Nuclear Medicine Technologists in the U.S., Findings from a 2005 Survey

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Prepared by

The Center for Health Workforce Studies
School of Public Health, University at Albany
7 University Place, B334
Rensselaer, NY 12144
518-402-0250 (V)

Preface

In the Fall of 2005 the Center for Health Workforce Studies (the Center), under a contract with the Society of Nuclear Medicine (SNM), conducted a survey of Nuclear Medicine Technologists to learn about their demographic characteristics, education, employment, career paths, and attitudes about their profession. This report summarizes the survey responses and presents a variety of insights about the profession.

This report is the second of a series of seven to be produced by this major study of the nuclear medicine workforce. The initial report, prepared in 2005, was based solely on then existing sources of data and information about nuclear medicine. Subsequent reports will be prepared on a national survey of nuclear medicine scientists conducted in the Spring of 2006, a national survey of physicians involved in nuclear medicine planned for early 2007, national surveys of nuclear medicine educators and students conducted in 2006 and 2007, and a final report synthesizing the findings and conclusions from the several component reports and presenting a series of recommendations about both the field of nuclear medicine and the several nuclear medicine professions.

The report was prepared by Margaret Langelier and Paul Wing of the Center staff, with assistance from Ajita De. The authors acknowledge the contributions of Joanna Spahr, the project officer from SNM, to both the survey and the report. The contributions of the study advisory committee, chaired by Anthony Knight, are also gratefully acknowledged. Responsibility for the accuracy of the report rests solely with the authors.

The Center was established in 1996 to collect, analyze, and present data about health care workers to inform provider, professional, government, and education organizations; policy makers; and the public. Today, the Center is a national leader in the field of health workforce studies. It supports and improves health workforce planning and access to quality health care through its capacity to collect, track, evaluate, and disseminate information about health care personnel at the national, state, and local levels. Additional information about the Center can be found on its website, http://chws.albany.edu.

Questions about this report, the larger study, or the Center can be directed to Ms. Langelier or Dr. Wing at 518-402-0250.

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Executive Summary

Background

Nuclear Medicine (NM) is a small but important component of the larger field of medical imaging. Through a complex mix of scientific principles, technological devices, and skilled professionals, NM is having a disproportionate influence on the diagnosis and treatment of a growing number of illnesses and diseases. For some specialties like cardiology and oncology, the impact of NM is nothing short of a major paradigm shift.

This report summarizes the responses to a 2005 survey of practicing nuclear medicine technologists (NMTs), one of several professionals responsible for this transformation of both medical imaging and medical practice more generally. The report describes the demographic characteristics, education and training, licensure patterns, current employment, career paths, and work environment of these front-line professionals.

The 2005 Survey

The 2005 survey of NMTs was stimulated in large part by concerns that the profession must learn more about itself in order to respond to the changes taking place in both the NM field and the NMT profession. This concern resulted in a survey of a stratified random sample of 4,000 of the 21,245 NMTs certified by NMTCB or ARRT in 2005. With over 2,200 responses to 60 questions about all aspects of the profession, this survey provides the most comprehensive picture of the NMTs ever developed. Table A-1 in Appendix A shows the total numbers of registered NMTs in the fifty states, along with the numbers of NMTs sampled in the 2005 survey and the numbers of respondents. A copy of the survey instrument is provided in Appendix B.

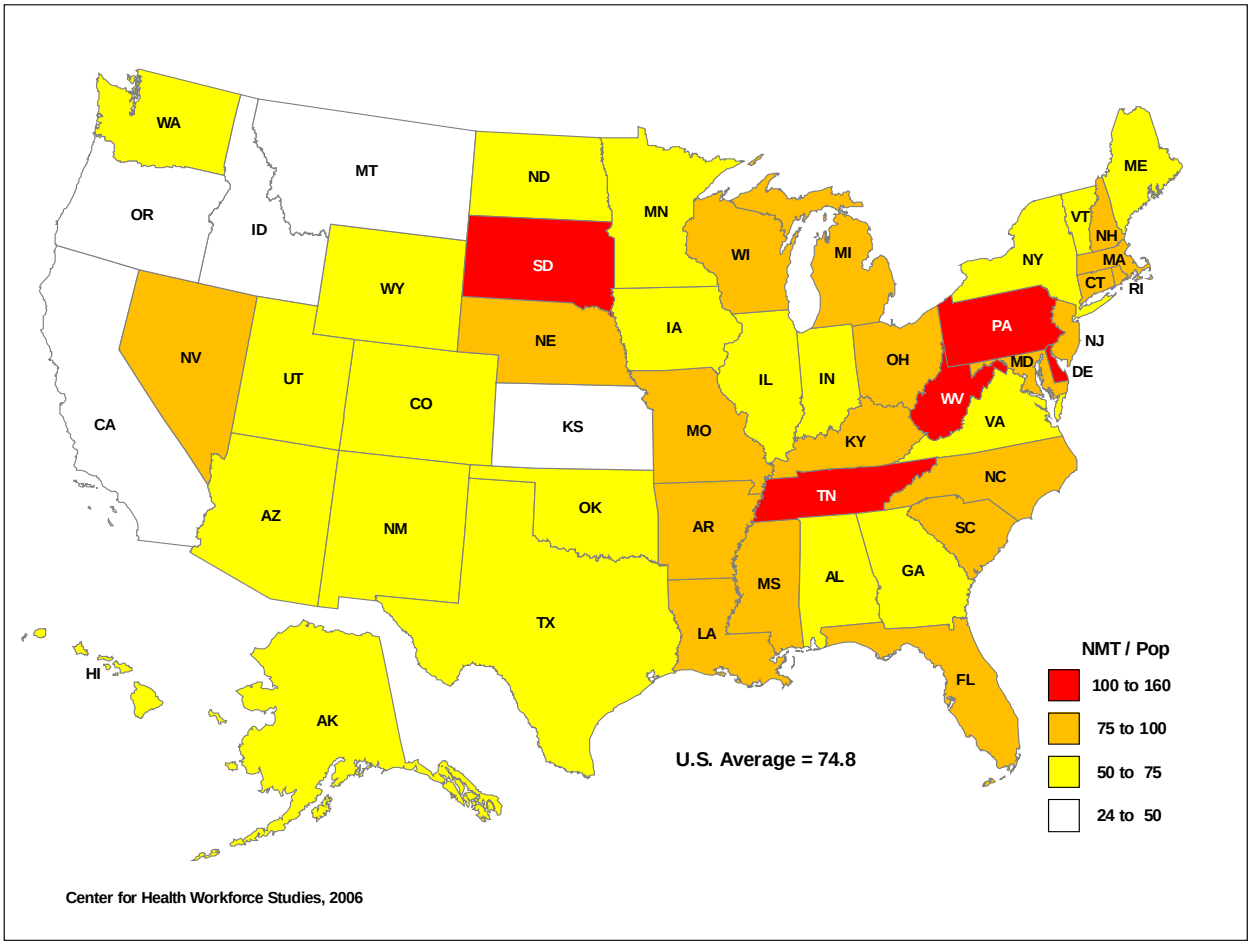
The process of conducting the survey revealed some interesting insights about the "geographic penetration" of the NMT profession across the U.S. In terms of numbers of certified NMTs per million population in the fifty states and the District of Columbia, the profession has an extremely wide range of NMT to population ratios across the fifty states (Figure 1). At the high end of the spectrum are South Dakota (160), West Virginia (143), and Delaware (135), and at the low end are the District of Columbia (23), Kansas (36), and Idaho (38).

Although there is nothing wrong, *per se*, with having either a very high or very low ratio of NMTs per capita, it is important to recognize that states with very low ratios raise questions about the need for the profession. The fact that a state has half as many NMTs per capita as the national average raises questions about whether other professionals are substituting for NMTs, or even if adequate numbers of NM procedures are being conducted in the state. These and other questions raise doubts about the need for NMTs that undercut the status of the profession.

Key Findings

The NMT profession is by most standards in excellent shape. Job satisfaction is high. Salaries are near the top of the scale for professions with similar educational requirements. The field of NM is poised for continuing growth and change. The future looks bright indeed.

Figure 1. Nuclear Medicine Technologists per Million Population in the Fifty States, 2005



That said, there are also reasons for concern, perhaps none more important than the under-appreciation by some in the profession of the risks of being left behind as the field of NM and medical imaging more generally continue to evolve and transform. Especially important risks are those related to new technologies. Fusion imaging technologies seem certain to take over from the multiple machine imaging modalities typically in place today. If NMTs do not acquire traditional imaging skills and certifications to complement their NM skills, Radiologic Technologists (RTs) and other hybrid professionals will increasingly be asked to perform tasks now reserved for NMTs.

NMTs also must be aware of the shift in the locus of NM services also taking place. As is true for many imaging modalities, NM is shifting out of hospitals into ambulatory facilities. It is also shifting away from NM physicians toward cardiologists, oncologists, and other specialists who are becoming increasingly reliant on NM for both diagnostic and therapeutic purposes.

Some of the findings from the 2005 survey most relevant to the future of the NMT profession are provided below. The statistics provided are based on the responses to the survey by respondents who indicated they were active in NM.

Demographics

Demographic characteristics provide important insights about the composition and diversity of the NMT workforce as of 2005.

- Active NMTs were 64.4% female and 83.7% White (non-Hispanic). This was over-representation relative to the US general population (51.0% female and 74.7% White) in 2004 (American FactFinder, 2005). Although the profession is not racially or ethnically diverse, it is gender diverse compared to most allied health professions.
- The mean age of active NMTs was 43.5 years and the median age was 44. This was older than the median age of the civilian labor force in 2004, which was 40.3 years [Toossi, 2005].
- Nearly one-third (32.9%) of active NMTs reported that they were 50 and older. This has important implications for future retirement patterns of NMTs, which will place additional pressure on education programs to prepare replacement workers compared to many health professions.

Education

The educational background of the NMT profession helps clarify the knowledge, sophistication, and skill sets its members bring to the workplace.

- The percentages of active NMTs with associate degrees and bachelor's degrees at entry into the NMT profession were 29% and 31%, respectively.
- Five of eight (62.6%) of currently practicing NMTs entered their NMT education program with a prior college degree. This suggests the importance of maintaining certificate pathways or bachelor programs with articulated pathways to the profession for those with prior academic education.
- The percentage of active NMTs with college degrees was also high. More than nine out of ten (92.3%) indicated they had completed some college education, and nearly half (49.5%) had a bachelor's degree. Although this level of education is currently adequate for acquiring the knowledge and skills necessary for effective NMT employment, the lack of a consistent entry-level education is problematic for professionalization. It has been shown in many health professions that not having a consistent educational standard undercuts the reputation of the profession, sometimes excluding practitioners from important policy discussions.
- The lack of graduate education for the NMT profession is a concern in light of efforts to move the profession into advanced practice. The experiences of other professions suggest that regulatory boards and legislators expect advanced education levels when asked to approve licensing for advanced practice professionals.
- Nearly a third (29.2%) of active NMTs expected to pursue further academic education. This is not surprising given the complexity and rapid evolution of the field of NM.

Certification and Licensure

In some states, certification is required to work as a NMT. A vast majority of active NMTs were certified by NMTCB and about a half had RT(N) certification from ARRT.

- Most (88.2%) of active NMTs were CNMT-certified. Half (50.1%) of them carried an RT(N) certification and 2.2% had an ASCP(NM) certification. About 39% were dually certified by the Nuclear Medicine Technology Certification Board and the American Registry of Radiologic Technologists and therefore had CNMT and RT(N) credentials.
- About three of eight (37.7 %) active NMTs were licensed in another allied health profession or had other imaging certifications. Only about one in 20 (5.1%) reported having other certifications such as PET and PET/CT.
- Fewer than 70% of active NMTs indicated that the state in which they worked requires a license. This lack of licensure undercuts the professional standing of the NMT profession, especially in those states not requiring licensure, but also in other states as well.

Primary and Secondary Employment

As might be expected, many NMTs work in inpatient hospital settings, but a high percentage of NMTs also practice in outpatient settings. Cardiology Specialty Centers were the primary employer of almost 16% of the active NMTs responding to the survey.

- More than half of actively practicing NMTs (54.8%) indicated that their primary work setting was a Hospital/Medical Center, and 15.9% indicated that their primary work setting was a Cardiology Specialty Center.
- The most common secondary work settings were also Hospital/Medical Center (35.7%), and Cardiology Specialty Centers (17.0%).
- There was a strong emphasis on clinical NM in the primary employment of active NMTs. The percentage of active NMTs providing only clinical services was similarly distributed across settings. Cardiology Specialty Centers had the highest percentage (76.5%) of NMTs providing full-time clinical services followed closely by the Academic Medical Centers (71.8%) and Hospital/Medical Centers (69.0%). Mobile units had the lowest percentage (59.4%) of NMTs providing full-time clinical services.

Work in Different Imaging Modalities

General NM studies represented the bulk of services provided by NMTs. Only a small percentage of NMTs worked almost or full time in a specialized NM modality.

- Active NMTs spent most of their time providing NM services, with 74.6 % spending 100% of their time in NM. Only a few (4.6%) spent all of their time working in other modalities such as PET. Of the small number working in other modalities, only 2.0% spent all their working time in SPECT/ CT and 5.2% in PET/CT.

Salaries

Salaries for NMTs are high relative to similar health professions. NMTs working in fusion hardware imaging modalities earned higher salaries overall than NMTs working in general NM. NMTs working in PET/CT command the highest salaries among NMTs providing imaging services. There were both regional and gender variations in salary levels. Most of the salaries reported below were total salaries including salary from call. A few are base salaries only.

- The mean <u>total</u> annual salary of full-time active NMTs (i.e., working more than 30 hours per week, including wages from call) was $70,470 and the median was $67,000. This difference can be explained by a number of outliers with high salaries who pulled the

mean upward. This mean total salary was somewhat higher than the mean of $67,429 from the ASRT Wage and Salary Survey for 2004. It was also higher than the mean annual salary of $60,530 for NMTs reported by BLS for 2005, which was based only on salaries associated with individual jobs, not individual workers, some of whom have multiple jobs.

- There was a wide range in the total annual salary levels of the top and bottom percentiles of the respondents. The top 10% of the full time working NMTs earned $93,000 or more annually while the bottom 10% earned $42,000 or less in a year.
- Active NMTs working in fusion imaging modalities earned higher base salaries than NMTs working in General NM. Those who spent more than 75% of their time in PET had the highest mean annual base salary ($68,870), followed by PET/CT ($68,120). Those who spent more than 75% of time in SPECT/CT earned less ($53,450). Those in General NM earned $59,350.
- The mean total annual salary for full time male NMTs ($76,270) was greater than the mean total annual salary for full time female NMTs ($66,380). This gender gap in salaries was reduced but not eliminated by controlling for other factors (e.g., age, education level, etc.).
- Mean total salaries in the Western U.S. [Region 9]($82,890), in the Mid-Atlantic [Region 2] ($71,260), in the Pacific Northwest [Region 10]($71,020) and in New England [Region 1] ($70,670) were higher than in other regions of the U.S. The lowest mean salaries were found in the Region 8 ($60,690) and Mid-West [Region 5] ($63,210).

Future Plans

The majority of active NMTs expected to remain in their current position over the next five years. A majority also indicated that they will need further training in order to continue in those positions.

- Six out of ten (60.5%) of active NMTs expected to remain in their current position for the next five years, while 6.1% expected to retire over the coming five years, 4.1% expected to seek another job outside the NM profession, and 3.5% expected to leave clinical NM.
- A majority (53.3%) of active NMTs reported that further training will be necessary to continue to work in NM in the future. Nearly one in five (19.5%) indicated they will need CT training; 37.7% indicated PET/CT; 13.1% indicated SPECT/CT; 3.0% indicated MRI training; 1.2% indicated Mammography/PET; and 4.9% indicated 'Other'. [The sum of the parts exceeds 53.3% because multiple responses were provided.]

Job Satisfaction

Job satisfaction among active NMTs is very high. Although there is a high satisfaction index, there are aspects of NMT jobs that would benefit from change.

- The job satisfaction of active NMTs was very high. Nearly 19 out of 20 (94%) of working NMTs were very satisfied or somewhat satisfied with their jobs. A majority (53.7%) were very satisfied.

- Analysis of job satisfaction by imaging modality showed that similar percentages of active NMTs in the different modalities were very or somewhat satisfied in their current job.

Changes Needed to Create Greater Job Satisfaction

- Although the level of job satisfaction of NMTs was very high, 75% of working NMTs indicated that some change in their job would increase their level of satisfaction. The most cited changes were higher pay and new equipment. Higher Pay was rated by NMTs in all the different work settings as the change that would bring the most job satisfaction to them.

The Job Market for the NMTs

About half of active NMTs indicated there were sufficient jobs for NMTs in their local area. However, there were regional differences in the appraisal of job availability.

- When asked to appraise the employment market in their local area, 52.5% of active NMTs indicated that there were sufficient jobs for NMTs; 18.5% indicated that there were more jobs than NMTs; and 29% indicated that there were too few jobs for NMTs.
- A regional analysis of the responses revealed that New England had the highest percentage (35.6%) of NMTs indicating that there were ‘more jobs than NMTs’ in their local areas and the Mountain Region had the highest percentage (43.6%) of NMTs indicating that there were ‘too few jobs for NMTs’ in their local area.

Perception of Employer Preferences

Employers of NMTs indicated a preference for experienced NMTs over newly certified NMTs with training in fusion technologies.

- Nearly nine of ten (88.8%) of active NMTs reported that employers prefer to hire experienced technologists as compared to 11.2% that indicated that employers prefer to hire newly certified NMTs with training in fusion technologies.

Changes in the Workplace Affecting NMTs

Among NMTs who reported changes in the workplace affecting their roles and functions, the most cited reason was the introduction of new equipment resulting in changing responsibilities.

- About one in four (24.1% [n=416]) of active NMTs reported changes occurring in the workplace that were affecting their work. The most common (with 49.1% of those indicating a change was affecting the workplace) was that new equipment was changing responsibilities of NMTs. Other changes cited often were changes in workflow affecting the types of personnel working in NM (37.7%), and NMTs working with physicians other than NM physicians (35.1%). The least cited change (at 7.4%) was that NMTs were working more closely with Radiation Therapists.

Things Liked and Disliked About NM

NMTs indicated that salary and fringe benefits and pride in the NM profession were the primary reasons for working in the profession. The most dissatisfying aspects of work for NMTs were that management does not foster a positive work environment and the lack of opportunity for advancement.

- When asked to rank the top three reasons for working in nuclear medicine, the most frequently selected response was ‘salary and fringe benefits’, followed by ‘pride in the NM profession’.
- ‘Salary and fringe benefits’ was rated highest in all settings except Academic Medical Centers which rated ‘positive patient interaction’ as the highest rated reason why NMTs work in NM.
- Nearly half (47.2%) of the active NMTs indicated that there were aspects of their work that were dissatisfying. Respondents in most settings rated ‘Management does not foster a positive work environment’ as the most dissatisfying factor, followed by ‘There are no opportunities for advancement’.

Recommendations

Three classes of recommendations are provided below, one for individual NMTs, one for the NMT profession more generally, and one for SNM. These recommendations flow primarily from the survey responses, including the open-ended comments presented in Appendix C, but are supplemented by conversations with practitioners and leaders in the NMT profession.

The recommendations are based in part on the impressions of the authors that the NMT profession and its related education programs appear to be somewhat complacent about the future. Major transformations of NM—including all NM professions—seem very likely over the next five to ten years. If nothing is done to ensure an orderly transition into the future, there is a real risk that individual NMTs, the NMT profession more generally, and the Society for Nuclear Medicine may lose some of their current control over the future of their profession .

Individual NMTs

- Support the activities of SNM to upgrade the minimum education requirements for NMT certification to the bachelor’s degree at entry level. This will enhance future opportunities for professional advancement. It will recognize the time and effort required for NMTs to acquire the extensive scientific and clinical knowledge and skill sets needed in their professional practice.

  The high number of NMTs already holding college degrees suggests demand for academic education in the professional environment. Further, the large percentage of active NMTs expecting to pursue academic education in the future is also an indication of demand in work environments for higher levels of education, probably at the bachelor’s level.

  Many active NMTs cited the need for further professional education to remain in their current jobs. This suggests that current NMT education may be inadequate to support the requirements of future employment. New technologies may be driving this demand as some imaging modalities require an understanding of cross sectional anatomy and cross sectional imaging to effectively operate the equipment. Current academic curricula must change to accommodate the suggested demand. New technologies must also be considered when any alteration to professional educational preparation is made.

  Another reason for migrating entry-level education to the bachelor’s level is that a number of NMTs indicate that they are in management/supervisory positions in their workplaces. Supervisory positions require knowledge and skills beyond the clinical curriculum that could be incorporated into a bachelor’s degree course of study.

Although not a primary reason for changing the entry-level academic requirement for the NMT profession, many allied health professions are migrating entry-level education to the bachelor's level. This is necessary for any health profession attempting to create career ladders for professionals through advanced practice at the master's level.

Many individuals come to the NMT profession with previous academic education and health care experience. In determining academic requirements, consideration must be given to maintenance of post bachelor's certificate programs or articulated bachelor degree programs that provide credit for previous education and experience.

- It is important to encourage use of the newly established CT and/or MRI certification processes for current NMTs. It is hard to imagine a situation in which an employer would prefer an NMT with only NM education and certification over an NMT with both NM *and* radiologic education and certification. Although the survey responses do not indicate a sizeable salary boost from such a joint certification, the fact is that the potential for growth in the numbers of dually certified imaging technologists is much greater among RTs than it is among NMTs.

The NMT Profession

- Seek uniform licensure standards for NMTs in all fifty states. Licensure recognizes the unique role that a profession plays in serving the needs and protecting the safety of the public. Licensure increases the status of a profession and provides opportunities to participate in policy discussions about professional practice and education. This will provide a stronger foundation for the NMT profession as competition with other imaging professions grows.

  Studies of a number of allied health professions suggest that uniform licensure requirements further professionalism in a group. Current SNMTS efforts to support the CARE legislation should be encouraged in order to elevate the profession. Universal licensure will also facilitate regulation and implementation of advance practice.

- Promote standardized, legislated legal scope of practice for NMTs in all fifty states. Until scope of practice is standardized, it will be relatively easy to raise questions about the knowledge base and skill sets required to be an NMT that will undercut professional status and reputation. The NMT certification process indicates that skill sets at entry to the profession are similar and do not vary geographically. Legislated scope of practice should reflect that universal skill set and not vary dramatically from state to state.

- Augment the knowledge base and skill sets required for NMTs to include fusion imaging with the latest technologies. The sooner that all or most NMTs are able to use all kinds of imaging equipment, the sooner they will be positioned as the practitioner of choice in a wide range of settings and practices. This will also give NMTs a competitive edge in the labor market for imaging technologists. This becomes increasingly important as the NMT moves into imaging environments in which competition will be more readily apparent. The fact that many NMTs currently work in radiology departments and that NM studies are primarily read by radiologists suggests that positioning in the workplace is already changing.

- Track closely the work of scientists and vendors on new imaging technologies and adjust curricula for both initial education and continuing education to ensure that active NMTs have the skills required to use the equipment effectively. The first profession in the field that can

use new equipment effectively will have a competitive advantage over other professions in the labor market.

- Work to achieve appropriate levels of labor market "penetration" for NMTs in all fifty states. Even one state with low penetration will provide opportunities for detractors to question the need for licensure or even NMTs more generally. It also provides opportunities for employers to "experiment" with new or unorthodox staffing arrangements, which might supplant the need for NMTs at some point in the future. Opportunities for usurpation of NMT jobs should be a continuing concern for the profession. The current disparities in geographic penetration also suggest opportunities to establish new education programs or to expand distance-learning programs.
- Provide opportunities for interested NMTs to extend their professional education to the graduate level. In addition to providing opportunities for career advancement, this would enhance the status of some practitioners and provide opportunities for participation in policy discussions that otherwise might not be available. This might be accomplished by creating joint programs with other disciplines, e.g., business administration. This will be especially important as advanced practice opportunities for the profession are established. Pharmaceutical dispensing and prescribing privileges in many states and at the federal level are often keyed to graduate education.

