"/>

Please help us determine the extent of forensic radiography in the curriculum.

15. Do you currently include forensics in your curriculum?

- Yes
- No

16. If you answered "No" to the above question, is your program interested in adding a forensic component to

your curriculum?

Yes

No

17. Does your program have access to a morgue or medical examiner's office?

Yes

No

18. Please add any additional comments you have here.

Thank you for taking the survey.

APPENDIX B: VERBATIM COMMENTS

If you checked "Other" above, please specify the type of program:	
Comment	Frequency
Blank	575
Both rad therapy and medical dosimetry	1
I am program director at two schools:1. [name of school] is a radiography program with an AS degree2. [name of school] is nuclear medicine school that offers both a certificate and a BS degree in medical imaging.	1
I have both radiation therapy and radiography, as well as a program in MRI and sonography.	1
Multiple educational University with Radiography, US, MRI, CT, Breast US, tracks	1
Radiation Therapy and Medical Dosimetry	1
Radiography, Nuclear Medicine Technology, Diagnostic Medical Sonography, Computed Tomography	1
Total	581

If you checked "Other" above, please specify the terminal degree earned by your graduates.	
Comments	Frequency
Blank	555
28 month diploma	1
A.S. for Radiography and Nuclear Medicine Technology Advanced Technical Certificate for DMS and CT	1
AAS	1
Affiliated with a university which awards a B.S. when Radiography program is completed.	1
Applied Science	1
Associate in Applied Science	1
B.S. in Radiation Therapy and MHS in Medical Dosimetry	1
Both AS and BS degree options	1
Certificate for already credentialed RTR's and bachelor's degree to others	1
Certificate from the program but we have affiliations with 4 year colleges and their students receive a bachelors degree upon completion of our program	1
Diploma	1
Diploma, A.A.S.	1
LACC = AS degree in Medical Radiography [name of school] = Certificate and BS degree in nuclear medicine.	1
Masters in Medical Dosimetry	1
Offer both the associates and bachelors.	1
Opportunity to earn AS degree if they want to.	1
Our students have option of completing the general ed component at the local community college and will receive an AAS in Rad Tech through that college once they have completed our Rad Tech certificate program.	1
Our students may continue to earn a BS Degree from [name of university]. Many have completed two years towards their degree before starting our program.	1
PhD	1
Post-Baccalaureate Certificate	1
Students ARE ALL COMPLETING A bachelor's DEGREE FROM SENDING INSTITUTION	1
We also have articulation agreements with local colleges for associate degree completion.	1

We are a hospital-based certificate program. However, we have an articulation agreement with a college for students to receive an associate degree when they complete the required courses.	1
We have just been approved (beginning Fall 2009) to offer an Associate degree at our college but also have affiliation agreements with other academic institutions to provide Certificates to the students completing their degrees at their institutions but the NM clinical/theory component at our college.	1
Total	581

If you checked "Other" above, please specify when your graduates receive their associate degree.	
Comment	Frequency
Blank	509
AA degree not required at this time	1
After completion of ARRT examination and completion of AS degree requirements	1
After completion of the program requirements but before sitting for the ARRT exam	1
After completion of the 24 month program.	1
After completion of the certificate program they have to apply for graduation with the college, which ensures that they have met their requirements as far as the core non-radiology courses. Students may have taken the courses prior to or after completing our radiology program (courses other than the 15 required credits).	1
After successful completion of all required courses.	1
After they complete required courses (students complete 5 semesters of RADR courses and then graduate). They graduate in May and then sit for ARRT exam.	1
All RT(T) students in our Certificate Program must be ARRT, RT(R) certified.	1
An associates's degree is a prerequisite for admission to our program.	1
Are certificate students are all RT (R) so most of them come with degrees	1
Articulation agreement permits them to get their BS after graduation from our program.	1
Articulation agreements are at the 4 year- university level- not associates level	1
Associates degree presented when clinical and didactic is completed	1
At completion of the program. This is a degree program	1
At present there is no articulation looking into how to comply with the bachelor's requirement	1
At the end of the 2 year program - and then they sit for ARRT registry	1
Bachelors degree program. Graduates receive a BS degree from affiliate universities after completion of our program as well.	1
Collaborative degree/diploma program: Degree in Life Sciences, Diploma in Medical Radiation Technology	1
Collaborative degree/diploma program	1
Get a Bachelor's not Associates	1
Grads receive BS degree upon completion of certificate program	1
Have to have it before coming into the program	1
If all required college courses have been successfully completed.	1
Is not articulated	1
It depends on the number of college credits they enter with. At the present we have a 15 college credit pre-requisite but they might not have all of those in the credits they need for their associate degree. Most of our students obtain their associate degree when they complete our certificate program. The remaining may or may not ever complete their degree. All of this will change when the ARRT starts requiring the associate degree.	1
Most students are working towards a bachelors degree	1
N/A	1