Society for Nuclear Medicine

- Strengthen the position of SNM as the best place to get information, training, and certification in NMT, and NM more generally. This will strengthen the reputation of SNM as the key organization supporting the NM field and NM professions, despite the relatively small size of NM compared to the other imaging specialties competing for status and position in the informal marketplace.
- Strengthen the role of SNM in the provision of continuing education in NM. Regardless of the final disposition of NM among the many specialties and professions that seem likely to rely on NM tools and techniques, there will certainly be a need for continuing education and certification for both the basic and the latest tools and techniques. This may be the best source of revenue for the future. Special attention should be given to making the educational offerings all-encompassing, that is, serving all levels of professionals and all different specialties.
- Educate NMT professionals about alternative professional opportunities about which they may not be aware. Professional organizations often do this through their journals on a regular basis by highlighting interesting or novel jobs. Increasing the understanding of active NMTs of the array of professional possibilities open to them will contribute to job satisfaction and increase retention for the profession as a whole.
- Build coalitions and collaborate with other professional organizations with a stake in NM. In the current health care environment, disruptive innovation abounds. It is important to be prepared for all possibilities so that change is manageable and so that the professional association can maintain a proactive position in promoting the interests of NMTs.
- Prepare for the possibility that NM may not survive as a separate specialty. Although this may not happen, it may be that NM will be distributed among other medical specialties with stakes in NM, e.g., radiology, cardiology, oncology, pulmonary medicine, neurology, etc.

SNM can still survive as an organization if it carves out an appropriate niche related to the education, training, certification, and credentialing of professionals of all types desiring to understand and use NM tools and techniques. This will be easier to the extent that SNM welcomes all professions and specialties involved in NM.

Nuclear Medicine Technologists in the U.S., Findings from the 2005 Survey

Background

Nuclear medicine technologists (NMTs) provide an array of diagnostic and therapeutic imaging services in a number of settings. NMTs prepare and administer radiopharmaceuticals to patients and conduct therapeutic, diagnostic, and tracer-imaging studies using a variety of radiologic equipment using gamma ray cameras and other imaging technologies. Some NMTs conduct laboratory tests like blood volume, red cell survival, and fat absorption studies [Occupational Employment and Wages, BLS, 2005]. NMTs work in a number of settings including hospitals, outpatient settings, cardiology specialty centers, for technology vendors and in radiopharmacies.

The opportunities for employment in nuclear medicine technology are expanding with the introduction of new technologies. The need for continuing and enhanced education in imaging modalities is driven by these new technologies and by advances in molecular biology, physics, computing, and radiopharmacy that permit expanded applications in nuclear medicine. Nuclear medicine is experiencing change in the quality and detail of images, in therapeutic applications of nuclear medicine technology, and in new diagnostic and therapeutic applications in a number of specialty areas of medicine including neurology, cardiology, and oncology.

These changes have piqued interest from a number of stakeholders in the supply of and demand for technologists, the educational trajectories and curricula content for the profession, in certification and licensing requirements, in the kinds of work settings available, in change in work content and process, and in career paths for the profession. In response to this interest, the Society of Nuclear Medicine contracted with the Center for Health Workforce Studies to conduct a comprehensive workforce study that included nuclear medicine scientists, physicians, technologists, educators and students. This multi-year, multi-phase project includes a number of surveys of these constituent groups. This report provides results on a survey of certified nuclear medicine technologists conducted in the fall of 2005.

Survey of Nuclear Medicine Technologists

Rationale

Preliminary to this survey, a report was prepared for the SNM that examined existing data sources for all professions in nuclear medicine. One section of that report, which was published in November 2005, described known characteristics of the nuclear medicine technologist workforce. The report also describes data gaps noted during the research. A primary concern confirmed by this initial research and motivating the current research was the lack of a consolidated, comprehensive data resource to describe the nuclear medicine workforce. Although there are numerous sources of some data about nuclear medicine professions, no inclusive database that provides comprehensive data currently exits. To address this gap, the professional association commissioned a study of the nuclear medicine professions. A survey of certified NMTs is complete. Surveys of nuclear medicine scientists and of nuclear medicine technology education program directors and graduating students are currently in progress. Surveys of physicians providing nuclear medicine services and of directors of physician residency programs are planned for 2007 or 2008.

Design

The survey of nuclear medicine technologists was designed with the help of the Data Task Force of the Society of Nuclear Medicine Technologists' Section. Participating task force members were helpful in determining areas of interest to be included in the survey, framing questions and response options, and in advising about survey process and technical terminology. The survey was field tested among this group to identify any confusing or poorly stated questions/responses. As a result, small changes were made to early versions of the questionnaire.

The survey questionnaire consisted of 60 questions under eight topics that included demographics, education and training, licensure and certification, current employment, career paths, current work environment and attitudes, continuing education and a narrative topic. The survey questionnaire was available only in paper format since e-mail addresses for an electronic survey were available for only a portion of the technologists sampled. A copy of the survey instrument is included with this report in Appendix B.

Sample

In September, October and November of 2005, paper surveys were mailed to a sample of currently certified nuclear medicine technologists in the United States. This sample was drawn from lists of currently certified nuclear medicine technologists supplied by the Nuclear Medicine Technology Certification Board and the American Registry of Radiologic Technologists. These lists were combined and cleaned to produce an unduplicated list of 21,369 names of certified nuclear medicine technologists. This census was accurate for the fall of 2005. A random sample of 4,000 geographically representative technologists was selected to receive the survey. The following chart provides a description of the geographic representation among all NMTs, among the sample of NMTs selected to receive the survey, and among those who responded to the survey of nuclear medicine technologists.

Table 1. Regional Distribution of NMTs in the U.S., in the NMT Survey Sample, and of NMT Survey Respondents, 2005

Geographic Region	NMTs in U.S.		NMTs in Survey		Respondents	
	#	%	#	%	#	%
New England (CT, ME, MA, NH, RI, VT)	1,140	5.3%	229	5.7%	107	6.0%
Northeast (NY, NJ)	2,097	9.8%	381	9.5%	177	9.9%
Mid Atlantic (DE, DC, MD, PA, VA, WV	2,706	12.7%	507	12.7%	230	12.9%
Southeast (AL, GA, FL, KY, NC, SC, TN, MS)	4,714	22.1%	836	21.0%	341	19.1%
Mid Central (IL, IN, MI, MN,OH,WI)	4,193	19.6%	801	20.0%	374	21.0%
Southwest (AR, LA, NM, OK, TX)	2,247	10.5%	406	10.1%	167	9.4%
Midwest (IA, MO, NE, KS)	1,002	4.7%	195	4.9%	110	6.2%
Mountain (CO, MT, ND, SD, UT, WY)	638	3.0%	124	3.1%	55	3.1%
Pacific (AZ, CA, HI, NV)	2,043	9.6%	402	10.0%	170	9.5%
Northwest (AK, ID, OR, WA)	589	2.8%	119	3.0%	50	2.9%
Total	**21,369***	**100%**	**4,000**	**100%**	**1,781****	**100%**

* Does not include technologists outside the U.S.
** Some respondents did not supply geographic information, so this number is smaller that the total number of survey respondents.

A description of the state by state representation of NMTs in the profession and in the survey sample is found in Table A-1 in Appendix A of this report.

Timeline

The first mailing of the survey occurred in early September of 2005. A second mailing to technologists who had not yet responded to the first mailing was completed in early October of 2005. A third and final mailing to still non-respondent technologists occurred in early November of 2005. The Center stopped accruing responses at the end of December 2005.

Problems/Limitations

There were a high number of bad addresses from somewhat aged certification lists. Four hundred and eighty-four surveys were either forwarded or returned with forwarding addresses provided by respective post offices. An additional 95 surveys were returned with no forwarding address available. An effort was made to substitute other technologists for those with bad addresses during the first two mailings of the survey. Sixty-seven new technologists were chosen at random over the course of the survey period to replace those with bad addresses. Twenty-eight addresses were not substituted because the notification of bad address was too late in the survey process and there was no reasonable expectation that substitution would result in response. In some cases, post office notification time for bad addresses was extended. Notification from the post office of an additional 12 bad addresses was received after the third mailing was completed.

The survey timeline required that the process begin in September 2005. Unfortunately, Hurricane Katrina hit the Gulf Coast just prior to the beginning of the survey mailing. Since technologists in the areas hardest hit by the storm could not reasonably be expected to complete the survey, all zip codes in the affected areas were eliminated from the sample draw. The zip codes were selected based on information obtained from the website of the U.S. Post Office in the days following the disaster. For that reason, the states of Louisiana and Mississippi were under-sampled relative to the distribution of NMTs in the workforce.

Response Rate

The original sample size of 4,000 was reduced by 40 bad addresses (28 plus 12) and by 2 deceased technologists to 3,958. There were 2,209 responses to the survey questionnaire. The response rate to the survey was 55.8%. This is typical for a survey of this complexity conducted by the Center.

Incentives

The Society of Nuclear Medicine provided an incentive to early respondents to the survey. Technologists who responded to the first mailing were entered into a drawing for a $500 gift certificate. Those who did not win the first drawing along with those who responded to the second mailing were entered in a second drawing for a $250 gift certificate. All respondents (except those who had already won) were entered in a third drawing for another $250 gift certificate at the completion of the survey process.

The following sections contain the survey results. The sections follow order of the sections included in the survey questionnaire. In the following analysis the number of respondents varies by item due to selective non-response to some questions (such as age or salary) or due to selection of a particular group of interest among respondents.

Demographics

This section presents estimates of the gender, race and ethnicity, and age of actively working NMTs in the U.S., within the workforce as well as the larger U.S. population. This provides important insights about the diversity of the NMT workforce as of 2005.

- A majority of Nuclear Medicine Technologists who responded to the survey were female and non-Hispanic White. Compared to the U.S. population in 2004, Whites and Asians were over-represented in the NMT profession, while Hispanics and Blacks were under-represented. Less than 2% of NMT respondents reported "other" as their race/ethnic category.

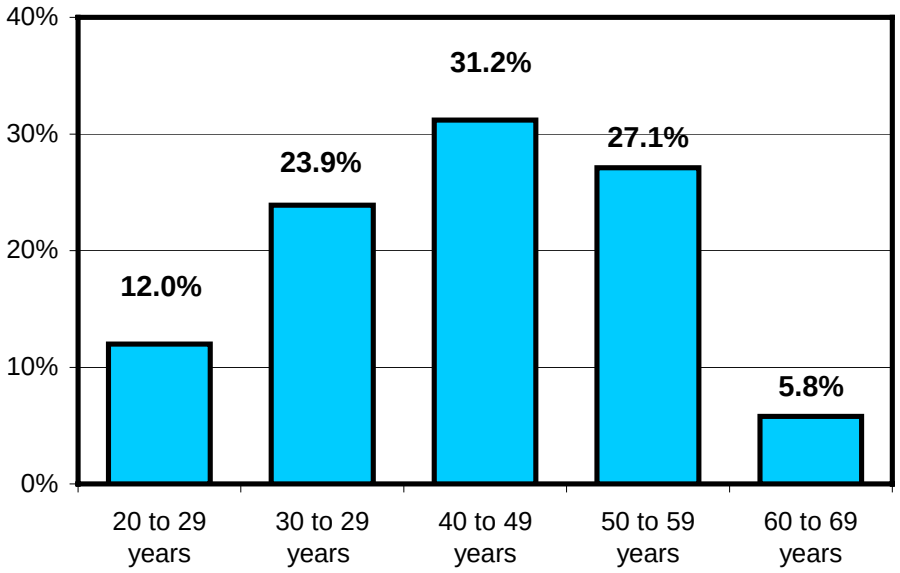
Table 2. Demographic Characteristics of NMTs in the U.S., 2005

Demographic Category	NMTs, 2005	U.S. Population, 2005
Female	64.4%	51.0%
Male	35.6%	49.0 %
Asian or Pacific Islander	6.4%	4.3%
Black/African American	3.7%	12.1%
American Indian	0.6%	0.8%
White	83.7%	74.7%
Hispanic	4.0%	14.5%

Source: 2005 NMT Survey, Question A.3, U.S. Census Bureau, American FactFinder, 2005.

- The mean age of respondent NMTs was 43.5 years and the median age was 44. This is older than the median age of the civilian labor force in 2004, which is 40.3 years [Toossi, 2005]. Nearly one-third (32.9%) of active NMTs were between the ages of 50 and 69.

Figure 2. Age Distribution of Active NMTs, 2005



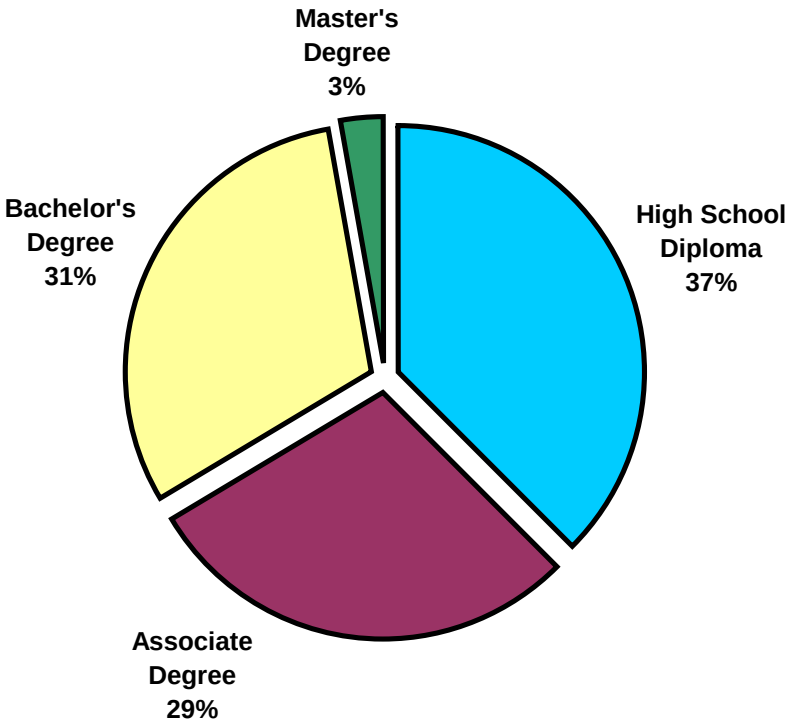
Source: 2005 NMT Survey, Question A2.

Education and Training

The educational background of the NMT profession helps clarify the sophistication and skill sets its members bring to the workplace. The mix of education levels of the NMT profession is an important factor for future planning for both recruiting new employees into the profession and for designing continuing education and professional development programs for current NMTs. Analysis of the educational background of current NMTs can also provide important insights for those planning future educational programs and curricula.

- A large percent of responding nuclear medicine technologists indicate that they entered their nuclear medicine education programs with some college education. 62.6% of active nuclear medicine technologists entered their nuclear medicine technology education program with a prior college degree.

Figure 3. Education Level of Currently Practicing NMTs at Entry into Nuclear Medicine Technology Education Program



Source: 2005 NMT Survey, Question B.1.

- More than nine of ten (92.3%) of currently working NMTs indicated they had completed some level of college education. About half (49.5%) of currently practicing technologists had a bachelor's degree.

Table 3. College Education of Active NMTs, 2005

Associate's Degree	35.1%
Bachelor's Degree	49.5%
Master's Degree	7.0%
Doctoral Degree	0.7%

Source: 2005 NMT Survey, Question B.3.

Table 4. Highest Current Degree, by Pre-NM Education, as of 2005

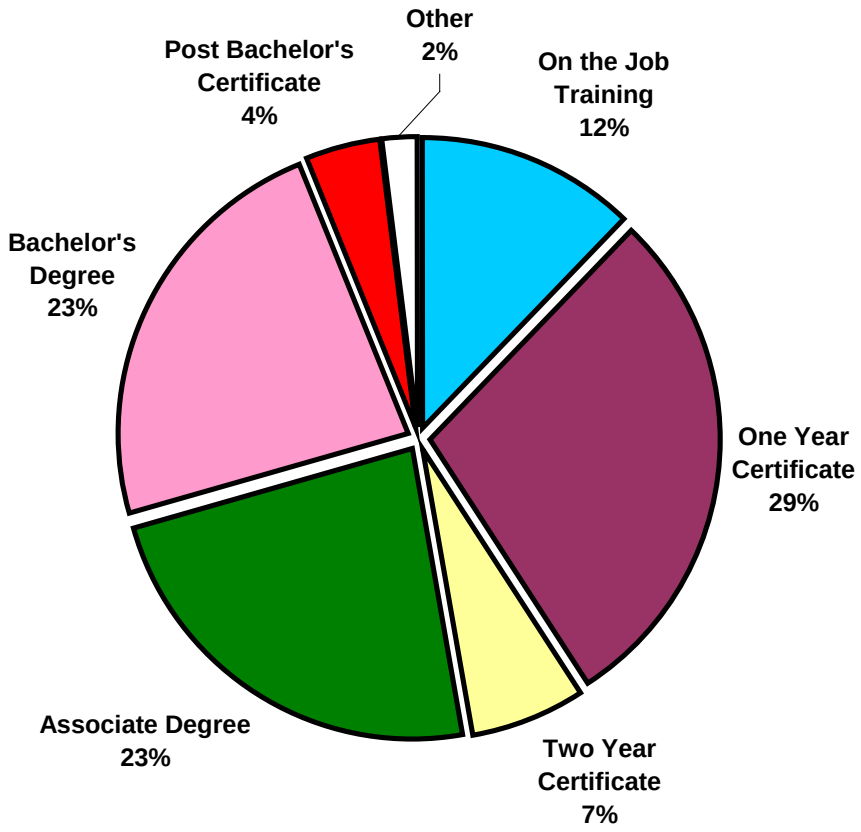
Pre-NM Education	Highest Current Degree				
	Associate	Bachelor's	Master's	Doctoral	Total N
HS Diploma	47.3%	47.3%	5.4%	0.0%	573
Associate Degree	73.3%	22.6%	3.9%	0.2%	544
Bachelor's Degree	0.2*%	93.5%	5.6%	0.7%	586
Master's Degree	1.9%*	1.9%*	83.3%	13.0%	54
Total	**38.2%**	**53.7%**	**7.4%**	**0.7%**	**1,757**

Source: 2005 NMT Survey, Questions B.1 and B.3
*Suggests respondent misunderstood the question.

NMT Education Programs

- NMTs currently working in nuclear medicine were trained in educational programs that awarded certificates/degrees at different levels. About one of eight (12.2%) of active NMTs was trained on the job. This was more likely to be the mode of training/education for the older age cohorts. About 35% of NMTs aged 60 to 64 were trained on the job, while 34% of NMTs in the same age group attended a one-year certificate program, 16% attended an Associate's degree program, and only 1 NMT (1%) aged 60 to 64 attended a Bachelor's degree program in nuclear medicine technology. Among those aged 25 to 29 only 1 respondent (0.4%) was trained on the job, while 14.9% attended a one-year certificate program, 29.3% attended an Associate's degree program, and 44.7% attended a Bachelor's degree program.

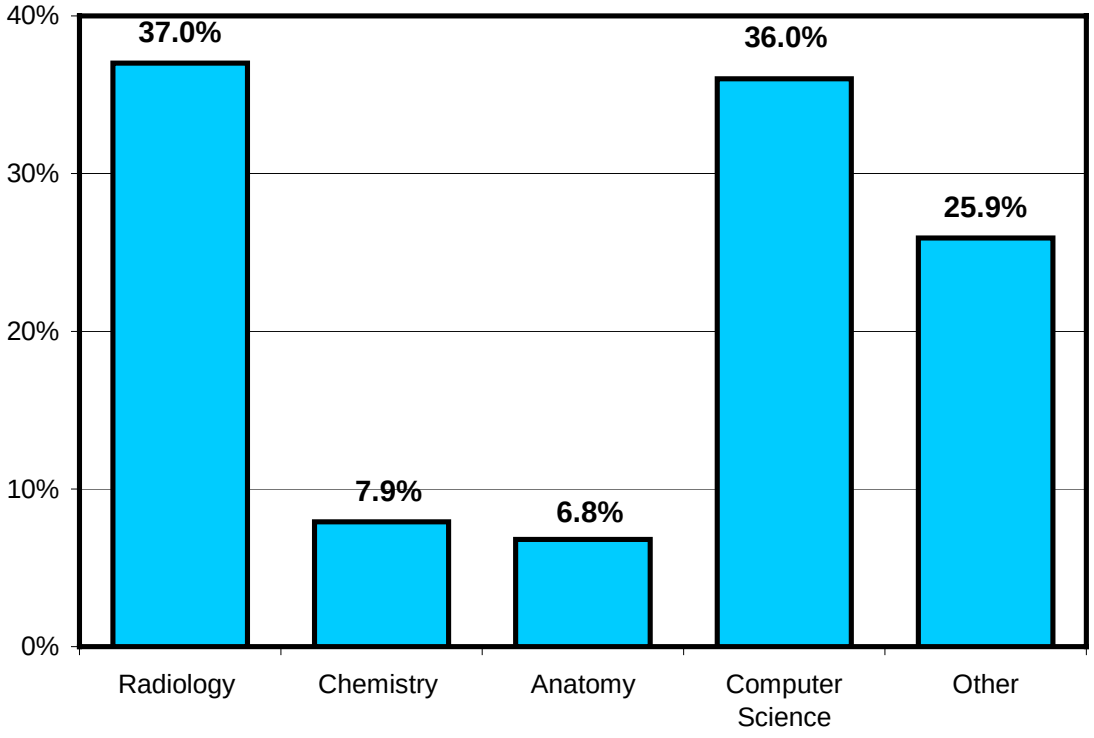
Figure 4. Award Level of Nuclear Medicine Education Program Attended by Working NMTs, 2005



Source: 2005 NMT Survey, Question B.2

- Nearly 29.2% of responding and actively working NMTs expect to pursue further academic education.
- More than three of four (77.7%) of NMTs who had graduated from a NMT program in the past five years felt their education programs provided adequate training for current practice in nuclear medicine. The remaining 22.3% felt their education was deficient in one or more areas. Radiology and computer science were the two areas of study most frequently cited as deficient in NMT programs.

Figure 5. Percent of Recent NMT Graduates Who Identified Their NMT Education Program As Deficient by Area of Deficiency, 2005 (N=189)



Source: 2005 NMT Survey, Question B. 5a.

- A large number of active NMTs indicated the need for continuing education/training in other imaging modalities. Respondents cited PET/CT and CT most often when asked to identify areas in which training would be required to continue working in nuclear medicine.

Table 5. Area Where Training Will Be Needed to Continue Work in NM, By Highest Current Degree, 2005

Area Where Training Will Be Needed	Associate	Bachelor's	Master's	Doctoral	Total N
CT	23.0%	23.1%	22.4%	17.6%	22.9%
MRI	3.3%	3.4%	4.1%	11.8%	3.5%
Sonography	0.6%	1.0%	1.4%	5.9%	0.9%
PET/CT	45.9%	43.4%	38.1%	17.6%	43.5%
SPECT/CT	13.7%	15.6%	17.0%	17.6%	15.1%
PET/MRI	6.5%	6.3%	8.2%	11.8%	6.6%
Mammo/PET	1.3%	1.2%	4.1%	0.0%	1.5%
Other	5.7%	5.9%	4.8%	17.6%	5.9%
Total N	**540**	**883**	**147**	**17**	**1,587**

Source: 2005 NMT Survey, Questions B.3 and E.4.

Certification

In most states, certification is required to work as a NMT. A vast majority of survey respondents who were employed in NM were certified by NMTCB and about half had RT(N) certification from ARRT. On average active NMTs had been certified in NMT for 15 or more years.