N/A	1
N/A	1
No articulation	1
no articulation agreement	1
No articulation agreement.	1
Once program completed, students receive 30 hours of college credit towards an associate of applied science. This degree requires 32 hours of additional general education for completion. This degree is dependent on when the student when and if completes the additional hours. We are in an articulation agreement with a college.	1
Our certificate is available to those individuals who have a BA or BS degree and have the required pre-requisites necessary. They only do the specialty classes of radiation therapy for a certificate.	1
Our program is a certificate program imbedded in a baccalaureate university. Student receive their certificate upon completion of the radiography components, then advance on to BS degrees.	1
Our program is a certificate program, with the students earning a bachelor's degree at the successful completion of the program	1
Our students get a BS degree on successful completion of the certificate program.	1
Our students must have an associate degree prior to admission, as we are an advanced certificate program.	1
Presently we only have articulation agreements with 4 year schools, one requires ARRT passage, the other just program completion.	1
Receive a Bachelor's degree.	1
Receive a bachelors degree	1
Requirement prior to entering the program.	1
One of our students (min of 8 per year) earn a bachelor's through an articulation agreement with [name of university] These students apply to us after having completed 2 years of studies at [name of university] So even though we are a certificate program, we do have students earning a certificate & BS in Radiography	1
Some students have a BS articulation agreement through their college, but not all. They received their BS after they've met all requirements of their respective college, not when they complete the NMT Program (although it's not impossible to meet all the BS requirements upon completing the certificate program).	1
Students have the option of articulating to local community colleges or online programs for their associates degree or higher after certification however, about 1/3 of our students come to our program already holding a degree - associates or higher. We plan to have formal articulation agreements in place to meet the 2015 requirements, but hope to maintain certification as well to meet the need of those many student who are not seeking another degree.	1
Students just receive a Bachelor of Applied Science in Radiography	1
Students need to have BS degree prior to applying to our program OR need to be enrolled in one of our academic affiliates who will grant them a BS degree upon completion of their internship.	1
Students receive degree upon successful completion of the program curriculum requirements.	1
The articulation agreement is optional for students. They can work on associate degree classes before, during, or after the radiography program.	1
The articulation is currently for a B.S. in Radiography from a local university.	1
The majority of our students already have an undergraduate degree.	1
The program requires a Bachelor or Science degree prior to internship completion or come from a school that has an accredited Bachelor of Science program in Nuclear Medicine Technology	1
The students from our academic affiliates receive their degrees upon completion of the NM clinical/theory component at our college.	1
They do not get an associate degree, most of them come from x-ray programs where they have earned the associate degree.	1

They receive 30 credits toward a degree in occupational studies	1
They receive the AS degree at the same time as the certificate.	1
They take their certificate (and receive 15 credits for it) and complete the needed college courses then they receive the associates degree	1
This is a military program with no associate degree program at this time.	1
Unlike surveys past, thank you for asking this question. Not all graduates qualify for the degree; the community college we have articulated with requires at least 15 credits through them to get their money's worth. Those taking gen.ed. courses through other colleges and universities are not eligible for the articulation without taking the extra credits. We do not want to become exclusive to the community college.	1
Upon completion of certificate program and the additional college courses required.	1
Upon the acceptance into the Program (Certificate), students are required to already have at least an Associate Degree in related radiological modality.	1
We are a degree program, not a certificate program.	1
We are a hospital-based program affiliated with 4 college/universities. Students maintain enrollment, and continue paying tuition, while in the radiography program. Graduates receive a "bachelors" degree upon successful completion of our program.	1
We currently do not have an affiliation agreement for an associates degree. We are working on an affiliation agreement with a local Community College.	1
We currently do not have an articulation agreement	1
We have a number of different articulation agreements so completion varies.	1
We have a post-baccalaureate degree certificate program.	1
We have affiliations with two 4 year universities for the conferring of a bachelor's degree. In one program the students get their degree after successful completion of the ARRT exam. In the other program, they get their degree once they complete our program requirements.	1
We have an articulation agreement, but the graduates receive their bachelors degree.	1
We have an associate degree with our program	1
We have prerequisites for our program which include: 1) Biology 2) Physics 3) Chemistry 4) College Algebra 5) Computer Science	1
We provide a certificate but do have a 3+1 with several area universities and they grant the BS degree	1
Total	581

If you checked "Other" above, please specify the country:	
Comment	Frequency
Blank	578
Puerto Rico [Note: these responses were coded as programs within the USA for crosstabulations and frequency distributions]	3
Total	581

Please add any additional comments you have regarding enrollment.	
Comments	Frequency
Blank	412
#8 - How many additional students can we accommodate? Problems with this question: 1) Each year or total years? My guess is each year. 2) As you can see from my answer to #6 our enrollment has varied annually, so it makes difficult to see how many additional student we could enroll. Total enrollment we could accept would be 12 per year.	1
#8 is irrelevant- there is overenrollment and a paucity of jobs- too many schools with a goal of	1

making \$ off of enrollment- and the JRC does not do its job- when answers to #8 are made public school officials look at it as an opportunity- do away with this question	
According to JRCERT we are allowed to take 21 students. At this time, we feel it imperative to take 19 to ensure competency completion.	1
Acquiring new clinical sites	1
Additional increases in student enrollment would have to be supported by additional full time faculty. With the proration and the economy, that is not likely any time soon.	1
Although the job market is stable to saturated, the program must maintain its current students numbers to be financially stable.	1
Applicants declined entering program due to their financial constraints.	1
Applications have dropped and we are currently accepting fewer students due to the decreased number of jobs available in the field of Nuclear Medicine	1
As a program director I recognize the need for us to decrease enrollment based on the current area job market; however, administration at the college will not allow us to do so.	1
At this time we do not anticipate picking up any additional clinical sites. Therefore, there would be no increase in students.	1
Because of the difficulty in finding radiology and nuclear medicine instructors, we have been unable to expand our courses. Currently I have a position for a radiography and nuclear medicine instructor (both full time) but no qualified candidates (or interest) in applying for the job.	1
BS Degree enrollment has increased. AS will remain same.	1
Clinical education sites are full of students; can't accept any more students because we share clinical sites with other RT programs	1
Clinical site availability, the limited license programs (which should NEVER be allowed because of the HARM they cause to patients), and the poor economic situation have dramatically affected our program.	1
Clinical sites control the enrollment	1
Could enroll more students if I could add more of the clinical sites wishing to become clinical education settings. What limits enrollment is that, as a program with program director only, I must limit clinical sites to five per JRCERT guidelines.	1
Current plan is to stay the same, but if additional major clinical site could be added, I would consider enrolling to JRCERT capacity.	1
Currently, due to the low placement rate of graduates, we plan to remain the same. When the job market increases, however, we plan to increase our enrollment number to full program capacity.	1
Currently, we are bound to the number of JRCNMT approved clinical sites. Our plan is to increase enrollment by increasing the number of approved clinical sites.	1
Depending in the budget, we might have to decrease enrollment in the coming years. For now, we are staying the same.	1
Depending on clinical sites We keep 1-2 max at each site for higher level overall clinical skills	1
Due the economy and a decrease in the number of studies in our department, 4 students is a good number for us and we plan to remain at that number.	1
Due to budget constraints, the university has decided to eliminate our program as of Summer 2011. we will complete the current class, but will not admit any new ones.	1
Due to flooded market our Advisory Committee feels we should keep enrollment to 12 students each fall.	1
Due to job market we would like to decrease enrollment, however this will result in a faculty member losing their job.	1
Due to job market, we plan to decrease enrollment for next year.	1
Due to late enrollment many studnts did not enrol due to lack of Financial Aid.	1
Due to the lack of employment opportunities in our region and across the United States, we feel	1

enrollment at all schools should decrease until a demand is anticipated -	
Due to the lack of jobs in our area we have decided to reduce our enrollments until the economy picks up.	1
Economy had an impact on our 2009 fall enrollment; many students decided not to enroll for financial reasons.	1
Employment opportunities in the tri-state area are difficult to come by. Market is becoming saturated and we have adjusted our enrollment accordingly.	1
Enrollment has been kept low due to the shortage of nuclear medicine technology jobs.	1
Enrollment in the past was limited by licensed technologists in the area; however, now that we are in our third year we have replaced many of the unlicensed technologists with licensed graduates and plan to increase the programs enrollment next year by one or two students.	1
Enrollment is a difficult situation, in particular, here in Southern [state] the labor market has changed significantly, and employment is harder to come by. What also impacts employment is the fact that the State certification agency for fluoroscopy is under budget constraints, thus the time for processing fluoroscopy applications now takes up to 8 months post graduation. Most employers will not hire new graduates without all certification in place (ARRT, State RT license, fluoroscopy). Additionally, there have drops in patient case loads, and the clinical spaces have dropped in number for a few of our externship sites, leading to a drop in enrollment	1
Enrollment is dependent on clinical sites. Recent mergers have hampered enrollment.	1
Enrollment is limited to clinical space. This year we deliberately reduced the number of students entering the program, slightly less than we could handle clinically because of the poor job market. We have a competitor in town that graduates approximately 50 students a year. This number combined with our approximate 24 students is more than the market can bear. In 2010 we will be required to enroll 28 students to cover program cost.	1
Enrollment numbers are based on clinical slots. Because of the number of schools in the area, clinical sites are at a premium.	1
Even though the market is flooded in this area, the institution continues to maintain high enrollment.	1
Fewer clinical seats available	1
Fewer job opportunities for graduates at this time.	1
Fluctuates annually due to patient volumes at clinical affiliate locations. We are seeing a steady decline in volumes at hospital settings with the increase of free standing cancer centers in the State of [state].	1
For the 2009-2010 School Year, our program accepted 80 qualified RT(T) students from across the United States. This is a decrease from the 95 students that were accepted in the Fall of 2008 and the 100 students that were accepted in the Fall of 2007.	1
For the graduating class of 2011, we are taking 5 students. We will look at the number of students for admissions before the close of the admissions process to determine the number to be taken.	1
Graduates from 2008 and 2009 are still struggling to find employment other than PRN and [name of hospital] positions. Not even finding part-time or full-time positions being advertised.	1
Have made changes to the curriculum and plan to market the program more.	1
Hopefully go to 24 for the 2010 class.	1
I am considering to slightly decrease the number students enrolled dependent upon how this past year's graduates do in the job market	1
I answered question #7 regarding "full enrollment" based on the JRCERT approved capacity.	1
I have to decrease my numbers because the [city] area is saturated with Radiography programs. There are too many programs and not enough clinical sites and yet proprietary schools and local community colleges continue to receive approval to open up Radiography programs. The JRCERT cannot help as a community college, if regionally accredited does not need JRCERT and the newest community college radiography program that opened chose not to be JRCERT accredited.	1