- Nearly nine of ten (88.2%) of actively working NMTs are CNMT certified. In addition, 50.1% carry an RT(N) certification and 2.2% have an ASCP (NM) certification. 39% of NMTs are dually certified by the Nuclear Medicine Technology Certification Board and the American Registry of Radiologic Technologists and therefore use both the CNMT and RT (N) credentials. .
- The mean number of years certified in nuclear medicine technology is 15.5 years and the median number of years certified is 14.

Table 6. Percent of Active NMTs by Years Certified in Nuclear Medicine

Years in Nuclear Medicine	Percent
0 to 5 Years	18.4%
6 to 10 Years	14.0%
11 to 15 Years	19.6%
16 to 20 Years	11.3%
21 to 25 Years	13.9%
26 to 30 Years	13.1%
More than 30 Years	9.7%

Source: 2005 NMT Survey, Question C.1a.

- More than two thirds of NMTs (67.7%) indicated their age at first certification was between 20 and 29 years old, 22.3% indicated their age at first certification between 30 and 39, 8.2% indicated 40 and 49, and 1.6% indicated over age 50. Although NMTs also indicated that NMT may be a second career choice, the age at certification suggests that the career change occurs in the younger years.
- Three of eight active NMTs (37.7 %) were licensed in another allied health profession or have other imaging certifications, and 5.1% of respondents indicated other certifications such as PET and PET/CT.

Table 7. Percent of Working NMTs Certified Or Licensed in Other Areas

Certification Area	% of Respondents
Radiologic Technology	31.5%
Medical Laboratory Technology	1.1%
Registered Nurse	0.6%
MRI	1.5%
Sonography	1.6%
CT	2.0%
Mammography	2.3%
Other	5.1%

Source: 2005 NMT Survey, Question C.2 and C.2a

- More than half (52.4%) of working NMTs were members of the Society of Nuclear Medicine. In addition, 19.2% were members of The American Society of Radiologic Technologists (ASRT), 1.3% belonged to the Academy of Molecular Imaging (AMI), 7.9% belonged to the American Society of Nuclear Cardiology (ASNC), 0.7% belonged to the American Healthcare Radiology Administrators (AHRA), 0.1% belonged to the Radiology Business Management Association, and 9.5% belonged to some other organization. About one in ten (10.6%) of responding NMTs belonged to both SNM and ASRT.
- Two-thirds (66.6%) of working technologists are licensed by the state in which they currently work.

Table 8. Credentials of NMTs Who Spend More Than 50% Time in Selected NM Specialty Areas

More than 50% Time Spent In	Credentials (Column %)			
	CNMT Only	RT (N) Only	CNMT & RT (N)	Total # (%)
Nuclear Medicine	818 (85.7%)	186 (87.3%)	625 (86.3%)	1629 (86.1%)
PET	51 (5.3%)	11 (5.2%)	32 (4.4%)	94 (5%)
SPECT/CT	28 (2.9%)	5 (2.3%)	10 (1.4%)	43 (2.3%)
PET/CT	57 (6%)	11 (5.2%)	57 (7.9%)	125 (6.6%)
Total # (%)	954 (100%)	213 (100%)	724 (100%)	1891 (100%)

- Most certified nuclear medicine technologists (86.1%) work 50% or more in nuclear medicine. The other 13.9% of certified NMTs are working mainly in PET, in SPECT/CT, and in PET/CT.
- Among the 5% of certified NMTs working 50% or more of their time in PET, there is a wide variety of credentials. Although the same is true among NMTs working in PET/CT, a higher proportion of technologists who are dual credentialed work in this specialty area.
- Among certified nuclear medicine technologists who are also educated as radiologic technologists, 84.8% work more than 50% of the time in nuclear medicine, 4.6% work 50% or more in PET, 2.5% work 50% or more in SPECT/CT, and 8.2% work 50% or more in PET/CT. Overall, only 6.6% of all certified nuclear medicine technologists work 50% or more in PET/CT.

The survey had 19 questions related to the current employment status and work environment of the NMTs. These questions yielded important information and insights about primary as well as secondary work settings, departments, places of employment, equipment, work hours, roles played, job responsibilities, salaries, and supervisory responsibilities of actively working respondents.

- More than half of actively practicing NMTs indicated that their primary work setting was a Hospital/Medical Center. Nearly one in six (15.9%) indicated that their primary work setting was a Cardiology Specialty Center.
- Most NMTs reported they worked full time, with 88.2% of working NMTs indicating they worked more than 30 hours per week. The part-time workers included 7.l% who indicated they worked between 20 and 29 hours per week and 4.7% who reported working less than 20 hours per week.
- Nearly three of four (73%) of active NMTs worked in only one job setting. About one in six (16.9%) active NMTs had two work settings and 10% had three or more work settings.

Table 9. Primary and Secondary Job Settings for Working NMTs, 2005

Setting	Work Setting	
	Primary (N =1887)	Secondary (N=530)
Hospital Medical Center	54.8%	35.7%
Cardiology Specialty Center	15.9%	17.0%
Academic Medical Center	5.5%	3.4%
Freestanding Outpatient Radiology Center	5.3%	6.0%
Outpatient Hospital/Clinic	4.6%	12.8%
Physician Office/Private Radiologist	4.6%	5.1%
Mobile Unit	3.4%	8.1%
Academic/Educational Institution	1.1%	1.7%
Technology Company	1.0%	0.0%
Self Employed	0.7%	1.5%
Radiopharmacy/Pharmaceutical Company	0.6%	1.7%
Oncology Specialty Center	0.6%	1.3%
Research Organization	0.4%	0.9%
Staffing Organization	0.4%	2.5%
Consulting Company	0.2%	0.2%
Other	0.7%	2.1%

Source: 2005 NMT Survey, QuestionD.2 and D.3.

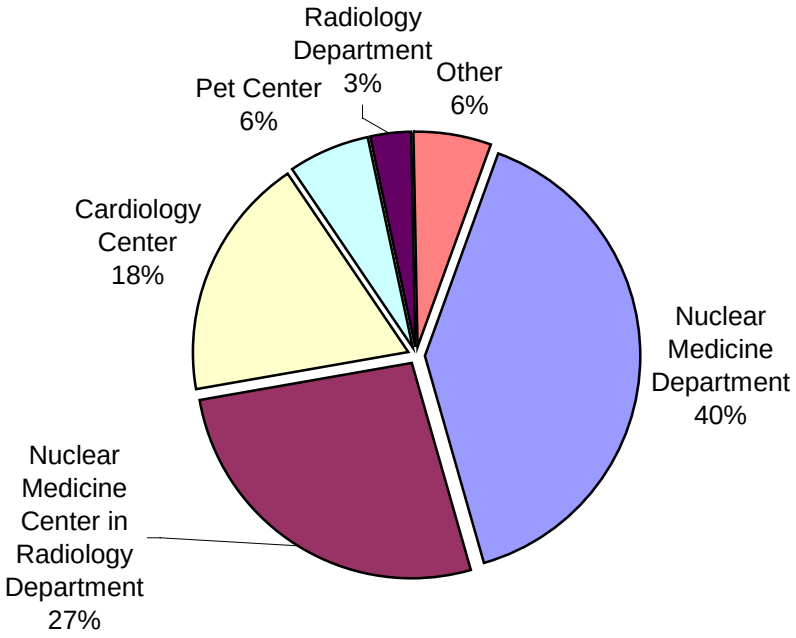
- Among the Nuclear Medicine Technologists (NMTs) working in one facility, 48% were older than 45 years of age, with 15.2% in the 45-49 year age group, 16.5% in the 50 to54 year age group, and the remaining 16.3% in the 55 and over group.
- As one might expect, younger NMTs were most likely to report working in multiple facilities, with 42.3 % of NMTs working two jobs reporting their age at younger than 40 years. However, many older professionals also reported having multiple employers Among NMTs working in two facilities, 32.2% were aged 40 to 49, and 25.5% were over the age of 50.
- Among the NMTs working in three or more facilities, 43.7% were 39 years of age or younger, 27.8% were between the ages of 40 and 49, and 28.5% were 50 and older.
- Four of ten (40.1%) of NMTs indicated that their primary work setting was a nuclear medicine department, 26.7% indicated that their primary work setting was a nuclear medicine center in a radiology department, 18.2% listed a cardiology center, 6% listed a PET center, 3.1% listed a radiology department, and 5.9% indicated “other”.

Table 10. Primary Work Department by Primary Employment Setting, 2005

Primary Employment Setting	Primary Work Department						
	NM Dept	NM Center in Rad Dept	Radi-ology Dept	PET Center	Cardi-ology Center	Other	Total N
Academic Medical Center	68.0%	23.3%	0.0%	5.8%	1.0%	1.9%	103
Hospital/Medical Center	50.7%	40.3%	4.5%	1.3%	2.1%	1.2%	1,028
Outpatient Hospital Clinic/Center	29.9%	28.7%	5.7%	17.2%	18.4%	0.0%	87
Freestanding Outpatient Radiology Center	34.0%	27.0%	5.0%	29.0%	1.0%	4.0%	100
Phys Office/Private Radiologist	31.4%	1.2%	1.2%	5.8%	53.5%	7.0%	86
Cardiology Specialty Center	17.7%	0.0%	0.0%	0.3%	80.7%	1.3%	300
Other	14.6%	5.3%	1.2%	25.1%	7.0%	46.8%	171
Total	**40.3%**	**26.7%**	**3.1%**	**6.0%**	**18.1%**	**5.8%**	**1,875**

Source: 2005 NMT Survey, Questions D.3 and D.4.

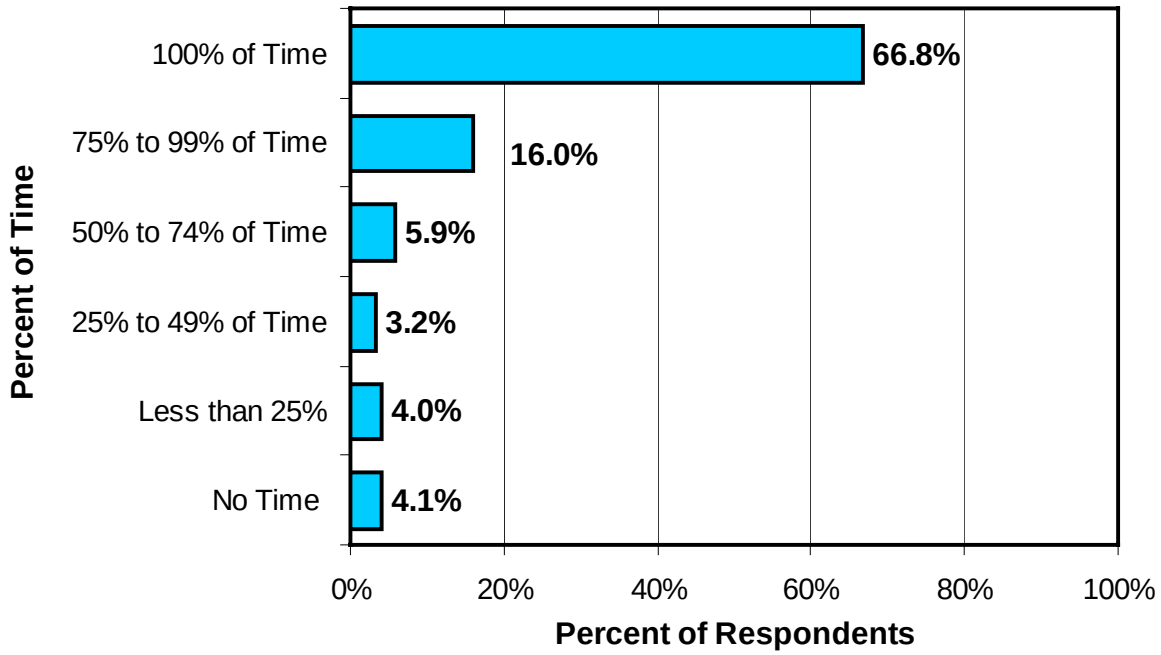
Figure 6. Percent of Working NMTs by Type of Department, 2005



Source: 2005 NMT Survey, Question D.4

- Although the majority of nuclear medicine technologists worked full time in clinical nuclear medicine, some nuclear medicine technologists performed other duties while on the job.

Figure 7. Percent of NMTs By Time Spent Providing Clinical Nuclear Medicine Services in Primary Employment Setting, 2005



Source: 2005 NMT Survey, Question D.6

When amount of time spent providing clinical nuclear medicine services is examined by setting, the percent of NMTs providing only clinical services was distributed similarly across settings. Mobile units had the lowest percent of NMT personnel providing full time clinical services, but this is likely due to a smaller number of staff professionals in that type of setting among whom other work might be distributed.

Table 11. Percent of NMT Time Spent Providing Clinical Services by Setting, 2005

Setting	100% Clinical	75% to 99% Clinical	50% to 74% Clinical
Academic Medical Center	71.8%	10.6%	5.8%
Hospital/Medical Center	69.0%	15.7%	6.4%
Outpatient Hospital Center	64.3%	19.5%	8.9%
Freestanding Radiology Center	63.0%	19.0%	6.0%
Physician/Radiologist Office	65.0%	23.2%	3.4%
Cardiology Specialty Center	76.5%	16.0%	4.3%
Mobile Unit	59.4%	18.8%	3.0%

Source: 2005 NMT Survey, Questions D.3 and D.6.

- Active NMTs reported spending most of their time providing nuclear medicine services. Only a few spent time a majority of their time working in other modalities such as PET or fusion hardware imaging devices.

Table 12. Percent of Work Time By Type of Imaging Modality, 2005

Percent of Work Time In Modality	Nuclear Medicine	PET	SPECT/CT	PET/CT
No Time	3.0%	77.4%	86.7%	74.5%
25%	6.0%	12.5%	8.2%	12.8%
50%	4.8%	3.9%	2.4%	3.9%
75%	11.7%	1.6%	0.7%	3.6%
100%	74.6%	4.6%	2.0%	5.2%

Source: 2005 NMT Survey, Question D.12

- Although most NMTs routinely provide nuclear medicine studies, the kinds of studies varied. More than four of five (81%) of NMTs routinely provided cardiac imaging in their primary workplace and 65.8% of working NMTs routinely provided general nuclear medicine studies.

Table 13. Primary Work Setting of NMTs working 50% Percent or More in in Different NM Specialty Areas

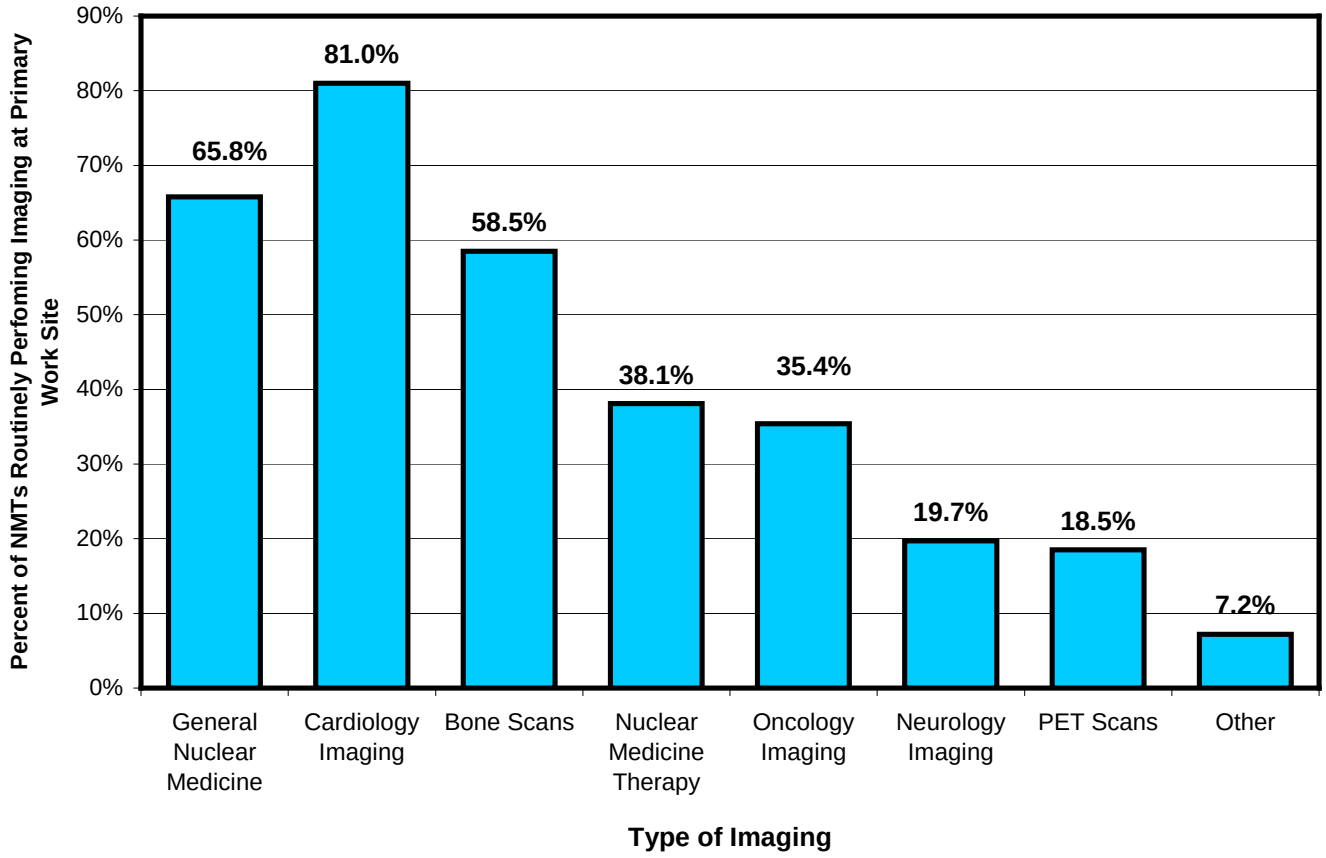
Primary Work Setting	More than 50% Time Spent in		
	PET	SPECT/CT	PET/CT
Academic Medical Center	5.6%	6.7%	7.4%
Hospital/Medical Center	21.1%	42.2%	23.8%
Outpatient Hospital Clinic/Center	11.1%	4.4%	10.7%
Freestanding Outpatient Radiology Center	23.3%	0%	18.8%
Physician Office/Private Radiologist	4.4%	6.7%	3.3%
Cardiology Specialty Center	0%	22.2%	2.5%
Other	34.4%	17.8%	33.6 %
Total	**90**	**45**	**122**

* Sums of percentages may not add up to be exact 100 due to rounding.
* Source: 2005 NMT Survey, Questions D.12. and D.3.

- Less than a quarter (23.3%) of NMTs who spent more than 50 % of their time in PET worked primarily in Freestanding Outpatient Radiology Center. About a third (34.4%) of them cited 'Other' as their primary work setting.

- Of those who work mostly in SPECT/CT, a large percentage (42.2%) worked primarily in a Hospital/Medical Center and 22.2% worked in a Cardiology Specialty Center.
- Nearly one of four (23.6%) of active NMTs working more than 50 % of the time in PET/CT also worked primarily in Hospital/Medical Center. About one in three (33.6%) worked in a setting marked 'Other'.
- Please see the Appendix --- for a detailed listing of the 'other' responses.

Figure 8. Type of Imaging Procedures Routinely Performed by NMTs at Primary Work Site



Percentages total greater than 100% because respondents were permitted to select multiple responses.
Source: 2005 NMT Survey, Question B.16

- A comparison of the types of imaging service that are routinely performed by NMTs with the settings in which NMTs work reveals that hospital/medical centers and academic medical centers frequently provide an inclusive range of NM imaging services including general, cardiology, oncology, neurology and bone scan services. General nuclear medicine services are mostly provided in hospital settings while some other types of providers offer more specialized services. For instance, while cardiology centers provide very few general nuclear medicine studies, they more frequently provide cardiology imaging than mobile units.
- Hospital Medical Centers provided a broad range of services covering the breadth of nuclear medicine imaging services (Table 14). The bulk (77.2%) of General NM studies were

performed in Hospitals/ Medical Centers, along with Academic Medical Centers (7.3%) and Hospital-based Outpatient Centers (4.1%).

- Free stranding radiology centers also provided a broad range of services, but their cumulative volume was much smaller than hospitals as of 2005.
- PET was provided largely in Hospitals/Medical Centers (43.8%) and "Other" (21.9%) settings, most probably mobile vans. Academic medical centers (11.5%) and freestanding outpatient radiology centers (13.8%) also provide PET services.
- A majority (59%) of cardiology studies are provided in Hospitals/Medical centers, with another 19.6% provided in Cardiology Specialty Centers.

Table 14. Percentages of Active NMTs Performing Different Imaging Modalities in Different Work Settings

	Work Setting							
Imaging Modalities Performed	*Academic Medical Center*	*Hospital/Medical Center*	*Outpt Hospital Clinic/Center*	*Freestanding Outpt Rad Center*	*Physician Office/Private Radiologist*	*Cardiology Specialty Center*	*Other*	*Total N*
General NM	7.3%	77.2%	4.1%	5.5%	1.1%	0.6%	4.2%	1,249
Oncology	10.9%	76.6%	3.3%	4.0%	0.4%	0.0%	4.6%	667
Cardiology	5.2%	59.0%	4.0%	2.8%	5.0%	19.6%	4.4%	1,531
Neurology	16.4%	72.9%	1.6%	3.5%	0.8%	0.5%	4.3%	373
Bone Scans	7.2%	77.0%	4.1%	5.7%	1.2%	0.7%	4.1%	1,110
PET	11.5%	43.8%	6.1%	13.8%	2.3%	0.6%	21.9%	347
NM Therapy	10.2%	79.3%	2.5%	4.6%	0.7%	0.1%	2.6%	723
Other	9.7%	47.0%	3.0%	5.2%	2.2%	3.0%	29.9%	134

Source: 2005 NMT Survey, Questions D.3a (consolidated) and D.16

Table 15 shows the percentages of different work settings that provided different imaging modalities in 2005.

- Two-thirds (66.2%) of all types of NMT work settings provided General NM services, and 81.1% provided cardiology imaging services.
- Although the largest number of facilities providing PET services were Hospitals/Medical Centers, PET was more concentrated in Academic Medical Centers (38.8%), Freestanding Outpatient Radiology Centers (48.0%), and "Other" facilities (43.2%).
- While bone scans were provided in a wide range of settings, neurology imaging services were provided largely in hospital settings, including academic medical centers and hospital/medical centers.
- As expected, Cardiology Specialty Centers provided mostly cardiac-related services. Only very small percentages of these settings provided anything other than cardiology services.