It is a definite problem here in this area as clinical sites are overextended with students and programs like the one I coordinate have to decrease enrollment to stay compliant to JRCERT regs but more importantly to maintain a safe learning environment in the clinical setting.	
I work for a proprietary school and I am being made to increase enrollment in the atlanta market where its already saturated and proprietary schools are popping up all over the place.	1
I would like to reduce enrollment to 20, but administration disagrees.	1
I would need additional clinical sites to have a larger enrollment. Unless the administration will allow for another full time faculty, i am not going to seek additional sites unless I get more help.	1
If anything decrease because of decline in job market, however, the college wants numbers and probably will be no decline. Absolutely, no increase.	1
If anything, we would decrease if the economy doesn't pick up and/or their become more jobs available to graduates.	1
If the job market does not show improvement, may consider decreasing enrollment. But I do expect that the market will rebound and jobs will be available, giving the aging of the population.	1
In our area, their are not very many jobs. Getting very difficult to find jobs even at our hospital. We are about to go through a lay-off.	1
In the market that is over saturated with entry level radiographers, we feel that we are doing the students a favor by not adding to the problem by keeping our enrollment numbers high. If other programs do not follow this model, the number of unemployed radiographers will sky rocket in the next two years.	1
In the past our program has over-accepted students and it has caused a problem with clinical capacity. We reduced enrollment by a few students this year in hopes that it will help ease the crowding in clinicals. We have also seen a major improvement in retention of our first year students so, along with the current job market, may cause us to reduce by a few more students in the next couple of years.	1
Is your program currently at full enrollment? You should clarify if this means "based on JRC program capacity" or based on number of real clinical spaces today.	1
Issues in the clinical setting as well as the inability to hire a clinical coordinator and the lack of jobs in this region is the reason the numbers are down. However, the clinical sites would like to see even lower numbers.	1
It's dictated mostly by clinic site availability. The market is over saturated.	1
It's not so much a plan to increase - I would just like to have more applicants. The "job shortage" in nuclear medicine is killing the field. A few programs put out 50+ students per year and the smaller programs cannot compete. I purposely held my emrollments down for decades, ensuring students would find jobs in the field (which is rather small - compared to other health professions). All this, despite pressure from administration to crank out as many graduates as possible. That strategy seems to have backfired.	1
Job market has to increase	1
Job market in Michigan for graduating techs is very limited. Only two of our recent graduates have found a full time job. The rest are either working as PRN techs, have gone back to school, or are working in a field other than radiology.	1
Job market in our area is very tight. Additional program added at a private college in our area has really made things competitive for all the area graduates since we have three programs now within an hour of each other and no jobs.	1
Job market is fairly saturated locally but interest in entering the health field is high	1
Job market it flat in this region	1
Job market poor	1
[Name of university] would like 12 students in the program per year. However, due to recent trend in job market, less students are opting to apply for admission to the nuclear medicine program	1
Less jobs in our area so we will probably taken 28 in 2010 knowing we may lose 3 students.	1

Market is stable in [state] and students struggle finding jobs.	1
My program is running every other year to address the lack of jobs in our area.	1
Need to limit the number of students graduating across the country due to the lack of jobs at the current time.	1
New program. Combining two hospital-based programs. Keeping enrollment the same as the two previous programs.	1
No job market to support additional graduates. We would be doing additional students a disservice.	1
No jobs so do not want to take many students!!!	1
Number 8 - We have not interviewed this fall. We had a very low number of applicants in 2008 (interviewed in Jan, '09). Normally we see 40 applications. We interview no more than 25. Last time we interviewed 17, finding 4 candidates upon the interview did not meet our expectations.	1
Our clinical sites make the decision to increase or reduce.	1
Our enrollment is based on clinical site availability which is very competitive in our metro community.	1
Our enrollment is based on the clinical resources available to us, we do not foresee an increase in those resources for the next 2-3 years, so will remain as is.	1
Our enrollments are based on the number of clinical placements. We are actively pursuing new affiliates. There is much competition in this state due to the excessive number of programs.	1
Our issue is limited clinical space, the college would like to bring more students in, but the clinical sites are maxed out.	1
Our market is saturated. Educational programs continue to enroll at full levels with no regard for potential student employment or recognition of market forces. Because our educational systems are reimbursed for a 'full time equivalent student', the current trend will not change.	1
Our program recently had a change in the curriculum that instituted 5 prerequisite courses which were not in place previously. We have experienced a lower number of qualified applicants due to the additional requirements. Our program also recently moved to a once a year application process where in the past there were two application times each year. Although the numbers look negative, it is expected with the change of curriculum and we expect to increase the number of qualified applicants within the next two years.	1
Our students are having difficulty finding jobs.	1
Places are limited by the number of clinical sites willing to participate in the clinical experience program.	1
Plan to advertise more and possibly affiliate with degree granting college to increase enrollment.	1
Plan to remain at 20/year for the next few years and increase to 36/year when the glut of retirements in our institution begins, probably with the next 3 years.	1
Plans to decrease enrollment is primarily due to the loss of a clinic site. One clinical site is closing, so we will lose 4 clinical internship opportunities.	1
Poor economy. Hiring freezes.	1
Previous years' enrollment have been high because we were meeting neighbor islands' workforce needs. We conducted DE courses and training on the island of [islands], 2 cohorts on [island] and one cohort on [island], in succession, for the last six years. Now that the manpower needs have been met on the neighbor islands, admission has been reduced to its "normal" number.	1
Program closing	1
Program is 16 months in length. That is why there were no new students entering in 2008	1
Program is closing in June 2010, [name of university]	1
Program reduced enrollment due to another radiography program starting in the area and is now utilizing several of our clinical sites.	1
programs should be cognizant of the job market when they accept students. Physicians decrease enrollment in areas that are saturated.	1