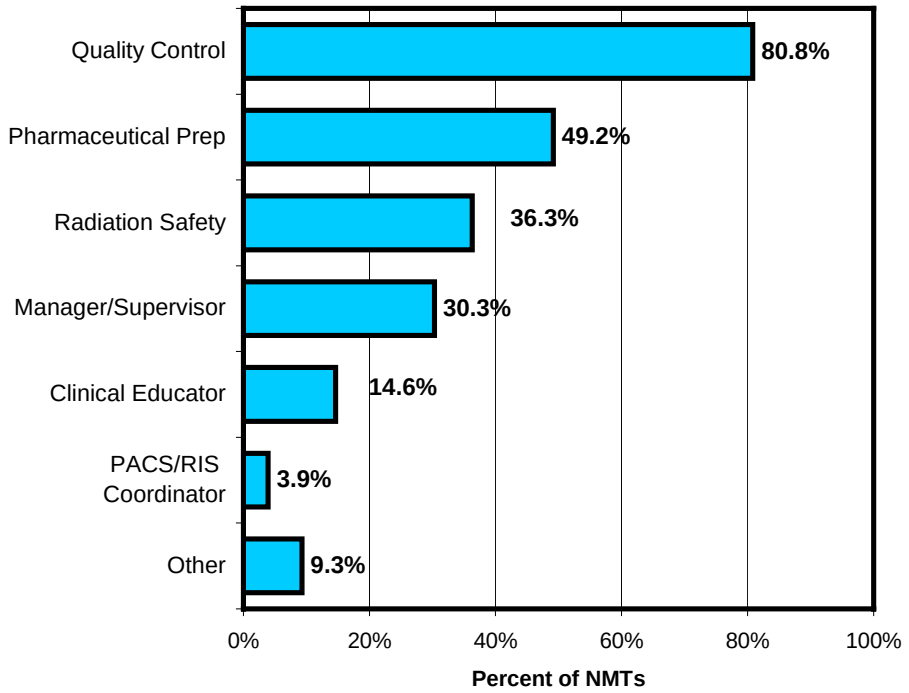
Table 15. Percentages of Active NMTs in Different Primary Work Settings Performing Different Imaging Modalities

Primary Work Setting	General NM	Oncology	Cardiology	Neurology	Bone Scans	PET	NM Therapy	Other	Total N
Academic Medical Center	88.3%	70.9%	77.7%	59.2%	77.7%	38.8%	71.8%	12.6%	103
Hospital/Medical Center	93.1%	49.4%	87.3%	26.3%	82.6%	14.7%	55.4%	6.1%	1,035
Outpatient Hospital Clinic/Center	58.6%	25.3%	70.1%	6.9%	52.9%	24.1%	20.7%	4.6%	87
Freestanding Outpt Rad Center	69.0%	27.0%	43.0%	13.0%	63.0%	48.0%	33.0%	7.0%	100
Physician Office/Private Radiologist	16.3%	3.5%	88.4%	3.5%	15.1%	9.3%	5.8%	3.5%	86
Cardiology Specialty Center	2.3%	0.0%	100%	0.7%	2.7%	0.7%	0.3%	1.3%	300
Other	30.1%	17.6%	38.1%	9.1%	25.6%	43.2%	10.8%	22.7%	176
All Types of Settings	66.2%	35.3%	81.1%	19.8%	58.8%	18.4%	38.3%	7.1%	1,887

Source: 2005 NMT Survey, Questions D.3a (consolidated) and D.16

- NMTs reported a range of work-related responsibilities in their primary workplaces (Figure 8). Eight of ten (80.8%) of NMTs routinely performed quality control and 49.2% were involved with radiopharmaceutical preparation.

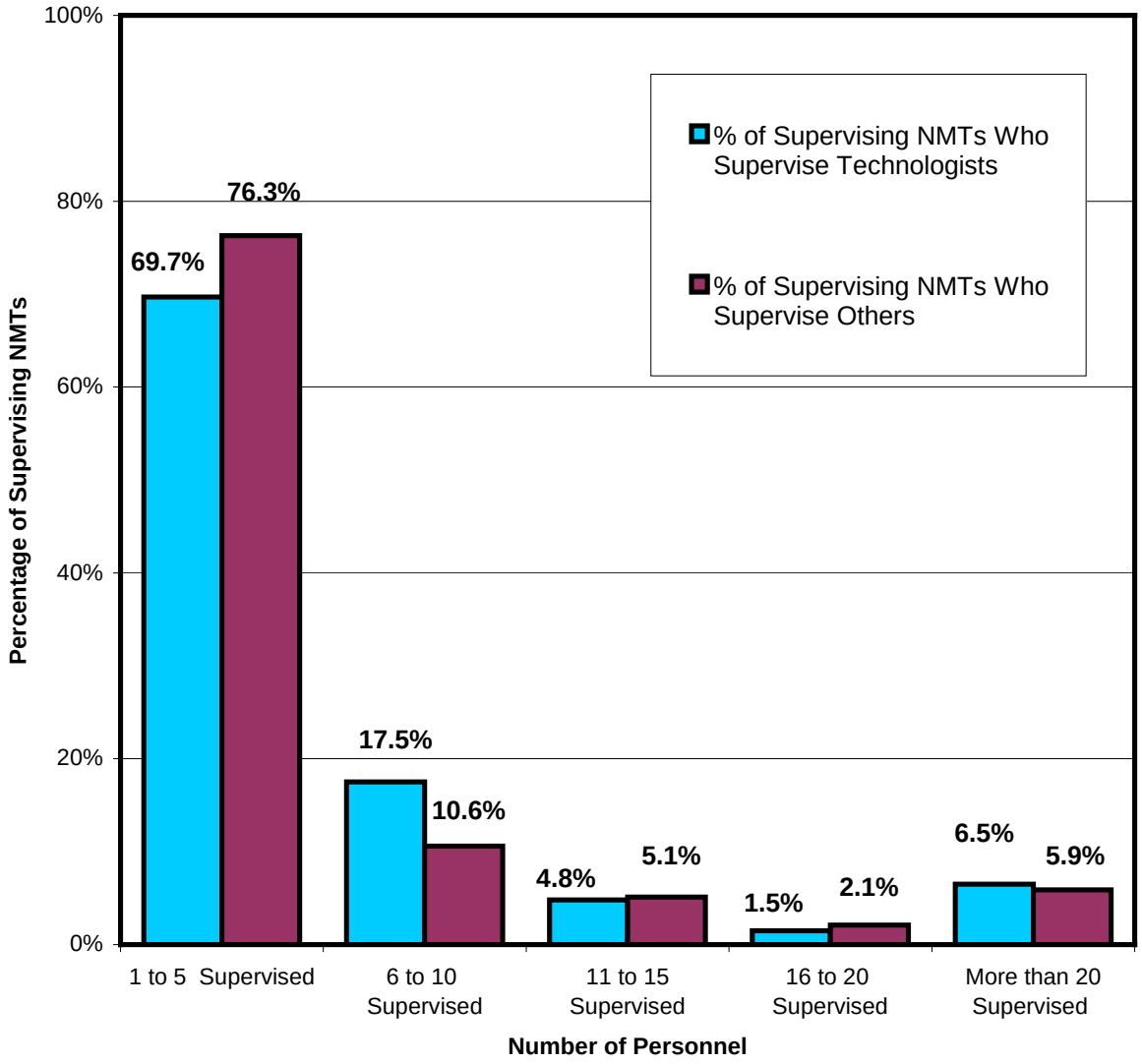
Figure 9. Percent of NMTs Routinely Performing Different Roles/Tasks at Primary Workplace



Source: 2005 NMT Survey, Question B.17.

- Although only 30.8% of NMTs indicated management/supervision as a job responsibility, 33% of working NMTs actually responded positively to a separate question indicating they supervise other technologists and /or other staff in their primary workplace. This small discrepancy is probably due to missing values or respondent error.
- About three of ten (30.2%) of active NMTs supervised other technologists, with the number of technologists supervised varying from one to eighty. About one in five (19.5%) of respondents of working technologists supervised "other" personnel. The number of "other" staff supervised by NMTs in a workplace also varied widely, from one to more than 99.

Figure 10. Percent of Supervising NMTs by Number of Personnel Supervised, 2005

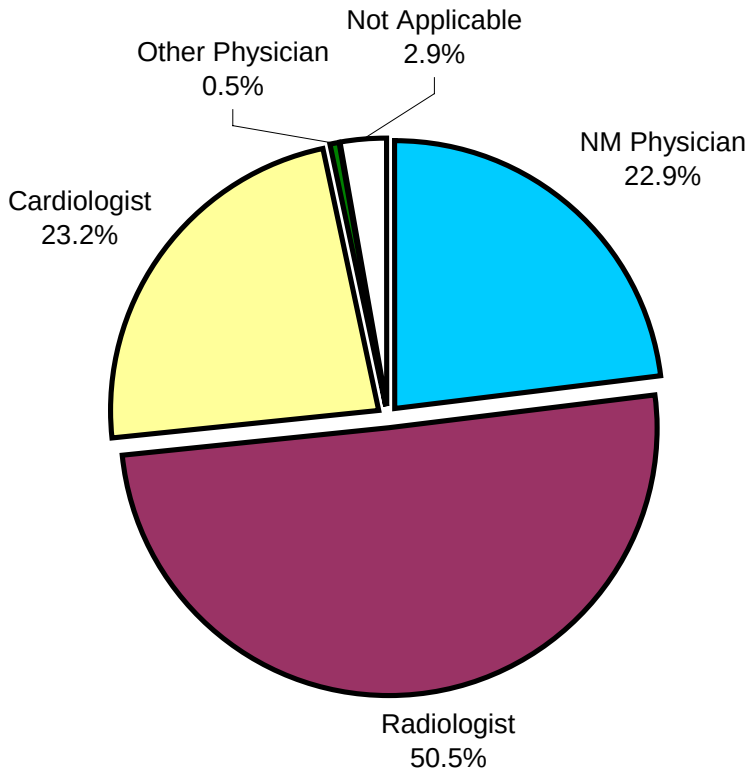


Source: 2005 NMT Survey, Questions D.19 and D.19a.

Reading of Nuclear Medicine Studies

- Although NMTs worked primarily in NM departments, about half (50.5%) of respondents reported that the NM studies in their workplace were primarily read by radiologists, rather than by nuclear medicine physicians (Figure 10). Cardiologists were the primary readers of NM studies in 23.2% of workplaces and nuclear medicine physicians were the primary readers of NM studies in 22.9% of work places.

Figure 11. Specialty of Physicians Primarily Reading NM Studies in NMT Work Settings



Source: 2005 NMT Survey, Question D. 5

New Technologies in the Workplace

The field of NM is constantly evolving and new technologies are being brought into the workplace. The questionnaire asked if NMTs were permitted to operate the new equipment, whether they needed any new training or certifications to continue work in their current positions or to use new technologies. The opportunity to update their current knowledge base and to be current with new developments in NM technology may be crucial for their careers.

- Just over one third (37.8%) of working NMTs indicated they were permitted to operate the CT portion of a hardware fusion-imaging device in the state where they were employed. About one in three (32.1%) reported that they were not permitted to operate the CT portion of a hardware fusion device and the remaining 30.1% were not sure if they were permitted to operate the technology.
- Although only 2% of working NMTs indicated they were certified in CT, 19.4% of working NMTs indicated they had additional training in CT. Of those with additional training, 69.7% live in states where they are permitted to operate the CT portion of a hardware fusion imaging device.
- About one in four (24.8%) of working NMTs indicated they plan to take the CT certification examination in the future.
- Only 1.5% of NMTs report certification in MRI, while 9.4% indicated they had have additional training in MRI.
- Nearly three of five (58.4%) respondents reported that their employer did not have a PET/CT Scanner, while 26.8% reported that their employer had a PET/CT Scanner. Another 14.7% reported that their employer had a mobile unit.
- Academic Medical Centers were the most likely to have PET/CT scanners in 2005 as reported by NMTs (Table 16). Only 5.5% of NMTs report academic medical centers as their primary work setting and an additional 0.9% of NMTs work in them as a secondary setting.
- Only 24.6% of Hospitals/Medical Centers own PET/CT scanners and an additional 22.1% of hospitals use mobile units. More than half (54%) of freestanding outpatient radiology centers own PET/CT scanners.

Table 16. Present Availability of PET/CT in Primary and Secondary Workplace

Work Settings	PET/CT Available Now?							
	Primary Settings				Secondary Settings			
	No	Yes	Uses Mobile Unit	Total # (Col %)	No	Yes	Uses Mobile Unit	Total # (Col %)
Academic Medical Center	27.2%	65.1%	7.8%	103 (5.5%)	33.3%	55.6%	11.1%	18 (0.9%)
Hospital/ Medical Center	53.3%	24.6%	22.1%	1,032 (55.4%)	65.6%	22.0%	12.4%	186 (9.8%)
Outpatient Hospital Clinic/Center	55.8%	36.1%	8.1%	86 (4.6%)	38.2%	41.2%	20.6%	68 (3.6%)
Freestanding Outpatient Radiology Center	44.0%	54.0%	2.0%	100 (5.4%)	53.1%	43.8%	3.1%	32 (1.7%)
Physician Office/ Private Radiologist	85.9%	11.8%	2.35%	85 (4.6%)	76.0%	20.0%	4.0%	25 (1.3%)
Cardiology Specialty Center	94.3%	3.7%	2.0%	298 (16%)	72.2%	16.7%	11.1%	90 (4.7%)
Other	44.4%	43.8%	11.9%	160 (9%)	46.1%	37.3%	16.7%	102 (5.4%)
None	--	--	--	--	58.7%	26.0%	15.3%	1,382 (72.6%)
Total	58.7%	26.7%	14.6%	1,864 (100%)	58.5%	26.9%	14.7%	1,903 (100%)

* Sums of percentages may not equal 100 due to rounding.
Source: 2005 NMT Survey, Questions D.3. and D.8.

- Table 17 shows that 33.8% of active NMTs indicated that their employers were considering the purchase of a PET/CT scanner, 43.8% of NMTs reported that their employers are *not* considering purchase and the other 22.4% of NMTs were not sure of employers' plans.
- Academic medical center were the most likely to be considering future purchase of a PET/CT scanner as reported by NMTs responding to the survey. Nearly three of eight (37.3%) of hospital/medical centers are considering purchase of a PET/CT scanner in the future as reported by NMTs in the survey.

Table 17. Percent of Employer Facilities Considering Purchase of a PET/CT Scanner in the Future

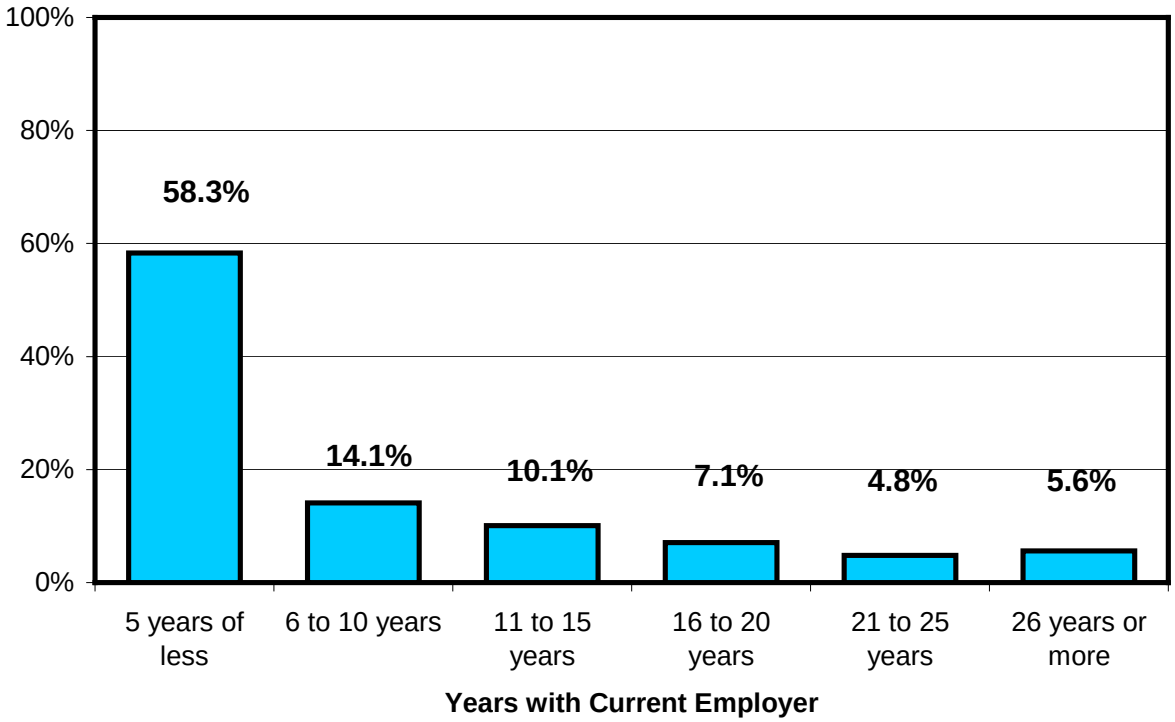
Work Settings	PET/CT Purchase Being Considered?							
	Primary Settings				Secondary Settings			
	No	Yes	Not Sure	Total # (Col %)	No	Yes	Not Sure	Total # (Col %)
Academic Medical Center	22.3%	67.0%	10.6%	94 (5.3%)	22.2%	55.6%	22.2%	18 (1%)
Hospital/ Medical Center	35.6%	37.3%	27.1%	995 (55.9%)	46.7%	31.9%	21.4%	182 (10%)
Outpatient Hospital Clinic/Center	45.0%	36.3%	18.7%	80 (4.5%)	42.9%	41.3%	15.9%	63 (3.5%)
Freestanding Outpatient Radiology Center	44.1%	34.5%	21.4%	84 (4.7%)	37.9%	48.3%	13.8%	29 (1.6%)
Physician Office/ Private Radiologist	66.7%	15.5%	17.9%	84 (4.7%)	69.2%	19.2%	11.5%	26 (1.4%)
Cardiology Specialty Center	70.7%	14.0%	15.3%	294 (16.5%)	40.2%	31.0%	28.7%	87 (4.8%)
Other	46.6%	37.2%	16.2%	148 (8.3%)	32.3%	42.7%	25.0%	96 (5.3%)
None	--	--	--	--	44.5%	33.0%	22.6%	1,311 (72.4%)
Total	43.9%	33.8%	22.3%	1,779 (100%)	43.8%	33.8%	22.4%	1,812 (100%)

* Sums of percentages may not equal 100 due to rounding.
Source: 2005 NMT Survey, Questions D.3. and D.9.

Length of Current Employment

- The mean number of years that NMTs had worked for their current primary employer was just over 8 years. The median number of years was four years. Three NMTs responding to the survey reported working for their current employer for more than 40 years.
- Nearly three of five (58.3%) of currently working NMTs indicated they have been with their current employer five years or less. Only 5.6% of currently working NMTs had been with their current employer for 25 years or more.

Figure 12. Percentage of NMTs by Years with Current Employer, 2005



Source: 2005 NMT Survey, Question D.15.

- As expected, younger NMTs were more likely to report working less than five years for their current employer. However, there is also a high percentage of older NMTs who have worked five years or less for their current employer (Table 18).

Table 18. Percent of NMTs Working Five Years or Less with Current Employer, 2005, by Age Group

Age Group	% Working Less Than 5 Years
Less than 25	100.0%
25 to 29	93.7%
30 to 34	76.5%
25 to 39	58.4%
40 to 44	54.0%
45 to 49	49.3%
50 to 54	45.3%

Source: 2005 NMT Survey, Questions A 1 and D 15.

These percentages suggest mobility within the profession. Although, it is not possible to state with certainty all of the reasons for this mobility from the survey responses, there are a number

of reasons that likely explain this short duration with employers. If the supply of NMTs is constrained in a region, there may be economic competition contributing to mobility. Also, the profession is largely female, and movement of female professionals related to spousal job transfers is a documented phenomena. Another potential contributing factor is likely the changing face of employers providing nuclear medicine studies in their facilities. Recent purchases of NM imaging equipment by cardiologists (noted in several studies, notably the IMV study) and other outpatient providers suggest that new employment markets for NMTs are emerging. This is supported by the survey results. When those working five years or less for their current employer are examined by their primary employer type, high percentages of NMTs were working in settings other than traditional settings like hospitals.

Table 19. Years With Primary Employer, By Primary Work Setting, 2005

Primary Work Setting	Years with Primary Employer				
	0 to 9	10 to 19	20 to 29	30 +	Total N
Academic Medical Center	57.1%	19.6%	19.6%	3.6%	112
Hospital/Medical Center	59.6%	22.8%	11.8%	5.7%	1,081
Outpatient Hospital Clinic/Center	82.8%	10.8%	6.5%	0.0%	93
Freestanding Outpatient Radiology Center	85.0%	14.0%	0.0%	0.9%	107
Physician Office/Private Radiologist	86.0%	12.9%	1.1%	0.0%	93
Cardiology Specialty Center	86.5%	12.8%	0.7%	0.0%	297
Other	81.5%	11.6%	6.5%	0.4%	232
Total	**69.6%**	**18.4%**	**8.6%**	**3.4%**	**2,015**

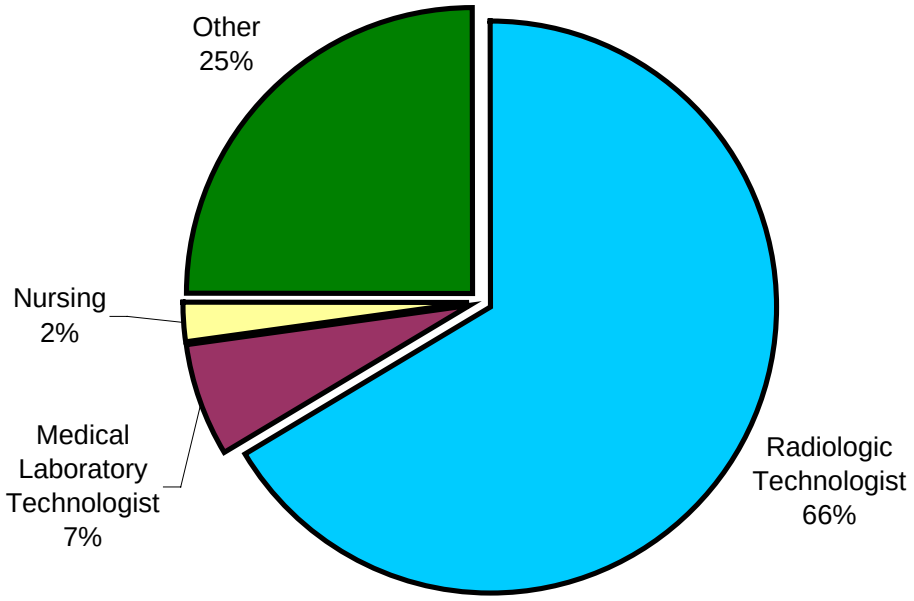
Source: 2005 NMT Survey, Questions D.3 and D.15.

Career Paths

Understanding the career paths of NMTs suggests the possible sources of new NMTs in the future. The fact that substantial proportions of respondents had other careers prior to becoming NMTs suggests that nuclear medicine was not the first choice of career for many.

- More than half (55.4%) of working NMTs indicated having another career prior to becoming an NMT.
- Of those who had a previous career, 57.7% indicated that this career was in a health care field. Nearly two of three (66.3%) of these were radiologic technologists and 24.9% reported "other" healthcare fields, including research, cancer/tumor registry, cardiac technologist, and navy medic.

Figure 13. Percent of Active NMTs with Previous Health Careers, by Type of Career



Source: 2005 NMT Survey, Question E.1b.

- When asked about how they first developed an interest in NM, the answers from active NMTs varied widely. The most frequent answer was that the NMT education program was available, followed by a personal or family interest or experience that piqued interest, or by experience in the workplace.

Table 20. Source of Interest in NMT Career, 2005

School Counselor	12.5%
Personal/Family Experience	28.2%
Mentor	17.2%
Availability of Education Program	39.3%
Experience in the Workplace	24.3%
Other	10.0%

(Percentages may sum to more than 100% due to multiple responses.)
Source: 2005 NMT Survey, Question E.2

- Among those with previous health careers, 61.7% of NMTs who previously worked as radiologic technologists indicated that their experience in the workplace acquainted them with nuclear medicine technology as a career. About one in four (25.7%) of previous radiologic technologists indicated that a mentor was responsible for their interest in nuclear medicine, and another 25.7% indicated that they developed an interest in nuclear medicine because there was an education program available. Nearly two of five (38.9%) of those previously employed in "other" health occupations chose NMT because an education program was available.

Salaries

Salaries provide important insights about a profession, especially the relative supply and demand for its services. High salaries like those in NMT generally mean that the supply of practitioners is low relative to demand.