Re: #8: Applicants are kept on a wait list. The time on the wait list currently is 3-4 years.	1
Reduced enrollment to 17 due to overloading of job market and a clinical site that can support less students now than in the past. Several students could not find financial support and had to withdraw their application at the last minute leaving me with 15 this year (2009)(students dropped too late to get replacements which is why we are at 15). Plan to return to 17/18 next year.	1
Since our program is *new* (as a bachelor's degree program) our enrollment has climbed steadily over the past 3 years; however, in order to have a superior clinical experience, we only accept 16/year. Additionally, TOO many programs are accepting too many students for financial gain and these grads are NOT finding employment!	1
The 12 additional students are based on the approved number of students from the JRC-NMT. We do not plan to enroll a higher number of students.	1
The bottle neck for enrollment is of course clinical placement. Increasing our enrollment is a priority, however the only way we will be able to achieve that is to expand our clinical program over a larger geographical area. This may entail hiring more fulltime staff.	1
The Class admitted 2009 was decreased due to job market and changes in clinical affiliate staffing & services	1
The employment market in the [state] area in Medical Imaging seems to becoming more competitive for positions. There is some concern that 2010 graduates will have to work diligently to find employment in their field of study(i.e. radiography).	1
The hospital is building a larger facility in the future which includes 5 additional radiography rooms.	1
The job market in our area is saturated with technologists. There are a number of non-accredited proprietary programs that have changed this market significantly.	1
The job market in our region is not as good as a few years ago, we decreased our enrollment to ensure that our graduates are able to get jobs.	1
The job market is extremely limited. For now, we are remaining the same but may re-evaluate this within the next year	1
The main factor that drives enrollment is lack of clinical sites, this is a remote area. Insufficient jobs for graduates is another concern .	1
The main reason enrollment cannot be increased is unavailability of appropriate, educationally beneficial clinical sites.	1
The number of applications to our program was down for 2009. Our admissions committee believes that both the new general education requirements and the state of the economy are contributing factors.	1
The program was admitting 23 each year. I lowered the admission in 2007 to 11 and then decided to keep enrollment at 15 for future years.	1
The RT student is enrolled in the General Education courses (8 months) and must obtain a CGPA of 3.0 or higher to enter the Radiology Core courses. The student may be placed on a waiting list for as long as eighteen months, therefore, students are not turned away. However, the maximum capacity for students to be enrolled in the Radiology Core courses is 96.	1
There a fewer positions available for RT grads in our area.	1
There is a lot of competition in our area for clinical sites. Also, the job market is currently very slow.	1
There is no point in increasing enrollment if there are too many schools as there are here in [city]and too few jobs.	1
This is a relatively new program. 2009 was the first year to graduate students. The program has a maximum enrollment of 20 students per class.	1
This is the first year that we have not started with a full class. Two individuals had financial issues and one decided (the week before the start of the program)that he did not want to attend.	1
This program has 4 hospitals(2 are shared sites) and 14 outpatient sites(ortho/urgent	1

care/other).Until additional hospitals could be added, there will be no further increase in student capacity.	
This program is not at full enrollment because we lost one student to attrition. The current first-year class is not a full class because we ran out of alternates through the summer to fill the available seats in the class.	1
This school will permanently close following the graduation of the present class	1
Too many tech schools are popping up which RT programs which takes students away from established institutions.	1
Two clinical sites requested fewer students because of the economy. They are reducing staff numbers, reducing hours per day, etc and do not want as many students at their facility this year.	1
Unless 2009 grauate survey indicates a lackof employment.	1
Unsure, I need hard data to be able to decrease enrollment any further.	1
Until the economy turns around and the radiographers that we expected to retire in the next few years real do retire (many of... to increase our enrollment because there are no full time jobs available and very few part time or per diem jobs in this area	1
[State] allowed 5 new RADT programs in the last few years in addition to the 5 programs that already existed and Idaho opened 3 programs on the [states]border so our state is overloaded with students. Of course they all compete for clincal sites and this is why we have decreased our enrollment numbers from 40 to 26. Our enrollment was low in 2007 and 2008 because we transitioned from a fall start to a spring start only.	1
We are a program that transfered from a medical center (certificate awarding) to a private 2 year college (Level 1 award). We offer students an Associate in Applied Science Degree. In preparation for the transfer we did not admit students in 2007 or 2008. Our first admission as a college program just occurred (fall 2009).	1
We are allow a maximum of 10 students. The education committee will fill the enrollment should their be a 10 or more of qualified students. Should there not be at least 10 qualified students, the education committee will accept less than the allowed maximum.	1
We are assessing rate of employment at 6 months. This year's graduates all found only part time work. Will need to keep a close eye on future employment rates	1
We are having a difficult time recruiting students as we are a small school with no recruitment division.	1
We are in a rural area which usually employees about half of our graduates. In past years our graduates have been able to go south to [city] or north to [city] for additional job opportunities. The job market is down in this area as well as the [city] area. There have been so many programs opened in the [city] area that our students no longer have it as a viable option. [City] still employs some of our students. We need to look at the programs who are still taking classes twice a year. This is glutting our market.	1
We are looking at moving to 2 different start dates which would allow us to add 8 more students total to our program. This will not be done until the economy and market warrants an increase	1
We are restricting accepted students at this time due to the downturn in the economy. Hospital have fewer patients hence fewer jobs.	1
We are targeting ~ 12 up from the current 9	1
We are transitioning our program to an associate degree program, with the first class in the associate program expected to begin Fall 2010	1
We are transitioning our program to an Associate degreed program to begin in 2010. Therefore we will be under new sponsorship.	1
We are watching the job market and the quality of our clinical sites, which is why we have decreased our enrollment.	1
We chose to decrease enrollment this year based on the job market	1
We could enroll more students, except we cannot guarantee they would receive suitable clinical placements during the program, that is our limiting factor.	1