- The mean annual salary including wages from call of NMTs working more than 30 hours per week in 2005 was $70,470 and the median salary is $67,000.This mean salary is somewhat higher than the mean of $67,429 from the ASRT Wage and Salary Survey of 2004. These figures are also substantially higher than the mean annual salary from the U.S. Bureau of Labor Statistics (BLS) for 2005 listing a mean annual salary for NMTs of $60,530. This difference is to be expected since the BLS figures describe NMT jobs, not individual NMTs, some of whom may hold multiple jobs.
- There was a wide range in reported salaries with 3.7% of full-time NMTs reporting annual salaries (including call wages) in excess of $120,000.
- About one in four (24.8%) of full time NMTs earn $56,000 or less, 49.9% earn $66,000 or less, and 73.7% of full time working NMTs earn $79,000 or less.
- The mean salary for full time working male NMTs is $76,270 and the mean salary for full time working female NMTs is $66,380. This gender gap in salaries is reduced, but not eliminated, by controlling for other factors like hours worked, highest degree, age, geographic region, supervisory responsibility, and employment setting.
- About one third of all full time working NMTs (33.4%) make between $50,000 and $80,000 annually from salary and wages from call.
- Mean salaries in the Western U.S. [Region 9] ($82,890), the Mid-Atlantic [Region 2] ($71,260), the Pacific Northwest [Region 10] ($71,020), and New England [Region 1] ($70,670) are higher than in other regions of the U.S. The lowest mean salaries are found in the Mountain Region [Region 8] ($60,690) and the Mid-West [Region 5] ($63,210).

Table 21. Salaries of Full-Time NMTs (>30 Hours per week) by Region of the U.S., 2005

Region	Mean	Median	Min	Max	# of NMTs
New England (CT, ME, MA, NH, RI, VT)	$70,670	$70,000	$15,000	$157,000	111
Northeast (NY, NJ)	$71,260	$70,000	$12,000	$170,000	176
Mid Atlantic (DE, DC, MD, PA, VA, WV)	$64,480	$64,000	$17,000	$150,000	223
Southeast (AL, GA, FL, KY, MS, NC, SC, TN)	$67,110	$64,000	$11,000	$185,000	343
Mid Central (IL, IN, MI, MN, OH, WI)	$63,210	$61,000	$17,000	$154,000	373
Southwest (AR, LA, NM, OK, TX)	$69,530	$68,000	$20,000	$158,000	163
Midwest (IA, MO, NE, KS)	$65,190	$61,000	$13,000	$168,000	111
Mountain (CO, MT, ND, SD, UT, WY)	$60,690	$60,000	$20,000	$97,000	58
Pacific (AZ, CA, HI, NV)	$82,890	$80,000	$12,000	$195,000	186
Northwest (AK, ID, OR, WA)	$71,020	$68,000	$13,000	$159,000	48
Total	**$68,240**	**$65,000**	**$11,000**	**$195,000**	**1,792**

Source: 2005 NMT Survey, Question D.13, D.14, D18.

- The overall mean annual base salary for NMTs in all employment settings was $60,956 in 2005 (Table 22).
- The highest mean annual base salary at $69,491 was for NMTs working in 'Other' settings, followed by Freestanding Outpatient Radiology Centers at $67,794. The lowest was for NMTs in Outpatient Hospital Clinics/Centers ($59,679).

Table 22. Mean Annual Base Salary of Active NMTs in 2005, by Primary Work Setting

Primary Work Setting	N	Mean Annual Base Salary
Academic Medical Center	97	$64,258
Hospital/Medical Center	966	$58,741
Outpatient Hospital Clinic/Center	81	$59,679
Freestanding Outpatient Radiologic Center	97	$67,794
Physician Office/Private Radiologist	79	$59,949
Cardiology Specialty Center	280	$60,771
Other	163	$69,491
All Settings	1,763	$60,956

Source: 2005 NMT Survey, Questions D.3 and D.18.

- The mean annual base salary of active NMTs in 2005 who spent 75% or more of their time in general NM was $59,350; that of those in PET was $68,870, in SPECT/CT was $53,450 and in PET/CT was $68,120. Those NMTs who spent 100% of their time in general NM earned a mean annual base salary of $58,950 and those in PET earned $67,570. NMTs spending 100% of time in SPECT/CT specialty area earned an average of $52,250 annually and those in PET/CT specialty earned $68,160.
- Mean differences in salaries for the specialties were also calculated using the mean annual base salary of active NMTs who spent 75% or more time and 100% of time in General NM as the reference for the year 2005. NMTs working in the PET specialty area 75% or more time earned an annual base salary of $9,520 higher (p=0.000), and those in PET/CT earned an annual base salary of $8,770 higher (p=0.000), than those in General NM. Those who spent 75% or more of their time in SPECT/CT earned $5,900 less (p=0.128) than their counterparts working in General NM.
- Similar patterns were observed for NMTs who spent 100% of their time in the four specialty areas. Those working in PET earned $8,620 more (p=0.006) than those in general NM, while those in PET/CT earned $9,210 more (p=0.000). NMTs working in SPECT/CT earned $6,700 less (p=0.141).

Table 23. Annual Base Salaries of Active NMTs in Different Specialty Areas, 2005.

Specialty Area	Mean Annual Base Salary in 2005		Mean Difference of Annual Base Salary from General NM in 2005	
	75% + time Spent in Specialty	100% time Spent in Specialty	75% + time Spent in Specialty	100% time Spent in Specialty
General NM	$59,350	$58,950	-	-
PET	$68,870	$67,570	$9,520 (p<0.0005)	$8,620 (p=0.006)
SPECT/CT	$53,450	$52,250	-$5,900 (p=0.128)	-$6,700 (p=0.141)
PET/CT	$68,120	$68,160	$8,770 (p<0.0005)	$9,210 (p<0.0005)

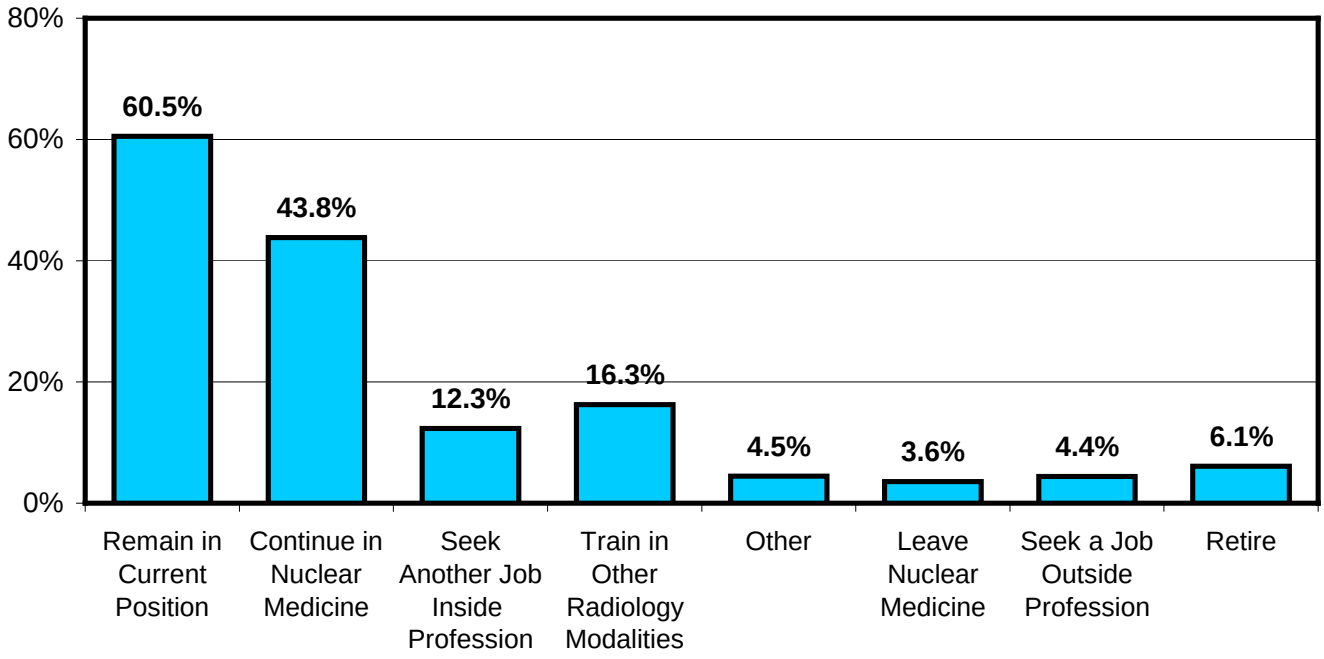
Notes: A negative mean difference denotes that NMTs in the particular specialty area have a lower mean annual base salary than those in General NM. The General NM area is used as the reference specialty to calculate mean differences.
Source: 2005 NMT Survey , Questions D.18 and D.12 (processed)

Future Plans

Questions in this section of the survey questionnaire were designed to obtain insight about the future plans of currently working NMTs. The responses can help planners to understand the need for replacements for practitioners planning to retire or leave the NMT profession. This information also has implications for future retention and training.

- About three of five (60.5%) of NMTs expect to remain in their current position for the next five years.
- Among those working NMTs planning to leave the profession, Figure 13 shows that 6.1% expect to retire over the coming five years, 4.1% expect to seek another job outside the NM profession, and 3.5% simply expect to leave clinical nuclear medicine.

Figure 14. Future Plans for the Next Five Years of Active NMTs, 2005



(Percentages may sum to more than 100% due to multiple responses.)
Source: 2005 NMT Survey, Question E. 3.

- Many working NMTs reported that further training will be necessary to continue to work in nuclear medicine in the future. Nearly one of five (19.5%) indicated they will need CT training; 3.0% indicated a need for MRI training; 37.5% indicated PET/CT as necessary training for the future; 13.7% indicated SPECT/CT as needed; 1.3% indicated Mammo/PET as needed, and 5% indicated 'other' training will be necessary.

Job Market for NMTs

Approximately three-quarters of active NMTs believed that there were either sufficient or more jobs available for NMTs in their local areas. Although there was regional variation, only a little more than a quarter of NMTs believed there were too few jobs for NMTs in their local area.

When asked to appraise the employment market in their local area, 52.8% of actively practicing NMTs indicated that there were sufficient jobs for NMTs, 18.3% indicated that there were more jobs than NMTs, and 28.9% indicated that there were too few jobs for NMTs.

There are regional differences in the supply demand relationship for NMTs. The following findings should be considered in conjunction with the map of NMT penetration found in the executive summary of this report.

- A regional analysis of responses reveals that New England had the highest percentage of NMTs (35.6%) agreeing that there were more jobs than NMTs in their local areas while the Midwest had the lowest percentage of NMTs (3.6%) indicating agreement that there were more jobs than technologists in the Region.
- Active NMTs in the Southeast region indicated the highest agreement (57.1%) with the statement that the local area has 'sufficient jobs for NMTs' followed by 56.4% of NMTs in the Northeast Region and 55.6% in Mid Atlantic Region. The Southwest had the lowest percentage (42%) of NMTs who agreed with this statement NMTs. NMTs in the Mountain Region had the highest percentage of agreeing (43.6%) with the statement that there are 'too few jobs for NMTs' in their local area, while the New England Region had the lowest percentage (12.5%) of NMTs. This is consistent with the previous finding that there was low demand for NMTs in New England.

Table 24. Opportunities for NMT Employment in Respondent Area, by Geographic Region, 2005

USDHHS Region	Opportunities for NMT Employment in My Area				Employers in My Area Prefer to Hire		
	More Jobs Than NMTs	Enough Jobs for NMTs	Too Few Jobs for NMTs	Total N	NMTs with Experience	New NMTs w/ Fusion Training	Total N
New England	**35.6%**	51.9%	**12.5%**	104	87.0%	13.0%	100
Northeast	25.6%	56.4%	18.0%	172	91.0%	9.0%	167
Mid Atlantic	22.7%	55.6%	21.8%	225	89.0%	11.0%	210
Southeast	14.2%	**57.1%**	28.7%	331	**91.5%**	**8.5%**	319
Mid Central	15.0%	50.4%	34.6%	367	88.2%	11.8%	339
Southwest	15.4%	**42.0%**	42.6%	162	89.0%	11.0%	154
Midwest	**3.6%**	54.5%	41.8%	110	**83.3%**	**16.7%**	108
Mountain	10.9%	45.5%	**43.6%**	55	86.8%	13.2%	53
Pacific	25.9%	50.6%	23.5%	166	87.1%	12.9%	163
Northwest	21.3%	55.3%	23.4%	47	89.4%	10.6%	47
Total	**18.5%**	**52.5%**	**29.0%**	**1,739**	**88.8%**	**11.2%**	**1,660**

Source: 2005 NMT Survey, Question D.13 (processed), F.1, and F.2.

Experience versus Training in New Technologies

- Actively practicing NMTs overwhelmingly indicated that employers prefer hiring NMTs with experience to hiring newly certified NMTs with training in new modalities, with 88.8% of active NMTs indicating that employers in their area prefer to hire experienced technologists, while 11.2% of NMTs indicated that employers in the local area prefer to hire newly certified NMTs with training in fusion technologies.

The Effect of Changes in the Workplace of NMTs

- Nearly one quarter (24.5% [N=462]) of working NMTs reported there are changes occurring in the workplace affecting their work. The most common changes reported by NMTs were that new equipment is changing the responsibilities of NMTs (49.1%), changes in workflow are affecting the type of personnel working in nuclear medicine (37.7%), and NMTs are working with physicians other than nuclear medicine physicians(35.1%). These findings are supported by earlier findings about the need for training in new modalities and the high percentage of non-NM physician specialties who are primary readers of NM studies.

Table 25. Types of Changes Affecting Work As An NMT Reported by NMTs, 2005

Type of Change	% of Respondents
Organizational Changes Affecting Reporting Patterns	31.4%
Changing Responsibilities Due to New Imaging Equipment	49.1%
Changes in Workflow Affect Types of Personnel in NM	37.7%
NMTs and RTs are Sharing Work	13.9%
NMTs Are Working with Other Than NM Physicians	35.1%
NMTs Are Working More Closely with Radiation Therapists	7.4%
Other	17.7%

(Percentages may sum to more than 100% due to multiple responses.)
Source: 2005 NMT Survey, Question F.3 and F.3a.

- Cross tabulations of NMTs reporting changes in their work environment with the settings in which those NMTs work reveal that new technology was the major change factor in the workplace. Table 24 shows that new equipment was the primary change factor in most work settings. Only in Physician Offices and 'Other' settings (which NMTs ranked Reporting Patterns the highest) and Cardiology Specialty (which NMTs ranked Workflow and Staffing highest) had something other than equipment as the primary change factor. Relationships with Radiation Therapists ranked lowest for all settings except Academic Medical Centers, which rated Sharing with RTs the lowest.

- Overall, active NMTs ranked new imaging equipment as the primary reason for change in the workplace, with 11.6% of NMTs indicating that new technology was the major change factor in the workplace. Table 25 shows that new equipment was the primary change factor in most regions of the country. On the low end of the spectrum, only 1.6% of active NMTs indicated they were working more closely with Radiation Therapists, suggesting that therapeutic applications of NM are not yet affecting many active NMTs.
- NMTs responding to the survey were provided with the opportunity to describe other changes occurring in their workplaces. Among the changes mentioned by NMTs other than the responses suggested on the survey instrument were: short staffing, less time, more paperwork, budget cuts, mergers, and fusion technologies.

Table 26. Causes of Workplace Changes in Primary Work Settings of NMTs, by Type of Work Setting

Work Setting	Reporting Patterns	New Imaging Equipment	Workflow and Staffing	Sharing with RTs	Physicians Other Than NM	Radiation Therapists	Other Change	Total # (Col %)
Academic Medical Center	16.9%	**39.5%**	16.9%	**4.2%**	11.3%	5.6%	5.6%	71 (8.2%)
Hospital/ Medical Center	14.8%	**26.6%**	20.1%	5.9%	19.7%	**3.9%**	9.0%	512 (58.9%)
Outpatient Hospital Clinic/Center	18.2%	**33.3%**	15.1%	9.1%	18.2%	**0%**	6.1%	33 (3.8%)
Freestanding Outpatient Radiology Center	9.0%	**19.6%**	16.1%	**19.6%**	**19.6%**	**7.1%**	9.0%	56 (6.4%)
Physician Office/ Private Radiologist	**36.8%**	21.0%	31.6%	5.3%	5.3%	**0%**	**0%**	19 (2.2%)
Cardiology Specialty Center	22.0%	19.8%	**23.0%**	5.5%	20.9%	**0%**	8.8%	91 (10.5%)
Other	**20.7%**	13.8%	17.2%	10.4%	13.8%	**6.9%**	17.2%	87 (10.0%)
Total	**16.6%**	**25.3%**	**19.7%**	**7.1%**	**18.2%**	**3.9%**	**9.2%**	**869 (100%)**

* Sums of percentages may not equal 100 due to rounding.
Source: 2005 NMT Survey, Questions D.3 and F.3a.

Table 27. Changes in Employing Organization Affecting Work as an NMT, by Geographic Region, 2005

USDHHS Region		Changes in Employer Affecting Work as NMT		If Yes, Nature of Change						
		No	Yes	Reporting Patterns	New Imaging Equipment	Workflow and Staffing	NMTs Sharing Work w/ RTs	Physicians Other Than NM Physicians	NMTs Working More Closely w/ Radiation Therapists	Other Change
New England		81.4%	18.6%	2.9%	**8.8%**	**8.8%**	**1.0%**	4.9%	**1.0%**	4.9%
Northeast		77.3%	22.7%	4.7%	**9.9%**	7.0%	3.5%	5.2%	**1.2%**	4.1%
Mid Atlantic		76.5%	23.5%	6.2%	6.2%	**9.3%**	2.2%	**9.3%**	**0.0%**	4.9%
Southeast		77.4%	22.6%	6.7%	**13.1%**	8.2%	4.0%	7.6%	**1.8%**	3.4%
Mid Central		77.7%	22.3%	9.6%	**12.1%**	8.5%	2.8%	9.1%	**1.7%**	3.9%
Southwest		72.8%	27.2%	9.9%	7.4%	**11.7%**	3.7%	6.8%	**1.2%**	7.4%
Midwest		74.1%	25.9%	8.3%	**17.6%**	7.4%	**3.7%**	11.1%	**3.7%**	2.8%
Mountain		68.5%	31.5%	9.3%	**20.4%**	14.8%	**3.7%**	13.0%	5.6%	**3.7%**
Pacific		69.3%	30.7%	10.8%	**16.9%**	10.2%	4.8%	10.2%	**1.8%**	6.0%
Northwest		78.7%	21.3%	**12.8%**	8.5%	8.5%	4.3%	10.6%	**2.1%**	**2.1%**
Total	**#**	**1,312**	**416**	**136**	**201**	**156**	**57**	**145**	**28**	**76**
	%	**75.9%**	**24.1%**	**7.9%**	**11.6%**	**9.0%**	**3.3%**	**8.4%**	**1.6%**	**4.4%**

Note: Red cells have lowest percentages in each row, and green cells have highest percentages in each row.
Source: 2005 NMT Survey, QuestionsD.13 (processed), F.3, and F.3a

Table 28. Causes of Workplace Changes by Percent of Time Spent by the NMTs in Different Specialties

Causes of Changes	More than 75%Time Spent in				Total
	NM	PET	SPECT/CT	PET/CT	
Reporting Patterns	16.3%	14.3%	22.2%	11.9%	15.9%
New Equipment	25.7%	28.6%	22.2%	23.9%	25.6%
Workflow and Staffing	21.3%	17.1%	33.3%	11.9%	20.5%
Sharing with RTs	5.8%	5.7%	11.1%	11.9%	6.4%
Physicians Other Than NM Physicians	18.9%	20%	0%	17.9%	18.6%
Radiation Therapists	2.8%	8.6%	0%	10.5%	3.6%
Other Change	9.3%	5.7%	11.1%	11.9%	9.4%
Total	**689**	**35**	**9**	**67**	**800**

* Sums of percentages may not add up to be exact 100 due to rounding.

Source: 2005 NMT Survey, Questions D.12. and F.3a.

- Among NMTs working at least 75% time in nuclear medicine, in PET, and in PET/CT new equipment was cited as the primary source of change in the workplace. For NMTs working in SPECT/CT, however, workflow and staffing was cited as the primary source of change.
- Workflow and staffing changes were also cited by many NMTs in all specialty areas as a secondary source of change.

Table 29. Causes of Workplace Change Cited by Professionals Working More Than 50% Time in NM Specialty Areas

Causes of Changes	More than 50% Time Spent in :				Total
	NM	PET	SPECT/CT	PET/CT	
Reporting Patterns	118 (16.0%)	8 (13.3%)	2 (9.1%)	12 (12.9%)	140 (15.4%)
New Equipment	193 (26.2%)	15 (25%)	6 (27.7%)	21 (22.6%)	235 (25.8%)
Workflow and Staffing	156 (21.2%)	11 (18.3%)	5 (22.7%)	12 (12.9%)	184 (20.2%)
Sharing with RTs	45 (6.1%)	8 (13.3%)	4 (18.2%)	14 (15.0%)	71 (7.8%)
Physicians Other Than NM	136 (18.5%)	10 (16.7%)	2 (9.1%)	15 (16.1%)	163 (17.9%)
Radiation Therapists	21 (2.9%)	4 (6.7%)	0 (0%)	9 (9.7%)	34 (3.7%)
Other Change	67 (9.1%)	4 (6.7%)	3 (13.6%)	10 (10.8%)	84 (9.2%)
Total	**736**	**60**	**22**	**93**	**911**

Sums of percentages may not equal 100 due to rounding.
Source: 2005 NMT Survey, Questions D.12. and F.3a.

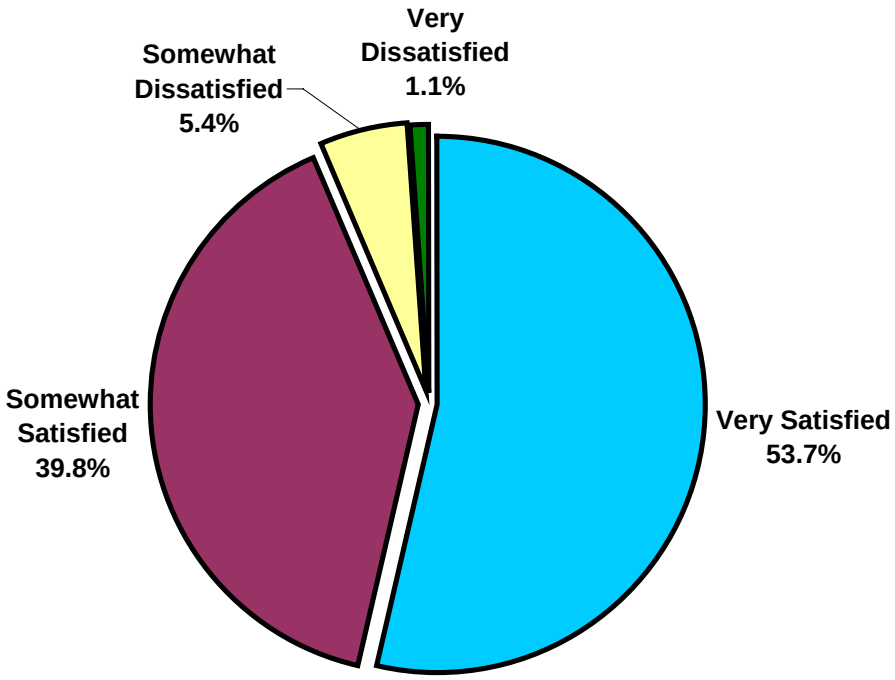
- Among NMTs working at least halftime (50%) in nuclear medicine, new equipment was cited as the primary source of change by NMTs in all specialty areas. Workflow and staffing was the second ranked source of change by NMTs in all specialty areas except SPECT/CT. NMTs in SPECT/CT citied working with physicians other than NM physicians as the second ranked source of change.

Job Satisfaction

Job satisfaction is an important indicator of the ability to retain incumbent NMTs in the profession, as well as the ability to attract potential NMTs in the pipeline.