We currently have a wait list and accept students twice a year. Enrollment stays the same due to lack of clinical spaces and other area radiography programs sharing clinical sites.	1
We decreased the enrollment due to the depressed economic conditions and will flex up when needed	1
We do not turn students away. We have a waiting list process based on admission criteria completion and seniority date completion of admission requirements.	1
We don't have any more clinical placements	1
We expanded from 32 to 46 students for a five year period. That expansion project is phasing out this academic year.	1
We fluctuate our enrollment to meet the employment needs of the community. Over the last few years, employment opportunities have decreased, therefore we chose to decrease our enrollment. Interest in our program has increased multifold, however.	1
We have already decreased enrollment due the prospect of few to no jobs for our graduates in the local area.	1
We have decreased each year for the past three years. It is disheartening that we have decreased but other programs around us continue to accept the same high number of students and have not decreased enrollment at all.	1
We have decreased enrollment from 35 to 25. A new program opened in the next community two counties away.	1
We have looked at reducing the number of students, however our students continue to find employment. We will make the decision in March to reduce or continue with 10 students based on this years post graduate survey results and the number with jobs.	1
We have lowered our # from 35 to 32 due to job market. We plan on keeping it lowered until the job placement improves.	1
We have never used full enrollment according to JRCERT as we do not feel the students would have enough clinical procedures to reach competence. We also feel there is an overabundance of students graduating from programs that do not get enough clinical experience. Also the job market is not good at this time. We would like to see a moratorium placed on new or expanding programs.	1
We have reduced enrollment because graduates are having trouble finding full time employment, they are finding part time positions.	1
We have the physical capacity to accept more students. However in consultation with the program's advisory committee and due to the current shortage of job availability we have decided that the optimal enrollment is 10.	1
We have voluntarily taken fewer students due to the tight job market from an increase in graduates from other programs who enjoy the increased tuition dollars without regard to consequences to the job market.	1
We maintain a waiting list for the clinical portion of our program.	1
We may consider decreasing enrollment unless the economy and job market improve enough to warrant staying at the current enrollment level	1
We may drop slightly depending upon clinical staffing at a few of our sites.	1
We need to decrease enrollment due to job placement, but that does not coincide with goals of the college, which is to expand enrollment. We will compromise and slightly reduce enrollment.	1
We take students according to the response of the clinicals facilities. For example, if a clinical site is not busy I could not put the students they are approved for, since most of the sites are approved for 3 or more students. Acceptance is also dependent on the job market now.	1
We try to accept between 15 and 20 students each year. We are a private institution and the state of the economy greatly influenced our enrollment this year.	1
We will add 2 students each year for the next five years.	1
We will consider decreasing if the job placement rate decreases.	1
We will increase our enrollment with distance education depending on the economy.	1

We will remain the same at 15 or decrease in response to the job market. There is NO shortage of Radiographers in our area.	1
We will return to our 35 student limit.	1
We would like to gain one or two more clinical sites to bring our enrollment potential back up to 40.	1
When the new degree requirements started with our students this year, our number of qualified applicants were not only decreased, but the quality of the preparation was not as good as well. We have already lost 4 students of the 17 we took, and expect to lose more.	1
Why would we increase with the job market the way it is?	1
With additional college pre-requisites this fall we did not have the number of qualified applicants we have had in the past. We had originally taken 14, but two students opted not to start the program this year.	1
Total	581

18. Please add any additional comments you have here.	
Comments	Frequency
Blank	478
* question #14 should ask- of this year's grads, how many got full time jobs and how many(%) got part-time- the last 5 years does not tell the correct story- less than 1/3 got full time jobs this year	1
#17 - there is a morgue, but not sure if we could have access to it.	1
#17- Access to a medical examiner's office is too difficult to achieve. Special permission must be granted on a per case basis.	1
2 of the faculty are the primary radiographers for the ME's office here in CT.	1
A medical college is near the college and I think that arrangements could be made with the County to facilitate a class is needed.	1
Adding the additional exams from another modality (CT) is going to be challenging enough to programs. I have CT at all my sites, but others may not. If we teach them CT, then I believe this takes away from the CT programs that are established. CT is a separate modality - but I can't help but wonder when we are going to add ultrasound, MRI, nuclear med....etc....to the general radiography program.	1
All rad tech students are able to observe 1 - 2 autopsies during the 24 month period.	1
Are you CRAZY??? There is already enough/too much material within a program with the addition of CT and the degree requirement (which I totally support!!).	1
At the present, forensics is touched upon briefly in the elective course:diversified employment. A field trip to the morgue/medical examiner's office is scheduled in the course syllabus outline but is not mandatory for students enrolled in the course to attend.	1
County coroner; they limit autopsy access to only non-criminal cases (e.g. due to legal issues no access is allowed to potential homicides, suicides, etc.)	1
[name of college] College has a Funeral Service Program. They may have access to a morgue or medical examiner's office.	1
Don't have time to offer in this 2 year curriculum but would highly recommend for a 4 year.	1
Don't you think there is enough already?	1
Enough material to teach now especially with new digital and CT requirements.	1
Fascinating survey - I think the question on "what percent of your program's grads have taken jobs in the U.S., etc" should be expanded to several questions:14a. What percent of your program grads obtained jobs within 3 months of graduation IN THE field?14b. What percent of your program grads obtained jobs within 6 months of graduation IN THE field?14c. What percent of your program grads have been unable to find employment in the field one year since graduating? 14d. You might ask respondents what they view as factors in the employment situation: A. Too many graduatesB. The Economy/RecessionC. Changing FieldD. Older Techs Not	1

RetiringE. Hospital CutbacksF. etc, etc, etc... or leave it as an open ended question. Thanks for listening!	
For question 14) the answer is based on taking a job in the field of radiography.Q 15-7- Based on proposed inclusion of CT by ARRT, I do not think another topic such as forensic radiography could be accomodated in the curriculum,	1
Forensic radiography does not fit into the nuclear medicine curriculum.	1
Forensic radiography is not applicable to nuclear medicine, because we need live bodies to image.	1
Forensic radiography would be an excellent addition, but time constraints in teaching basic imaging curriculum and CT is difficult enough. Imaging in the morgue is quite rare in our local area. Incorporation in metro areas would be most beneficial.	1
Forensics is interesting but I would need to know that it adds value to the program.	1
Have cadaver lab in department	1
I am not sure about adding forensics to the curriculum. I would be open to this if it meant more job opportunities for the students.	1
I am not sure if we have access to a morgue or medical examiner's office as I have not attempted to make contact with them.	1
I do not see a need for forensics in radiation therapy	1
I don't think forensics has a place in a radiation therapy curriculum.	1
I don't think it would be a problem to access a morgue or ME.	1
I have not considered this type of curriculum, but I am open to any suggestions and will begin the program given a need.	1
I hope the ASRT will be proactive in discouraging increased enrollment in programs immediately. Simply if we do not become proactive, some programs will close because the market is being flooded and our field will be hurt by lowering the average wage earned by our graduates and the availability of quality jobs for them to apply to.	1
I include one lecture on forensics. I would be interested in a curriculum component.	1
I included 100% of students placed into positions. However, in including this percentage, I also included our students who have gone straight into graduate school.	1
I really would like to have access to a morgue or a medical examiner's office. Currently, I have 1 lecture on forensics just to let the students know that it is an area of opportunity.	1
I think forensic radiology would be interesting and add more interest to the field.	1
I took a sabbatical about 8 yrs ago and did forensic radiography for a semester... we talk about it in class, but no formal lectures covered... would love to be able to take them to a medical examiners office.	1
I wasn't sure what you were asking in Question 14. No one took a job outside the U.S., but did you mean to ask what % of the graduates received jobs in the field they were trained?	1
I would be very interested in growing the program and am open to new ideas; the forensic program would very exciting and viable.	1
I would love for our students to have an opportunity to observe an autopsy, but none of the local hospitals/clinics will allow it based on confidentiality reasons.	1
If the ARRT is looking at the future and promoting Associate degree programs only, they need to STOP allowing limited license programs which ABSOLUTELY DO NOT teach enough radiation safety. With the changes in technology to CR and DR - patients are in serious trouble when inadequately trained personnel are allowed to take their x-rays. As a health physicist and well as a program direction, I am VERY CONCERNED with the practices I am seeing in the field by the limited license people.	1
If there is employment opportunity for our students, we would welcome adding this in to our curriculum	1
In reference to question 14, all graduates that have taken jobs have done so in the US, however	1

not all graduates have chosen to work in the field or been able to find a job in the field based on their geographic preference. Employment rates at 6 months are as follows: 2005-85%, 2006-91%, 2007-81%, 2008-44%. In the class graduating in 8/09, 17% had found employment in the field by graduation.	
In regards to q# 14: We have an employment rate of 100% for all but this year, which is 50%. Our average , then would be 90%; but all of the jobs taken, in the last 5 years, have all been in the U.S.	1
Job placement rates are as of 09/15/2009	1
Last 3 questions not applicable, as we do not have a radiography program here	1
Morgue and/or medical examiner's office access may be possible.	1
Morgue radiographs are very limited due to reimbursment issues.	1
No to 15-18 for radiation therapy program	1
Not a radiography program	1
Nuclear Medicine Technology does not image post-mortem	1
Number of homicides extremely low. Not a daily/weekly or sometimes even monthly occurrence for us to image a deceased body.	1
Our 2009 graduates have not all found jobs yet, they have also not all taken the registry yet. They graduated in August.The only morgue in this area is not used very often, most of those cases are sent to the state capital.	1
Our instructor works with the Medical Examiners office, and we are allowed to take our students to observe one weekend during their training.Our Instructor also works for DMORT, and gives lectures concerning forensics.	1
Our second class just graduated a couple of weeks ago - still waiting to hear if some got jobs or not. We would have access to a morgue if the budget cuts didn't put building a new morgue on hold.	1
Our students do get exposure to the morque and examinations at one of our larger clincal sites.	1
Our students rotated in the county's morgue in 2001 for around 2yrs, the examiner's office stopped the rotation due to political/administrative reasons.	1
Please develop software programs can purchase on entry level CT.	1
Question #13 unclear whether this was asking for attrition for 07, 08, and 09 graduates, or during the calendar year of 07, 08, and 09.Thank you.	1
Question 14 is confusing. 100% of students seeking employment are employed in the US; however only 87.5% of student seeking employment have jobs. I wasn't sure if you wanted to know overall employment percentage or percentage employed in the US. This data reflects only 2 years of data since our first bachelor's degree class was in 2008.	1
Questions 15-17 do not apply to this curriculum (radiation therapy)	1
Re: #s 16 and 17: We might be interested in this. We have not explored the possibility, so cannot answer # 17 for certain at this point.	1
RE: Forensics--- we are 150 miles from a "real" MEs office, so this is not a viable area for us. Our students have never gotten to x-ray a deceased patient either.	1
Referring to question #6 - these numbers reflect students entering freshmen; to include returning students: fall 2007 = 47; fa...for the graduating classes of '07, '08 & '09.Questions need a little further clarification as to the specific data you desire.	1
Right now I am trying to add CT and cross sectional anatomy. It is hard to find room to include all of these areas into 21 months. Although forensics would be very interesting, I would have a hard time finding a place to include it in the curriculum and a place for students to observe an autopsy.	1
Some students have expresses an interest in forensics. Currently, we do not have access to a morgue or medical examiner's office.	1
Student's are encouraged to attend a post mortem examination where possible when on their clinical experience program.	1