- Nearly 19 of 20 (93.5%) of active NMTs were very satisfied or somewhat satisfied with their jobs. A majority (53.7%) were very satisfied.

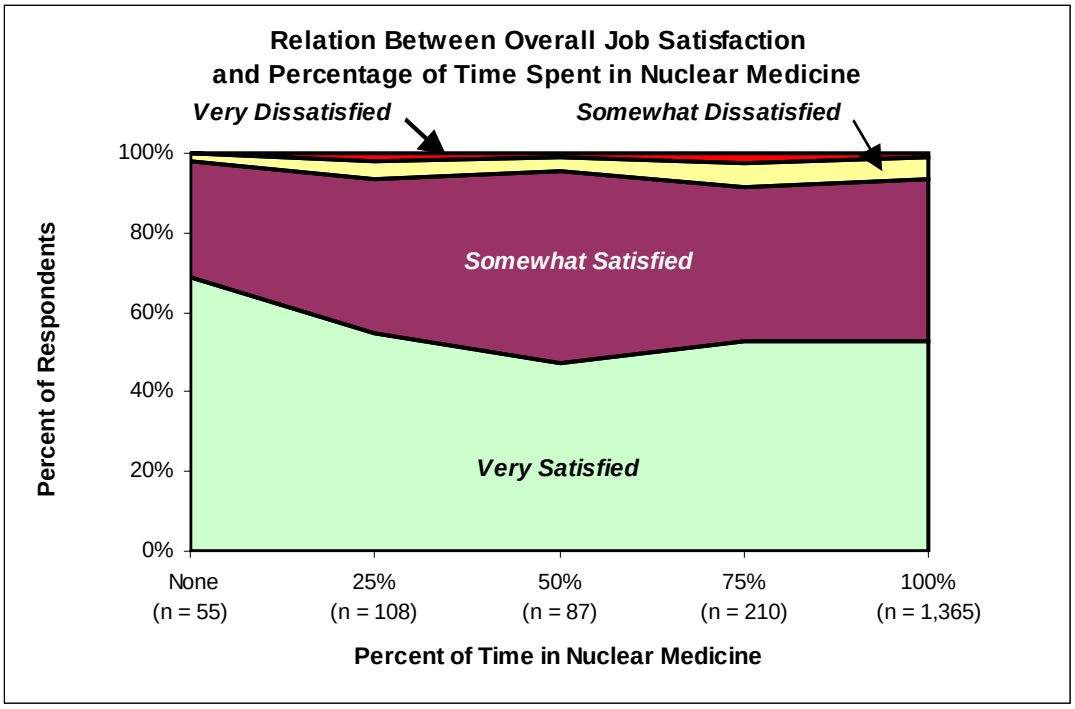
Figure 15. Job Satisfaction of Working NMTs, 2005



Source: 2005 NMT Survey, Question F.5.

Regardless of the imaging modality in which they work, a large majority of active NMTs are either very satisfied or somewhat satisfied with their current job. However, those working almost or full time in PET and SPECT-CT are relatively more dissatisfied than NMTs working almost full time in NM and PET/CT. There is little variation in the relationship between overall job satisfaction and percentage of time devoted to select imaging modalities among NMTs responding to the survey.

Figure 16. Relationship Between Overall Job Satisfaction and Percentage of Time Devoted to Selected Imaging Modalities, 2005



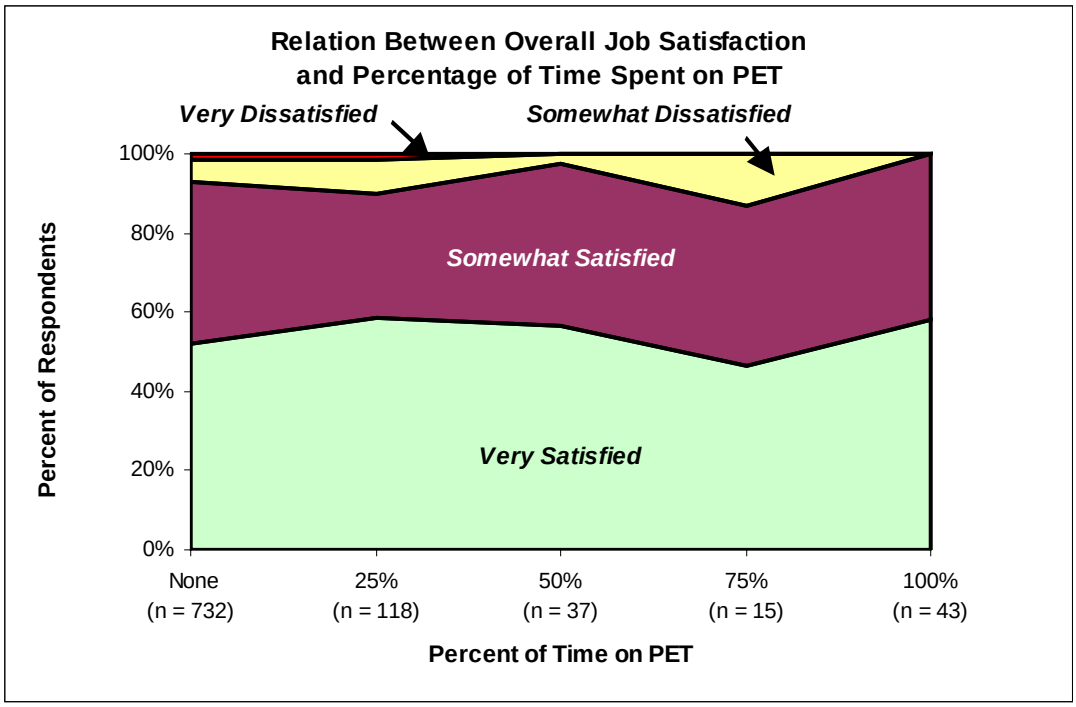


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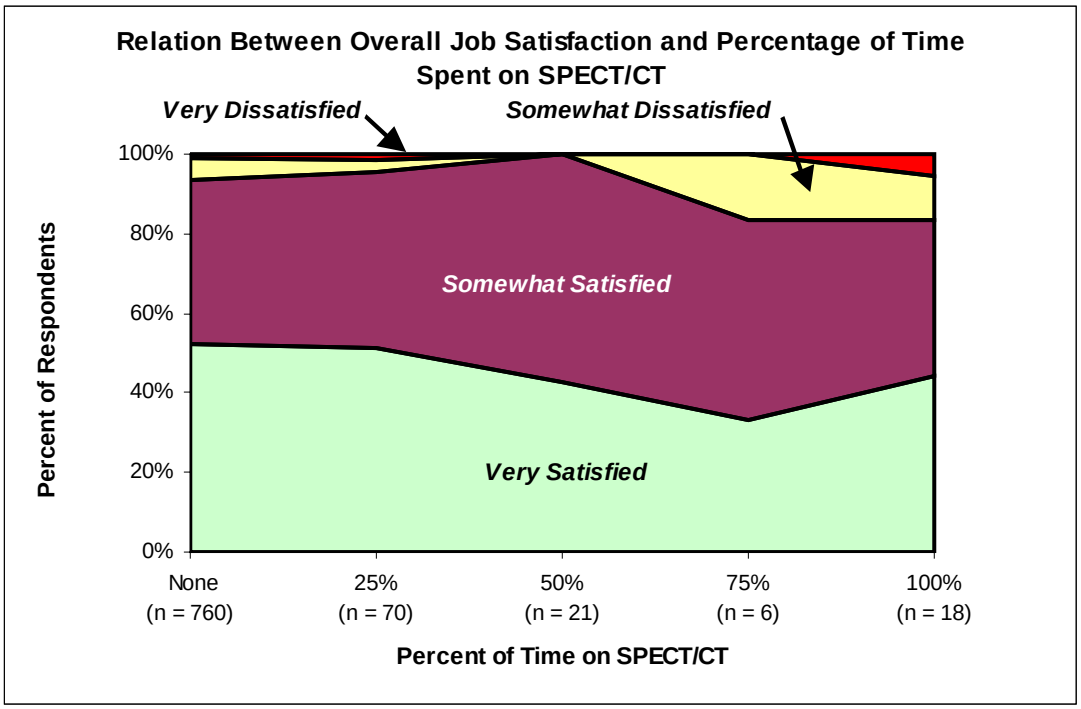
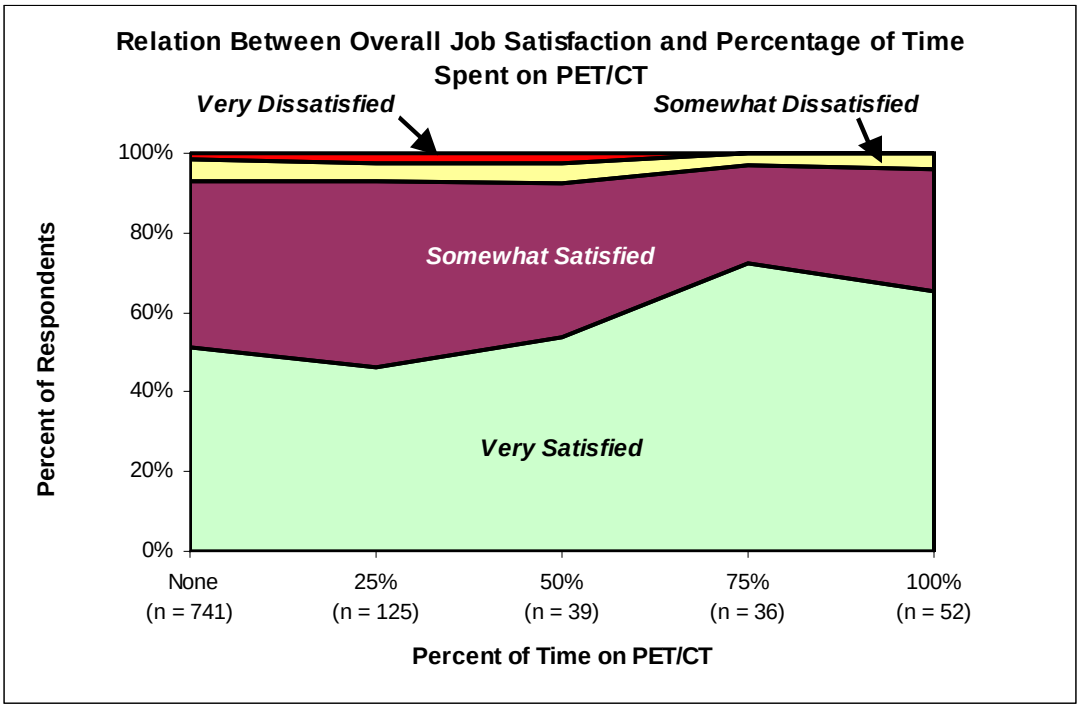
Figure 16. Continued

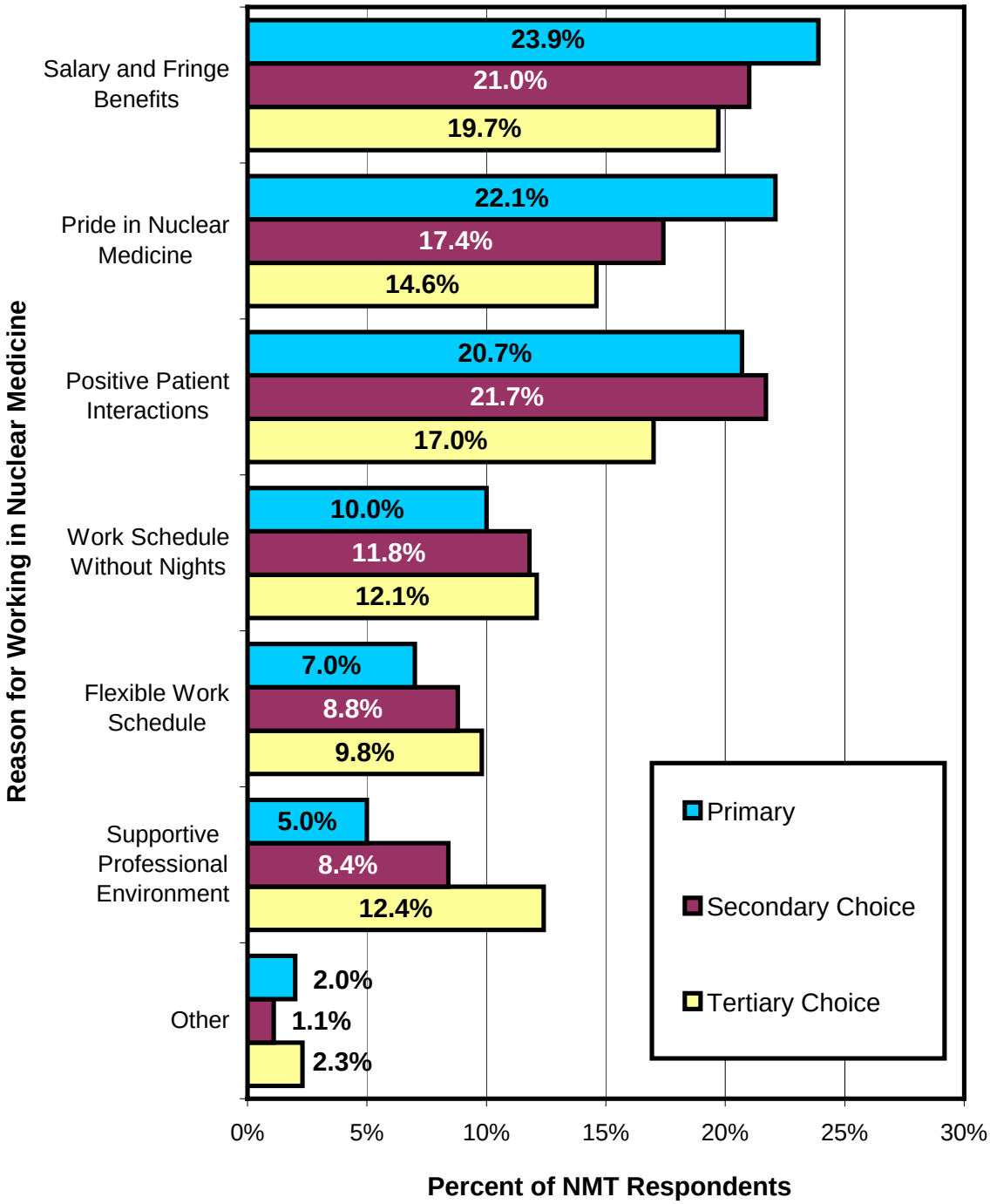




Source: 2005 NMT Survey, Questions D.12 and F.5.

- When asked to rank the top three reasons for working in nuclear medicine with the primary choice being the most important, the most frequently selected response was salary and fringe benefits followed by pride in nuclear medicine.

Figure 17. Primary, Secondary, and Tertiary Reasons For Working in Nuclear Medicine of Active NMTs, 2005



Source: 2005 NMT Survey, Question F.7.

- Salary and fringe benefits was the most frequently selected primary reason for working in nuclear medicine in all settings except Academic Medical Centers. NMTs in that setting ranked positive patient interaction as the primary reason for working in nuclear medicine.
- There was no consensus among the NMTs working in different settings regarding the least important reason for working in nuclear medicine.

Table 30. Ratings of Selected Reasons that NMTs Work in Nuclear Medicine, by Primary Work Setting, 2005

Primary Work Setting	Flexible Work Schedule	No Night Shifts	Supportive Professional Environment	Salary and Fringe Benefits	Pride in Nuclear Medicine	Positive Patient Interaction	Other
Academic Medical Center	**0.59**	0.72	0.62	1.67	1.59	**1.75**	0.18
Hospital/Medical Center	**0.68**	0.87	0.71	**1.79**	1.77	1.74	0.13
Outpatient Hospital Clinic/Center	**0.70**	1.43	0.73	**1.94**	1.57	1.66	0.05
Freestanding Outpatient Rad Center	0.55	1.09	**0.51**	**1.96**	1.34	1.78	0.12
Physician Office/Private Radiologist	**0.69**	1.20	0.86	**1.79**	1.22	1.65	0.07
Cardiology Specialty Center	0.76	1.26	**0.56**	**1.75**	1.39	1.71	0.08
Other	0.84	**0.73**	0.74	**1.88**	1.37	1.22	0.25
Total	**0.70**	**0.96**	**0.68**	**1.80**	**1.60**	**1.68**	**0.13**

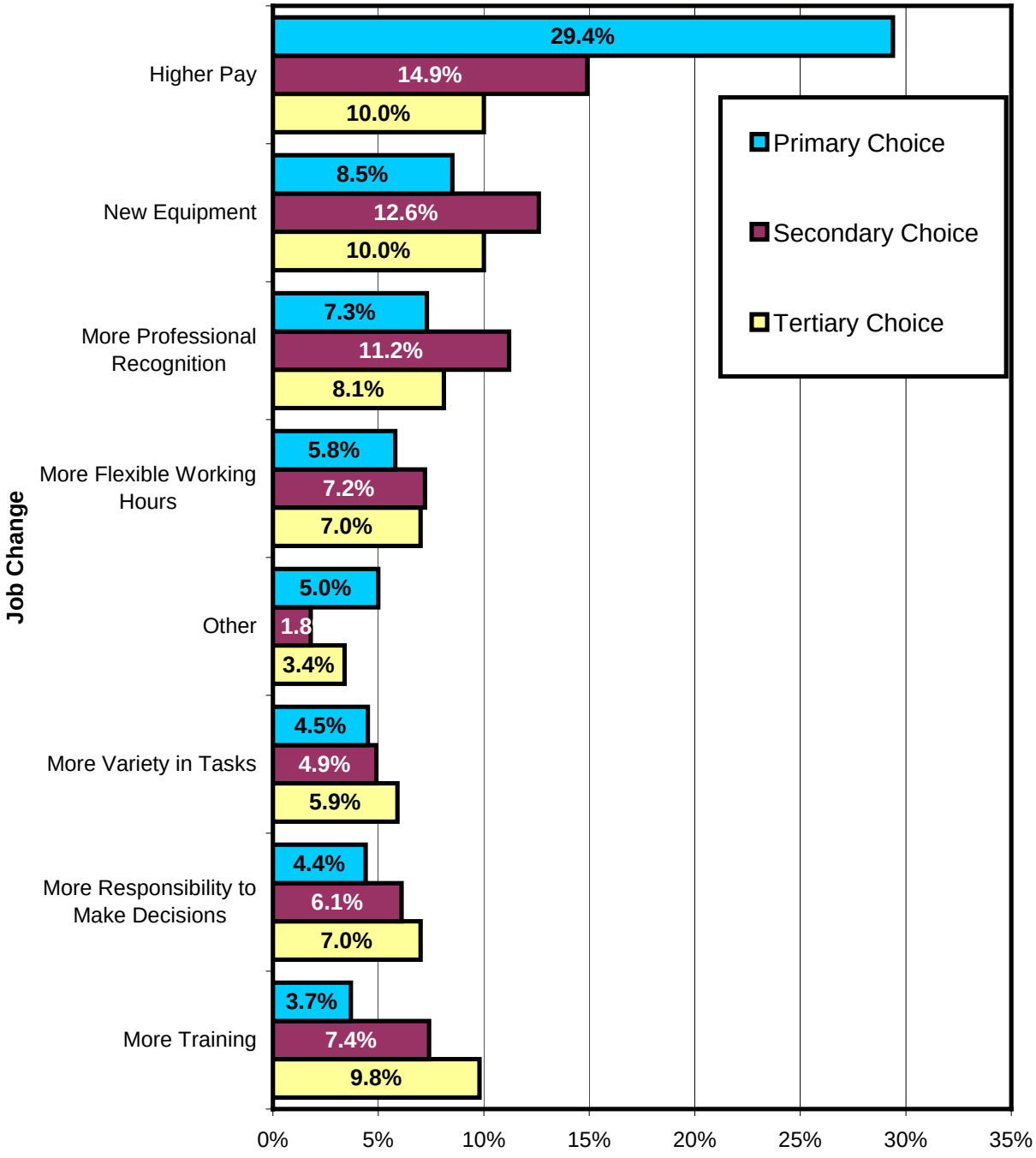
Highest Rated Reason in Setting **Lowest Rated Reason in Setting**

Note: 1) Rating scores run from '0' (for changes not selected by any respondent) to '4' (for changes selected as first by all respondents).
2) Scores were assigned to responses as follows: 1st = 4; 2nd = 2; 3rd = 1, and not selected = 0.

Source: NMT Survey 2005, Question F.7

- Although rating of job satisfaction among NMTs was high, 75% of working NMTs indicated that some change in their job would increase their level of satisfaction. The most cited changes were higher pay and new equipment.

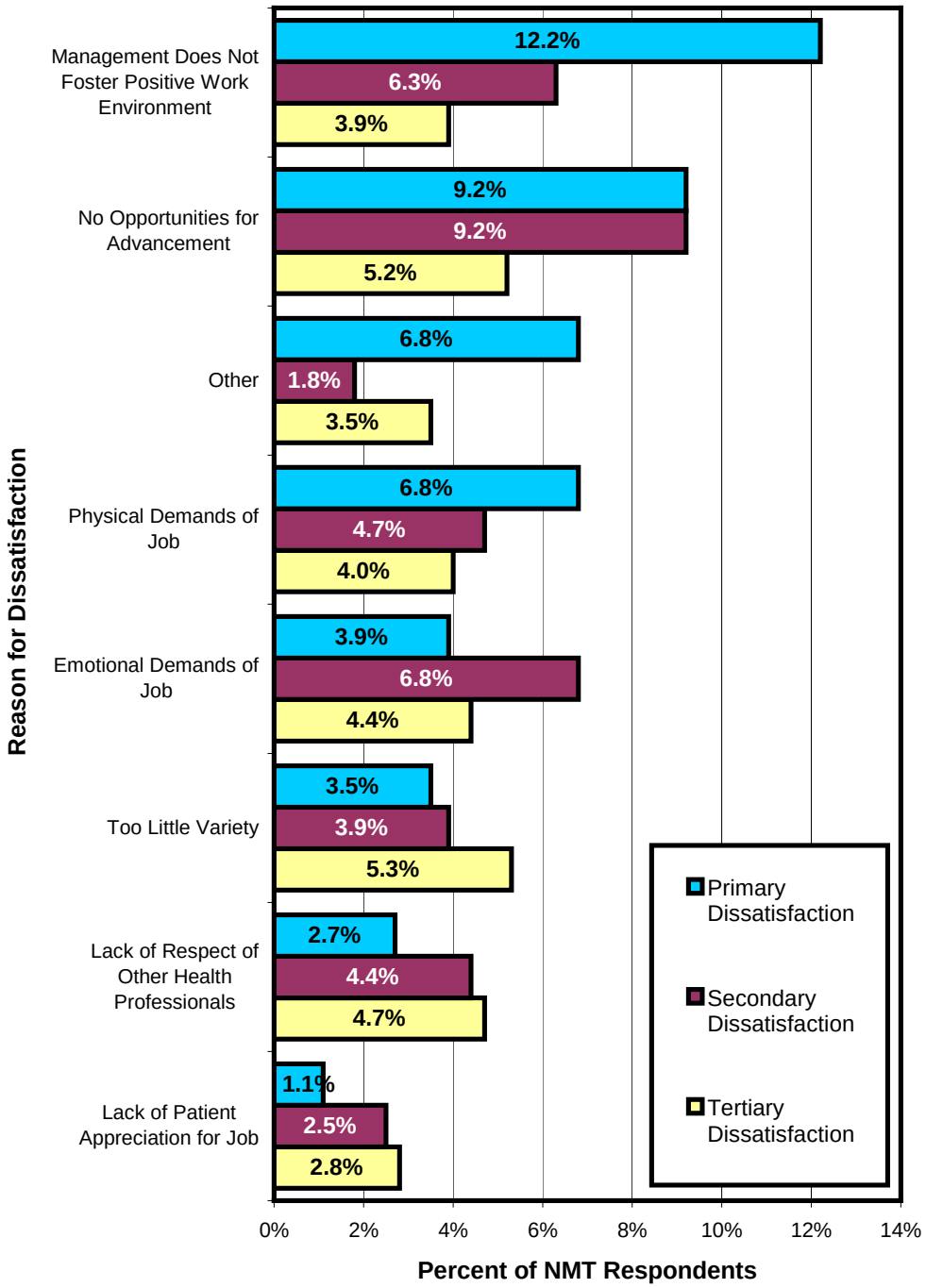
Figure 18. Percent of NMT Respondents Indicating Change Would Increase Job Satisfaction, by Primary, Secondary, and Tertiary Choice, 2005



Source: 2005 NMT Survey, question F.6a

- Nearly half (47.2%) of active NMT respondents indicated that there were aspects of their work that were dissatisfying. When asked to rank the most dissatisfying aspects of their work, NMTs chose 'Management does not foster a positive work environment' followed by 'no opportunities for advancement'.

Figure 19. Primary, Secondary, and Tertiary Reason For Job Dissatisfaction by Active NMTs, 2005



Source: 2005 NMT Survey, Question F.8a

- In an analysis of dissatisfaction by work setting, NMTs in academic medical centers, hospital/medical centers, outpatient hospital clinics, and 'other' settings cited 'management does not foster a positive work environment' as the primary concern (Table 20). NMTs in freestanding radiology centers, in private radiology practices, and cardiology specialty centers indicated that 'no opportunities for advancement' was their primary reason for dissatisfaction. 'Lack of patient appreciation or understanding' was the least cited reason among the options provided.

Table 31. Ratings of Selected Factors That Bring Dissatisfaction to NMTs, by Work Setting, 2005

Primary Work Setting	Physical Demands of Work	Emotional Demands of Work	Too Little Variety	**Managemnt Does not Foster a Positive Work Environmnt**	No Opportunity to Advance	**Patients Don't Appreciate My Work**	Other Health Professions Don't Respect My Work
Academic Medical Center	0.35	0.54	**0.15**	**0.80**	0.76	0.19	0.21
Hospital/Medical Center	0.52	0.43	0.30	**0.82**	0.71	**0.19**	0.33
Outpatient Hospital Clinic/Center	0.30	0.33	0.45	**0.70**	0.60	**0.20**	0.27
Freestanding Outpatient Rad Center	0.33	0.26	0.36	0.54	**0.82**	**0.09**	0.31
Physician Office/Private Radiologist	**0.14**	0.22	0.46	0.56	**0.82**	0.15	0.18
Cardiology Specialty Center	0.49	0.28	0.48	0.52	**0.60**	**0.18**	0.28
Other	0.43	0.59	0.19	**0.71**	0.49	**0.13**	0.27
Total	**0.46**	**0.41**	**0.33**	**0.73**	**0.68**	**0.18**	**0.30**

Highest Rated Factor in Setting **Lowest Rated Factor in Setting**

Note: 1) Rating scores run from '0' (for changes not selected by any respondent) to '4' (for changes selected as first by all respondents).
2) Scores were assigned to responses as follows: 1st = 4; 2nd = 2; 3rd = 1, and not selected = 0.

Source: NMT Survey 2005, Question F.8a, excluding 'Other'.

- When asked to rank change that would create more job satisfaction, higher pay was the most selected response by NMTs in all primary work settings.

Table 32. Ratings of Selected Changes That Would Bring NMTs More Job Satisfaction, by Work Setting, 2005

Primary Work Setting	**More Variety**	More Responsibility	Flexible Working Hours	**Higher Pay**	More Professional Recognition	New Equipment	More Training
Academic Medical Center	**0.40**	0.59	0.61	**2.06**	0.82	0.78	0.51
Hospital/Medical Center	**0.48**	0.52	0.60	**1.92**	0.84	1.02	0.54
Outpatient Hospital Clinic/Center	0.62	0.56	**0.52**	**1.59**	0.94	1.08	0.63
Freestanding Outpatient Rad Center	**0.30**	0.44	0.64	**1.95**	0.51	0.75	0.51
Physician Office/Private Radiologist	0.44	**0.31**	0.51	**1.35**	0.64	0.51	0.53
Cardiology Specialty Center	0.49	**0.43**	0.55	**1.63**	0.71	0.62	0.45
Other	**0.37**	0.51	0.54	**1.47**	0.51	0.39	0.65
Total	**0.46**	**0.50**	**0.58**	**1.80**	**0.77**	**0.85**	**0.53**

Highest Rated Change in Setting **Lowest Rated Change in Setting**

Note: 1) Rating scores run from '0' (for changes not selected by any respondent) to '4' (for changes selected as first by all respondents).
2) Scores were assigned to responses as follows: 1st = 4; 2nd = 2; 3rd = 1, and not selected = 0.

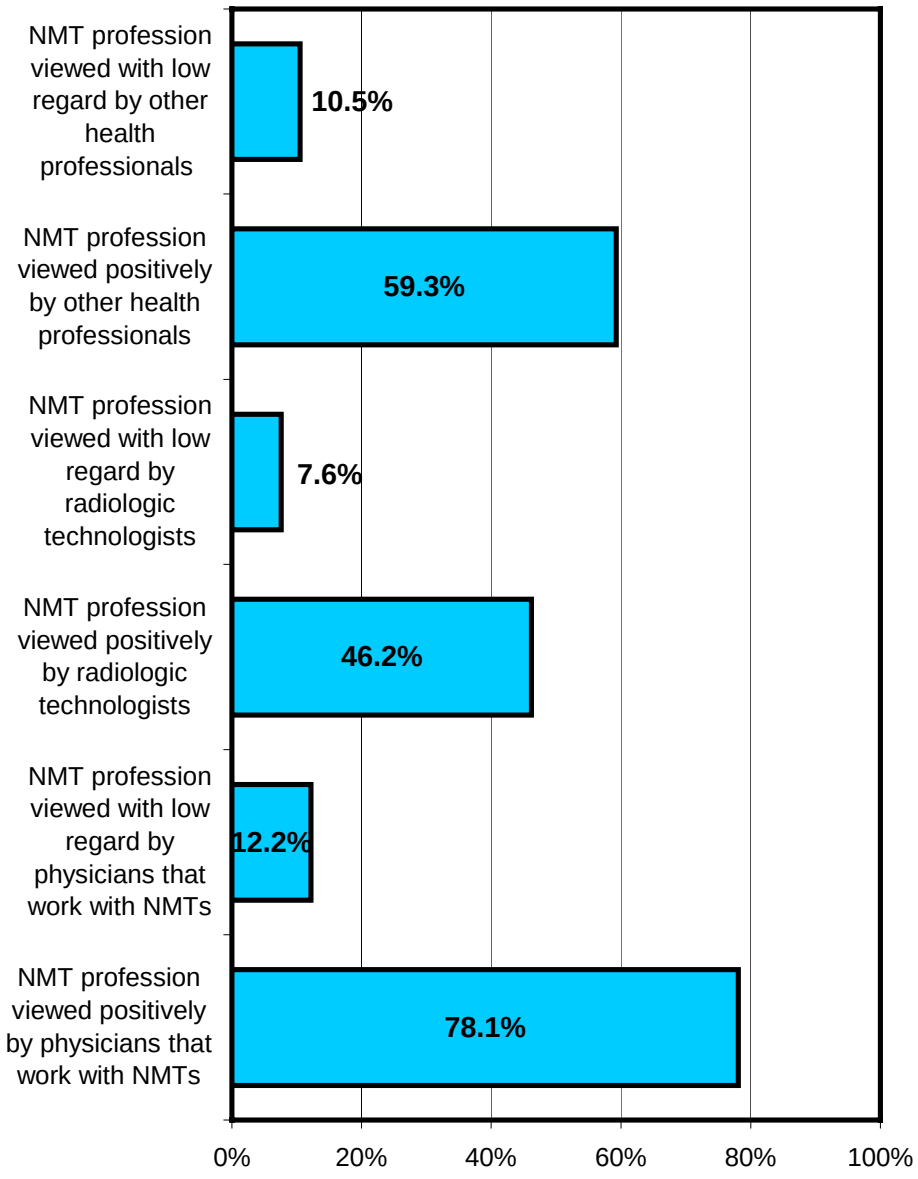
Source: NMT Survey 2005, Question F.6a, excluding 'Other'.

Attitudes

The professional regard of other health professions for NM technologists was cited as an indicator of satisfaction with the work environment. The perceptions of NMTs regarding the attitudes of other health professionals play a role in their job satisfaction.

- Overall, a majority (78.1%) of active NMTs reported that NMTs are viewed positively by the physicians with whom they work. However, a lower percentage reported that the NMT profession is viewed positively by radiologic technologists (46.2%) and other health professionals (59.3%).

Figure 20. Percent of NMTs Who Perceive Positive or Negative Attitudes About NMTs by Other Health Professionals, 2005



Source: 2005 NMT Survey, Question F.4

Table 33. How the NMT Profession is Viewed by Other Professions as cited by Active NMTs Working Greater than 75% of Time in Different NM Specialty Areas

How the NMT Profession is Viewed by other Professions	More than 75% Percent of Time Spent in				Total
	NM	PET	SPECT/CT	PET/CT	
Positively by Physicians with Whom I Work	1,241 (36.4%)	49 (39.2%)	18 (42.9%)	77 (40.1%)	1,385 (36.8%)
With Low Regard by Physicians with Whom I Work	207 (6.1%)	5 (4.0%)	3 (7.1%)	7 (3.6%)	222 (5.9%)
Positively by Radiology Technologists	730 (21.4%)	31 (24.8%)	3 (7.1%)	39 (20.3%)	803 (21.3%)
With Low Regard by Radiology Technologists	122 (3.6%)	4 (3.2%)	3 (7.1%)	9 (4.7%)	138 (3.6%)
Positively by Other Health Professionals	944 (27.7%)	30 (24%)	11 (26.2%)	51 (26.6%)	1,036 (27.5%)
With Low Regard by Other Health Professionals	165 (4.8%)	6 (4.8%)	4 (9.5%)	9 (4.7%)	184 (4.9%)
Total	**3,409**	**125**	**42**	**192**	**3,768**

* Sums of percentages may not equal 100 due to rounding.

- When asked their perception of how the NMT profession is viewed by other health professionals, almost 40% of responding NMTs in each NM specialty category indicated the NMT profession is viewed positively by physicians with whom they work.
- Among NMTs who spend more than 50% of their time in SPECT/CT or PET/CT, almost 40% express the attitude that the profession is regarded positively by physicians with whom they work.

Table 34. Distribution of How the NMT Profession is Viewed by the Other Professions by Percentage of Time Spent by NMT in Two Specialty Areas.

How the NMT Profession is Viewed by Other Professions	More than 50% Time Spent in		Total
	SPECT/CT	PET/CT	
Positively by Physicians with Whom I Work	33 (39.8%)	109 (38.6%)	142 (38.9%)
With Low Regard by Physicians with Whom I Work	5 (6.0%)	10 (3.6%)	15 (4.1%)
Positively by Radiology Technologists	12 (14.5%)	59 (20.9%)	71 (19.5%)
With Low Regard by Radiology Technologists	6 (7.2%)	13 (4.6%)	19 (5.2%)
Positively by Other Health Professionals	21 (25.3%)	78 (27.7%)	99 (27.1%)
With Low Regard by Other Health Professionals	6 (7.2%)	13 (4.6%)	19 (5.2%)
Total	**83 (100%)**	**282 (100%)**	**365 (100%)**

* Sums of percentages may not add up to be exact 100 due to rounding.
* Source: 2005 NMT Survey, Questions D.12. and F.4.

Continuing Education

Continuing education is important for health professionals, particularly in an environment with evolving technologies and new imaging modalities. This section presents NMT responses to questions about continuing education for currently working NMTs.

- Three out of five (60.1%) active NMTs indicated that their employer provides some financial support for their continuing education.
- When asked to identify providers of continuing education programs for NMTs in the geographic area where they work, NMTs most frequently cited local/state professional organizations and private organizations as the source for CEUs.

Table 35. Providers of NMT Continuing Education Credits in Local Areas, 2005

CE Provider	% of Respondents
Employers	38.6%
Local/State Professional Associations	54.9%
State Certification/Licensing Boards	13.0%
Local Academic Institutions	15.4%
Private Organizations	47.0%
Other	13.9%

Source: 2005 NMT Survey, Question G.2

When asked about the source of the NMTs own continuing education credits, respondents primarily cited technology and pharmaceutical vendors, followed by journal articles with CEU components, and then state and local professional associations. This suggests that there is significant reliance on vendors for ongoing education.

Table 36. Source of NMT Continuing Education Credits for Responding NMTs, 2005

Source of CE Credit	% of Respondents
Employer Sponsored Programs	28.0%
Local Academic Institutions	13.7%
State/Local Professional Associations	49.9%
Technology and Pharmaceutical Vendors	74.9%
Annual Professional Conferences	42.3%
Journal Articles with CEU Components	54.0%
Self Study Programs	31.5%
Other	3.5%

Source: 2005 NMT Survey, Question G.3.

- Four out of ten (40%) of active NMTs indicated there were opportunities for continuing education credit in CT technology or cross sectional anatomy in their geographic area. The most frequently cited location for these programs was a local college/university program, followed by technology vendors.

Table 37. Providers of Continuing Education Credits for CT Technology and Cross Sectional Anatomy Identified by NMT Respondents, 2005

CE Provider	% of Respondents
Local College/University Program	15.1%
Employer Sponsored Program	8.5%
Local Professional Association	13.2%
Technology Vendor	14.5%
Other	1.9%

Source: 2005 NMT Survey, Question G.4a.

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Appendix A.
NMT Counts in the Fifty States and the 2005 NMT Survey

The following charts present counts of NMTs in the U.S. and in the survey sample for each of the fifty states.

Table A-1. State Distribution of NMTs in the U.S., in the NMT Survey Sample, and of NMT Survey Respondents, 2005

State	Total Number of NMTs		NMTs in Sample		Respondent NMTs	
	Number	Percent	Number	Percent	Number	Percent
Alabama	338	1.6%	68	1.7%	28	1.6%
Alaska	34	0.2%	10	0.3%	3	0.2%
Arizona	364	1.7%	66	1.7%	25	1.4%
Arkansas	238	1.1%	36	0.9%	16	0.9%
California	1,423	6.7%	294	7.3%	129	7.2%
Colorado	278	1.3%	57	1.4%	18	1.0%
Connecticut	305	1.4%	68	1.7%	28	1.6%
Delaware	112	0.5%	13	0.3%	7	0.4%
District of Columbia	13	0.1%	2	0.1%	4*	0.2%
Florida	1,633	7.6%	311	7.7%	115	6.5%
Georgia	541	2.5%	99	2.5%	33	1.9%
Hawaii	76	0.4%	14	0.4%	8	0.4%
Idaho	53	0.2%	11	0.3%	5	0.3%
Illinois	906	4.2%	176	4.4%	74	4.2%
Indiana	452	2.1%	86	2.2%	45	2.5%
Iowa	205	1.0%	48	1.2%	31	1.7%
Kansas	182	0.9%	36	0.9%	19	1.1%
Kentucky	318	1.5%	60	1.6%	23	1.3%
Louisiana	359	1.7%	42	1.1%	24	1.3%
Maine	95	0.4%	20	0.5%	10	0.6%
Maryland	522	2.4%	99	2.4%	39	2.2%
Massachusetts	513	2.4%	101	2.5%	51	2.9%
Michigan	883	4.1%	159	4.0%	69	3.9%
Minnesota	313	1.5%	57	1.4%	26	1.5%
Mississippi	227	1.1%	15	0.3%	5	0.3%
Missouri	479	2.2%	91	2.2%	47	2.6%
Montana	42	0.2%	8	0.2%	5	0.3%
Nebraska	136	0.6%	20	0.5%	13	0.7%
Nevada	180	0.8%	28	0.7%	8	0.4%
New Hampshire	101	0.5%	22	0.5%	10	0.6%
New Jersey	816	3.8%	142	3.5%	65	3.6%
New Mexico	112	0.5%	27	0.7%	9	0.5%
New York	1,281	6.0%	239	6.0%	112	6.3%
North Carolina	719	3.4%	128	3.2%	65	3.6%
North Dakota	37	0.2%	6	0.2%	5	0.3%
Ohio	1,141	5.3%	230	5.8%	111	6.2%
Oklahoma	218	1.0%	31	0.8%	10	0.6%
Oregon	176	0.8%	35	0.9%	17	1.0%
Pennsylvania	1,267	5.9%	240	6.0%	113	6.3%
Rhode Island	86	0.4%	11	0.3%	7	0.4%
South Carolina	338	1.6%	50	1.3%	22	1.2%
South Dakota	123	0.6%	16	0.4%	9	0.5%
Tennessee	600	2.8%	105	2.6%	50	2.8%
Texas	1,320	6.2%	270	6.7%	108	6.1%
Utah	122	0.6%	24	0.6%	14	0.8%
Vermont	40	0.2%	7	0.2%	1	0.1%
Virginia	532	2.5%	108	2.7%	49	2.7%
Washington	326	1.5%	63	1.5%	25	1.4%
West Virginia	260	1.2%	45	1.1%	18	1.0%
Wisconsin	498	2.3%	93	2.3%	49	2.7%
Wyoming	36	0.2%	13	0.3%	4	0.2%
Total	21,369**	100%	4,000	100%	1,781***	100%

* Respondents greater than sample size suggests some NMTs moved to DC from a different address than original mailing address.
** Does not include NMTs living outside the United States.
***Number of survey respondents is greater than listed here. Not all respondents supplied geographic information on the survey.

Appendix B
The 2005 Nuclear Medicine Technologist Survey Instrument

The pages that follow include a copy of the survey questionnaire used in the 2005 NMT Practitioner Survey.

Survey of Nuclear Medicine Technologists in the United States in 2005

Center for Health Workforce Studies
School of Public Health
University at Albany

MARKING INSTRUCTIONS

- Use a No. 2 pencil or blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Make solid marks that fill the oval completely.
- Make no stray marks on this form.
- Do not fold, tear, or mutilate this form.

● CORRECT

✓ ✗ ⬭ ⊙ INCORRECT

Survey of Nuclear Medicine Technologists in the United States in 2005

Center for Health Workforce Studies
School of Public Health
University at Albany
and
The Society of Nuclear Medicine

You have been selected to receive this questionnaire as part of a national study of the nuclear medicine workforce. Your response is needed to assure the representativeness of the survey for different groupings of respondents. Your participation is voluntary. Your responses will be confidential and will be reported only in averages and aggregations for subsets of those who answer the survey. In no case will your identity be attached to a specific response or comment. The instrument should take approximately 20 minutes to complete.

A. DEMOGRAPHICS

1. Please indicate the year in which you were born.

Year

19 ⬭⬭

0 0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

2. Please indicate your gender.

⬭ Male ⬭ Female

3. Please indicate your race/ethnicity.

⬭ Asian or Pacific Islander
⬭ Black/African-American
⬭ Native American/American Indian
⬭ White (Non-Hispanic)
⬭ Hispanic
⬭ Other. _____

B. EDUCATION AND TRAINING

1. Please indicate the level of your education **before** entering your nuclear medicine education program.

⬭ High school diploma ⬭ Bachelor's degree
⬭ Associate's degree ⬭ Master's degree

2. Please indicate the level of the nuclear medicine technology education program you attended.

⬭ On the job training
⬭ One year certificate program
⬭ Two year certificate program
⬭ Associate's degree program
⬭ Bachelor's degree
⬭ Post bachelor's certificate program
⬭ Other. Please describe. _____

3. Please indicate your highest level of education **currently**.

⬭ Associate's degree ⬭ Master's degree
⬭ Bachelor's degree ⬭ Doctorate degree

4. Do you expect to pursue further academic education in the next five years?

⬭ No
⬭ Yes. Please describe. _____

5. If you graduated within the last five years, did your nuclear medicine education program provide you with adequate training to work in nuclear medicine as it is currently practiced?

⬭ Yes ⬭ No

5a. If no, in what areas was your nuclear medicine education program deficient?
Please mark all that apply.

⬭ Radiology modalities
⬭ Chemistry
⬭ Anatomy/physiology
⬭ Computer Science
⬭ Other. Please describe. _____

C. LICENSURE & CERTIFICATION

1. Please indicate which certification(s) you currently hold. *Please mark all that apply.*

⬭ CNMT ⬭ RT (N) ⬭ ASCP (NM)

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⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭⬭

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1a. Please indicate the year in which you first became certified as a nuclear medicine technologist.

Year

2. Are you certified in other imaging or health professions?

○ Yes ○ No

2a. If yes, what certifications do you currently hold? *Please mark all that apply.*

- ○ Radiologic Technologist (RT)
- ○ Sonography
- ○ Medical Laboratory Tech (MLT)
- ○ MRI
- ○ Registered Nurse (RN)
- ○ Mammography
- ○ CT
- ○ Other. Please describe._____

3. Does the state in which you currently work require you to be licensed?

○ Yes ○ No

4. To what professional associations do you belong? *Please mark all that apply.*

- ○ Society of Nuclear Medicine (SNM)
- ○ American Society of Radiologic Technologists (ASRT)
- ○ Academy of Molecular Imaging (AMI)
- ○ American Society of Nuclear Cardiology (ASNC)
- ○ American Healthcare Radiology Administrators (AHRA)
- ○ Radiology Business Management Association (RBMA)
- ○ Other. Please describe._____

D. CURRENT EMPLOYMENT

1. Do you currently work in nuclear medicine?

○ Yes ○ No

2. If yes, in how many facilities do you currently work?

○ 1 ○ 2 ○ 3 or more

3. In what settings do you currently work? Please identify your primary work setting where you work the most hours and one secondary setting if applicable.

Primary	Secondary
○	○ Academic Medical Center
○	○ Hospital/Medical Center
○	○ Outpatient Hospital Clinic/Center
○	○ Freestanding Outpatient Radiology Center
○	○ Physician Office/Private Radiologist
○	○ Cardiology Specialty Center
○	○ Oncology Specialty Center
○	○ Academic/Educational Institution
○	○ Radiopharmacy
○	○ Pharmaceutical Company
○	○ Technology Company
○	○ Consulting Company
○	○ Staffing Organization
○	○ Research Organization
○	○ Mobile Unit
○	○ Self Employed
○	○ Other. Please describe._____

4. Please describe your department in your primary workplace.

- ○ Nuclear medicine department
- ○ Nuclear medicine center in radiology department
- ○ Radiology department
- ○ PET center
- ○ Cardiology center
- ○ Other. Please describe._____

5. At your main place of employment who primarily reads the studies you perform?

- ○ NM Physician
- ○ Radiologist
- ○ Cardiologist
- ○ Oncologist
- ○ Other Physician
- ○ Not Applicable

6. How much of your time in your primary employment is spent providing clinical (patient) nuclear medicine services?

- ○ None
- ○ Less than 25%
- ○ Greater than 25% but less than 50%
- ○ At least 50% but less than 75%
- ○ At least 75% but less than 100%
- ○ Nuclear medicine is my full time job.