Students go to morgue cases with the RT's	1
Students have the option of attending an autopsy. They also accompany technologists who are called to the morgue.	1
Students observe 1-2 autopsies during course of study, only. They are in an observer role only.	1
The answers to 13 were based on the number of students that graduated in those years.	1
The county morgue allows our RT students to observe an autopsy as long as the students are there for their clinical rotations. Not all students in the program can get to go to that site for clinical experiences.	1
The current market for my students is bad, the employers who are hiring want experience and expecting them to be too proficient in CT sim and Tx planning!	1
The forensic aspect of the program is tied to the pathology class. We try to schedule a visit to the county morgue every year.	1
The job market is very very tight. The job placement rate the last two years has been the lowest I have seen in my 30 plus years in the profession. The so called qualified students we turn away would be rather weak radiographers. There is no need for any new programs.	1
The students do an observation at the medical examiners office once during the summer session. This is a "one day, everybody goes" field day.	1
There is no need for our program to utilize forensics. Nuclear Medicine deals with live tissue to tag radiopharmaceuticals to determine organ system function.	1
There is a county morgue however, we are not affiliated with them at this time.	1
There is a medical examiner's office about 45 miles from the school. It will be great to be able to add the forensic component to our program. I will like more information about it.	1
This program began in January 2007 graduating the first class in December 2008. The first graduating class is employed at 83%. One student went back to school and the other one is moving and continuing their education.	1
This would be related to radiography, not radiation therapy or medical dosimetry	1
Tight job market in [region of state]	1
Unsure about the feasibility of adding morgue component - already have plenty of curriculum to get through in 2 years. We have a morgue on site, but the morgue itself has strict policies for entry and participation due to surrounding legalities of the cases.	1
Until it becomes mandatory, I will not be adding more to the curriculum. With the number of credit hours for the program and the large number of general education courses required it is difficult to cover everything in 2 years.	1
Very small, temporary hospital morgue	1
We are a new program and do not have a lot of data yet to trend.	1
We are located approximately 65 miles from the nearest facility.	1
We cover pathology on CT slices	1
We currently have an autopsy component to our clinical curriculum.	1
We discuss forensic but just the basics. Our students do sporadically participate in morgue image production.	1
We do not currently have a morgue on the premises, but the students do get access to the morgue at the hospital clinic sites.	1
We do not do didactic content on forensics but our students do a one week rotation through our Medical Examiner's Office.	1
We don't have a morgue in our city. Probably the closest one is 1 1/2 hr away.	1
We have a major state medical examiners office - no one sees any need for a forensic curriculum	1
We have a morgue but I do not know if we would have access. We do take x-rays in the morgue when requested. The medical examiner is located about 100 miles away.	1
We have had 2 3/4 years of graduates at this point in our program. I am currently checking to see if we could obtain access to a morgue.	1

We have had guest speakers on forensics but it is not part of the regular curriculum, except as part of film critique/evaluation.	1
We have visited the morgue before. I include a section in one of our courses how radiography is used to sometimes help in determining death, bone age, and etc.	1
We may possibly have access to a morgue or medical examiners office. We have sent the students to our county morgue to observe autopsies. Pathology class is the only other source of forensic education our students receive.	1
We take students to view an autopsy at the county ME office each year.	1
We would love to have forensic radiology and access to a clinical component!	1
Will not be adding this to our curriculum/program; there is no documented need or specific instruction required for doing morgue radiography	1
With the mandated inclusion of CT as well as having to include analog imaging techniques, where is the opening to include forensics?	1
Would be interested in learning how to incorporate this into our program and tips on establishing a relationship with a morgue/medical examiner's office	1
Would have to give some additional thought to forensics. Have not investigated whether the hospital's morgue personnel would be willing to work with radiography students	1
Would like to see a decrease in the number of new programs starting to limit the number of graduates--very difficult for graduates to get jobs because of the decreasing number of jobs.	1
Would love it. Lots of student interest, but limited resources.	1
Total	581