7. Are you permitted to operate the CT portion of a hardware fusion imaging device in the state where you work?

○ Yes ○ No ○ Not sure

8. Does the institution where you primarily work have a PET/CT scanner or other hardware fusion imaging technology?

○ Yes ○ No ○ Uses a mobile unit

9. Is your institution considering the purchase of a PET/CT scanner or other hardware fusion imaging equipment?

○ Yes ○ No ○ Not sure

10. Do you plan to take the CT certification exam?

○ Yes ○ No

11. Have you had additional training in?

a. CT ○ Yes ○ No
b. MRI ○ Yes ○ No

12. What percent of your time is spent working with the following modalities?

Nuclear Med.	PET	SPECT/CT	PET/CT
○ None	○ None	○ None	○ None
○ 25%	○ 25%	○ 25%	○ 25%
○ 50%	○ 50%	○ 50%	○ 50%
○ 75%	○ 75%	○ 75%	○ 75%
○ 100%	○ 100%	○ 100%	○ 100%

13. Please provide the zip code, city, and state for the employer at which you primarily work.

Zip Code

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

City _____ **State** _____

14. Please indicate how many hours per week, on average, you work for your primary and secondary employer.

	Primary Employer	Secondary Employer
Hours		
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

15. In what year did you begin working with your primary employer?

Year

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

16. What kind of procedures do you routinely perform in your primary employment site?
Please mark all that apply.

○ General NM Imaging
○ Oncology Imaging
○ Cardiology Imaging
○ Neurology Imaging
○ Bone Scans
○ PET
○ NM Therapy
○ Other. Please describe. _____

17. Please indicate your current job responsibilities (not including clinical services).
Please mark all that apply.

○ Quality control
○ Radiation safety officer/team member
○ Radiopharmaceutical preparation
○ Manager/administrator/supervisor
○ Academic/clinical educator
○ PACS/ RIS coordinator
○ Other. Please describe. _____

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18. Please indicate your total annual base salary (excluding pay from call) and annual wages from call from all your nuclear medicine positions (in thousands).

Annual Base Salary	Annual Wages from Call
$,000	$,000

19. Are you in a supervisory/management role in your primary workplace?

○ Yes ○ No

19a. If you are a supervisor, how many other technologists and/or other staff do you supervise?

Technologists	Other

E. CAREER PATHS

1. Did you work in another career prior to working in nuclear medicine?

○ Yes ○ No

1a. Was this career a health career?

○ Yes ○ No

1b. If yes, please describe your previous health profession.

- ○ Radiologic technologist
- ○ Medical laboratory technologist
- ○ Nursing
- ○ Other. Please describe. _____

1c. If yes, for how many years did you work in another health profession prior to specializing in nuclear medicine?

Years

2. How did you develop an interest in nuclear medicine? *Please mark all that apply.*

- ○ Advice of a school counselor
- ○ Personal or family experience or interest
- ○ Encouragement of a mentor
- ○ Educational program was available
- ○ Experience in the workplace
- ○ Other. Please describe. _____

3. Please indicate your future work plans for the next five years. *Please mark all that apply.*

- ○ I expect to remain in my current position(s).
- ○ I expect to leave nuclear medicine.
- ○ I expect to continue in nuclear medicine.
- ○ I expect to train in other radiology modalities.
- ○ I expect to seek another job outside the profession.
- ○ I expect to seek another job in the same profession.
- ○ I expect to retire.
- ○ Other. Please describe. _____

3a. If you expect to leave nuclear medicine, please describe your reason.

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4. Please indicate any training that will be necessary for you to continue to work in nuclear medicine. *Please mark all that apply.*

- ○ CT training
- ○ MRI training
- ○ Sonography training
- ○ PET/CT training
- ○ SPECT/CT training
- ○ PET/MRI training
- ○ Mammo/PET training
- ○ Other. Please describe. _____

F. CURRENT WORK ENVIRONMENT AND ATTITUDES

1. Please describe the current opportunities for employment for nuclear medicine technologists in the geographic area where you work.

- ○ There are more jobs than there are nuclear medicine technologists to fill them.
- ○ There are sufficient jobs for nuclear medicine technologists.
- ○ There are too few jobs for nuclear medicine technologists.

2. Employers in my area: *Please mark only one.*

- ○ Prefer to hire NM technologists with work experience.
- ○ Prefer to hire newly certified NM technologists with training in fusion modalities.

3. Are you experiencing any changes in your employing organization that are affecting your work as an NMT?

- ○ Yes ○ No

3a. If yes, please describe those changes. *Please mark all that apply.*

- ○ Organizational changes are affecting to whom I report.
- ○ The purchase of new imaging equipment is changing my responsibilities.
- ○ Changes in workflow are affecting the types of personnel who work in nuclear medicine.
- ○ NMTs are sharing work/responsibilities with radiologic technologists (RTs).
- ○ NMTs are working with physicians other than nuclear medicine physicians.
- ○ NMTs are working more closely with radiation therapists.
- ○ Other. Please describe. _____

4. The NMT profession is viewed: *Please mark all that apply.*

- ○ Positively by the physicians with whom I work.
- ○ With low regard by the physicians with whom I work.
- ○ Positively by radiology technologists.
- ○ With low regard by radiology technologists.
- ○ Positively by other health professionals.
- ○ With low regard by other health professionals.

5. Overall what is your level of satisfaction with your job?

- ○ Very satisfied
- ○ Somewhat satisfied
- ○ Somewhat dissatisfied
- ○ Very dissatisfied

6. Would change in certain features of your job bring you more satisfaction?

- ○ Yes ○ No

6a. If yes, please rank the top three changes in your job that would bring you more satisfaction **with 1 being the most important change**. *Mark only once in each column.*

1st	2nd	3rd	
○	○	○	More variety in the tasks performed.
○	○	○	More responsibility to make decisions.
○	○	○	More flexible working hours.
○	○	○	Higher pay.
○	○	○	More recognition of the professional nature of the work.
○	○	○	New equipment.
○	○	○	More training in the field.
○	○	○	Other. Please describe. _____

7. Please rank the top three reasons why you work in nuclear medicine **with 1 being the most important reason**. *Mark only once in each column.*

1st	2nd	3rd	
○	○	○	A flexible work schedule.
○	○	○	The ability to work without having to work nights, etc.
○	○	○	A supportive professional environment.
○	○	○	Salary and fringe benefits.
○	○	○	Pride in the nuclear medicine profession.
○	○	○	Positive patient interaction.
○	○	○	Other. Please describe. _____

8. Are there any aspects to your job that are especially dissatisfying?

○ Yes ○ No

8a. If yes, please rank the top three aspects of this job that are dissatisfying **with 1 being the most dissatisfying.**
Mark only once in each column.

1st	2nd	3rd	
○	○	○	The job is physically demanding.
○	○	○	The job is emotionally demanding.
○	○	○	There is too little variety in my work.
○	○	○	Management does not foster a positive work environment.
○	○	○	There are no opportunities for advancement.
○	○	○	Patients do not understand or appreciate the work I do.
○	○	○	Other health professions are not respectful of the work I do.
○	○	○	Other. Please describe._____

G. CONTINUING EDUCATION

1. Does your employer provide you with financial support for your continuing education?

○ Yes ○ No

2. Please indicate the providers of continuing education programs for nuclear medicine technologists in the area where you work.
Please mark all that apply.

- ○ Employer
- ○ Local/State professional association(s)
- ○ State certification/licensing board
- ○ Local college(s)/universities
- ○ Private organization(s)
- ○ Other. Please describe._____

3. Please indicate the source of your continuing education credits. *Please mark all that apply.*

- ○ Programs sponsored by employer
- ○ Programs sponsored by local academic institutions
- ○ Programs sponsored by local/state professional association(s)
- ○ Programs sponsored by technology and/or pharmaceutical vendor(s)
- ○ Programs at annual national conference of professional association(s)
- ○ Journal articles with CEU component
- ○ Self study program(s)
- ○ Other. Please describe._____

4. Are there opportunities in your area for NMTs to earn continuing education credit in CT technology and/or cross-sectional anatomy?

○ Yes ○ No

4a. If yes, please indicate the provider of these educational opportunities.
Please mark all that apply.

- ○ Local college/university program
- ○ Employer
- ○ Local professional association
- ○ Technology vendor
- ○ Other. Please describe._____

H. NARRATIVE

Please share any additional information.

PLEASE DO NOT WRITE IN THIS AREA

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THANK YOU FOR COMPLETING THIS SURVEY!

Please send the completed questionnaire in the pre-addressed, postage paid envelope included with this packet.

The Center for Health Workforce Studies
School of Public Health, University at Albany
One University Place, Room B312
Rensselaer, NY 12144-3456

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Appendix C
Responses to Open-Ended Questions on the Survey Instrument

The tabulations that follow are based on the write-in responses to the open-ended questions on the 2005 survey. They are included here because they usually represent responses not considered by the designers of the survey instrument. Often—but not always—they represent responses that are at the cutting edge of change in the NMT profession.

The initial contract for this survey did not include funding for a careful analysis of the open-ended responses. Thus, no attempt has been made at this point to code the responses into new response categories for the respective questions. Nor have key word analyses or other coding and classification techniques been applied to the responses to help summarize them into more usable categories. This kind of analysis could be done in the future if there are sufficient interest and resources.

The responses are organized by survey question with a concise summary of the main themes represented in the responses. Interested readers are encouraged at least to skim through the appendix to get a sense of the attitudes and concerns of the survey respondents about the various issues and topics covered in the survey instrument.

Items in bold followed by numbers just under each question are summed repeated comments/responses for that question.

Write in Responses

Q.A.3. Please indicate your race/ethnicity. (Other. ----)

Mixed Race (5)
Other-No Description (2)
Filipino
No Response
Trinidadian
Egyptian
East African (Of Indian Decent)
Multi Racial
Italian American
Egyptian (White)
1/2 White 1/2 Hispanic
Arab Middle Eastern
East Indian
Multi-racial (Black/African American, Native American/American Indian/White (Non-Hispanic)
Caribbean Indian

Q.B.2. Please indicate the level of the nuclear medicine technology education program you attended. (Other. Please describe. ----)

Military/ Military Training / Military (Army) / Army Program / Military USN 6 months / U.S. Army (8)
NAVY / U.S. Navy / U.S. Navy (NSHS) / US Navy C-School / Naval School of Health Sciences (6)
15 months certificate (3)
14 months certificate (2)
R.T. First-A.S. degree / RT first then one year program (2)
3 yrs college in CANADA
3-Year Certificate Program
Three + One Bachelor's Degree
2 yr ART (R) + 1 yr Nuc. Med
Plus 2 yr X-Ray cert. Program
16 months certificate
1 yr. Certificate
I was out of college 3 yrs before entering 1 yr certificate program
6 months Program
Trained in Germany
Included in BS for Medical Technology then OJT
ARRT (R.M.)
Accounting and Business Administration
UAB/OJT
College course with OJT
Post BSRT including Nuc Med Classes

Q.B.4. Do you expect to pursue further academic education in the next five years? (Yes. Please describe. -----)

Bachelor's/Bachelor's Degree (74)
Master's / Master's Degree (64)
BS/BS Degree (26)
MBA (25)
PET, CT / (PET/CT) / (CT/PET) (17)
Ph.D. / Doctorate (13)

Not sure / Undecided / Unknown (12)
PET / PET Training / PET, Bachelor's Degree / PET Technology Program / PET Scanning (9)
MHA (5)
Master's Health Administration / Master's in Health Care Administration (4)
PA / PA School (4)
Medicine / Medical School (4)
MD / lic of MD (4)
BA (4)
CT Certification / CT certification classes (4)
MRI / Study MRI / MRI certificate program (4)
CT (3)
PET/CT Boards / CT certification for PET CT / CT-Cert. PET. Cert (3)
Law School (3)
MS (3)
Nuclear Cardiology (3)
Continuing ed., plus considering other options / Continuing Education / Conti Ed (3)
RN (2)
CT Cross trained / Cross Training CT (2)
CT Training- Advance Certificate Program / CT Training (2)
CT or Nursing / CT Nursing (2)
CT/MRI Training (2)
Medical physicist / Medical Physicians (2)
Master's in Healthcare (2)
Master's in Health Science (2)
Management (2)
Master's Education (2)
Possibly Master's Degree (2)
Bachelor's Degree in NM (2)
MBA/Master's Prog. (2)
Cardiology certification / Cardiology Board Exam (2)
Non-Medical (2)
Other than Healthcare / Outside of healthcare (2)
Nurse Practitioner (2)
Taking some Nursing Classes / Enroll in a Nursing Program (2)
BBA (2)
Maybe (2)
Possibly grad school
Possibly Bachelor's
Possibly doctorate
Possible career change
Possible BS, may be BSN
Possible MBA
Possible Nursing
If possible
Master's Degree in Healthcare Management
Health Management almost completed
Master's in Nutrition
Master's Physics
Master's Medical Physics
Master's Ed (?)
Master nursery
Master's Degree Education
Master's Program
Master's - Acute Care NP
MA in Computer Science
Master's in Stats

Master's ?: Other field
Master's in Radiologic Sciences & Healthcare Administration
M.Sc. NM
Master's in Public Affairs expected to graduation 2006
Master of Science
I am currently pursuing my Master's Degree
Currently pursuing a Master's
Currently enrolled for Master's Degree
Currently in Master's Program
Currently in MBA Program
Finish Master's Degree
Currently finishing Master's
Currently enrolled in MHA program at Penn State
Pursuing my Master's Degree currently
Finish my Master's in Teaching
Complete MS Bioengineering
MS, Healthcare Management
Master's Healthcare Management
Presently pending M.S.
M.S. or M.D.
MD License (I am a foreign graduate)
Med School- Radiologist
M.S. Health Physics
MS-Health Physics
Complete M.S. in 2007
MS-HAS
MPA
BS+MBA
MBA/MHA
MBA of Radiation Biology
MPH or MBA
MBA or MED
Already pursuing Bachelor's
Will graduate with a Bachelor's in May 2006
Bachelor's Degree Medical School
Bachelor's in Health Science
Finish a Bachelor's in Health Sciences
Bachelor's Science
Bachelor's Completion
Unknown Bachelor's
Bachelor's in Health Administration
Complete a BA degree
Complete Bachelor's
Work towards Bachelor's Degree
Currently pursuing Bachelor's Degree
Current student for Bachelor's Degree
12 credits left to get Bachelor's degree
3 Credits needed for Bachelor's Degree
Bachelor's & Doctorate
Biology-Bachelor's
2nd Bach
Bachelor's Degree in Psychology
Working toward Bachelor's (Slowly)
Currently enrolled to complete BHA
Bach Business
Bachelor's Degree in Psychology

B.A. in Science
Bachelor in Management
Currently attending Rutgers Univ for Bachelor's Degree
BA-Business
BA-Finance
BS- Online
BS Healthcare
BS Radiation Therapy
BS in Health Admin.
BS in Physics
BS Health Management Economics
Cont. to work on BS Degree
BS in Allied Health
BS (?)
BS? NCT
Currently attending college. Working toward BS degree in Radiation Sciences
BS+Education
Bachelor of Science Degree
BS+
Business Administration
Health Administration or Aviation
CT License
CT (College courses)
CT, PET, EKG / CT, PET, BA (2)
PET, Cardiology, Hospital Administration
Siemen's PET/CT School
PET/CT & Masters Degree
PET/CT. Cardiology
PET & CT Registries
Classes for CT registry
CT Classes & Bachelor's Degree
CT or Rad. Tx. , ?MBA
SPECT/CT
PET-CT Fusion; Master's Degree
CAT SCAN-Radiology
CT, PET, Cardiac
Just completing CT, certification test soon
Ph.D. Biochemistry
Informatics, Ph.D.
Ph.D., higher Ed., Administration
In Doctoral Program
Ph.D. Education
Currently enrolled in Ph.D. program in Public Health
Doctorate of Naturopathy
Computer Science
Computer BA
Computer/Web Design
Business Process
International Business
Business
PA or Echo
Echocardiogram
Echocardiography Registry
Nuclear Card & Currently echo
Cert. In Nuclear Cardiology
Cardiac Physiology

Finish Associates Degree
Associate in Intermediate Training for the Deaf
Would like to get an Associate Degree
Finish Assoc. Degree
LPN
Also have an associated RN Degree
Nursing (May be)
Radiology (will start internship Residency)
Radiation Safety Officer
RA
RA-RPA
Radiologist Assistant
Rad Therapy
Radiology Practitioner Assistant (RPA)
Yes (No description)
Surgery
Online CE & Workshops
A.P. (Assistant Principal) of Supervision
Unknown-in the medical field
Nuclear PharmD
Seminary
P.A. School or Forensics
Research
FNMT
Classes-Spanish, PET certification, other interest + Keeping up with C.E. credits
N.D. degree
NCT, CT?
BSN Nuc Med
PACS
CMD
New Technology
Imaging modalities
Dosimetry
Continuing classes at Weber State University
Medical Coding
Sonography
Technology
Various Courses
Something to expand horizons. Exp. Piano, Spanish
Real Estate
Self-interests
Unknown at this time
New career
Specialty
Emergency Management
DEXA
CE Credits
Nuclear Med PA
Anesthesia
ARRT RT (N)
Certifications
Laboratory
Post Retirement Education
AM. Nuclear Society
Preventive Medicine
Informatics

IT Management
Nuclear Physics
X-ray or Master's in Healthcare Management
Finish my math degree
More science degrees
Cover more symptom and Diagnosis
Physician Board
Skills courses
SDMS
In Art Education
Bachelor/Master's
Refresher Course
May be but not sure. May be art/painting
Spect Imaging
Teacher
Physics
Cross-sectional anatomy & CT Physics
Medical Technologist MT (ASCP)

Q.B.5a. If no, in what areas was your nuclear medicine education program deficient? (Other. Please describe. ----)

PET Scanning / PET/CT / PET & PET/CT (3)
Clinical hours / Clinical (2)
None (2)
PET (2)
Cardiology, EKG / Cardio-EKG training (2)
Continuing education
Hands on
Instructor's equipment
Operating different brands of scanners
Graduated in '87
Cross-sectional anatomy
Computer hardware
Image Interpretation
More complete user information
Nuc. Study Processing
Thyroids & Therapy
NRC Regulations
Renal Nuc. Med. Not enough education in this area. Too few examples of +ve scans in all areas
Radiopharmacy
Pharmacology
Patient care
Billing
Physics
Clinical Instructors college program with 1 clinical instructor. Use NM Techs as clinical instructors
Competent professional instructors
Spect
Exam procedures
Not employed in Nuclear Medicine
Scanning techniques
Proper techniques for moving patients
Grad 1993-program prepared me very well
Ergonomics

Q.C.2a. If yes, what certifications do you currently hold? *Please mark all that apply.*

(Other. Please describe. ----)

Bone Density / Bone Densitometry (10)
NCT (9)
PET (6)
CRA (6)
CMA (3)
LPN (3)
Phlebotomist / Phlebotomy (3)
Fluoroscopy (2)
NMTCB (2)
CNMT (2)
RVT (2)
Med. Tech.
ASCP
MT, ASCP
Respiratory Therapy
Cert. Eye Bank Tech; Tissue Bank Special.; Surgical Tech. National Board
Limited license Thorax
Surgical Asst.
RPAC
Medical Health Physicists
CPC? Coder
Pharmacy Technician
MT (ASCP)
Cardiovascular
EMT-Basic
CPhT
ABR
R.D.C.S.
Acupuncture & Massage
RT Limited Dexa
CVT
Limited RT
MS in Biology
Nurse Practitioner
CDT (Bone Density)
BMD
CCRC-Clinical Research Coordinator
NRRPT
AART
EMT
ARDMS Sonography
Radiation Therapist
PCT
Echo
X-Ray supervisor, operator, permit chiropractic
Radiation Therapy Medical Dosimetry
RVT. Sonography with ARDMS for ABD.OB.
Massage Therapy
DO
Medical Physics
ASCP
MN X-Ray Operator
ECF Tech, Phlebotomist
RVT Vascular Tech

CAN II
Nurse Assistant (NA)
Radiation Therapy RTT
Monitor Tech
ARRT (QM)
CPR Instructor MT
CAN
Physician Assistant
RCIS
CHUC
Massage Therapy
Limited Radiology
PET Registry (NMTCB PET)
None
YOGA- (AAAI-ISMA)
RT®
CHP
EMT-P
Therapy
Dental
MT (ASCP)
PET/CT Temp State
EMT
Pharmacist
Fire Fighter EMT
DPM, Foot + Ankle surgery
Pharmacy
Radiation Therapy
None at this time; used to belong to SNM
S.C. Radiation Quality Standards Association
Physician Assistant Endocrinology
Alternative Medicine
Rad. Therapy
BA? Health + PE
Limited RT (DXA)
Lab Tech CLA
ABSNM
Licensed Medical Physicist
ABR, ABMD, Diagnostic Imaging Physicist
CNMT & CDT- Bone Densitometry
DEXA-Bone Densitometry
Vascular Tech., CT, QM
State of Maryland
HP
EMT/LPN
Medical Assistance
Lab Animal Technologist
Exercise Physiology B.S.
ARRT (QA)
Not Current

Q.C.4. To what professional associations do you belong? *Please mark all that apply.* (Other. Please describe. ----)

American Registry of Radiation Tech (ARRT) (23)

None (17)
NMTCB (13)
Health Physics Society (5)
CNMT (3)
CAMRT (2)
AzNMS (Arizona Nuclear Medicine Society)
RMNTA
AHRA
GYNC-TS and LISNMT
Florida Society of NM (FSNM)
South Florida SNM Tech.
FNMT
ASCP
MSRT-Mass Society Rad Techs
Mobile PET/CT
KSNMT, Kentucky Society
Georgia Society of Radiologic Technologist
Jacksonville Society of Radiological Technologist
AAMA
SDMS
WSNMT (Wisconsin Society of Nuclear Medicine)
SOMS SUT
Rocky Mtn. Nuclear
ARRT, CNMT
Local Chapter
FNMT, FAAPM, NMTCB
ARRT, California & Local chapters in radiology
AHIMA
NMTCS
SDMS, LARS
Local Chapter of NMTs
SDMS
PET Provider
American Society of Echocardiography
ASE
Garden State Society of NMT
AAPM+HPS
ASE, SDMS
NCCAOM, AAOM, ABMP
GSSNMT-Garden State Society of Nuclear Medicine Technologists
ASCP
WSNMT (Wisconsin Society Nuclear Medicine Technology)
American Society for Clinical Pathology
SCSNM
ANCC
F.N.M.T.
ASNM
Alabama Society of Nuclear Medicine
CAMRT
SCSNM
ACERT
ISCD
RMNMTA
ACRP
CSRT
SDMS

STNGONMT
MGMA
ASCP
NRRPT
ASCP
SDMS
WSRT
Florida NM Association
DIA; ACRP
ASCP
ACSM
MDCB
AART
State-LSRT
State Society
Florida Association
ARRT (American Registry of Rad Techs)
ARRT, LSRT, NMTCB
Health Physics
AANMT
ARDMS
WSNMT, WSRT
CMART (CANADA)
AAPM (American Ass. Of Physicists in Medicine)
Local chapter
ACHE
Minn. Society of Nuclear Medicine
OVSNM
Local, State NM Assoc.
Local Society
SCSNM
None $
South Florida Society of NMTs
SDMS
AERS
AACN
SDMS
Foreign MD Organic
AMTA
HPS
ACRT
SMRT
AAPM
Philadelphia SRT
None, will join SNM after marriage
Currently none
Garden State SNM
Ma Soc Rad Techs
South Florida NM Society
WSRT
TSNM
Soc Diagnostic Medical Sonography
FNMT (State)
FNMT
FNMT (Florida Nuclear Medicine Technologists)
ARRT, NMTCB

American Chemical Society
Garden State Nuclear Medicine Technologist Association
AAPS (Pharmaceuticals) ISMRM
SFNMRT
N/A
ARRT, NMTCB, ARDMS
Numerous surgery related
USRT
SCSNM
CST & SDMS
Local society chapter
NC.SNM
Local cent. Ohio Society Nuc. Med
ASRT American Society of Rad. Tech.
AAPA
Sigma Theta Tau
ARRT (N)(MR)
ARDMS
SVT
AAPM, HPS, CRCPD
CT Society of radiology technologists
State Chapter
Wisconsin Society Nuclear Medicine Technology
ARDMS
Florida NMT
ISCD
Rocky Mtn Nuclear Medicine Technologist Assoc. (RMNMTA)
American Society of Training & Development (ASTD)
SNM NE Chapter
NBTCB
ARRT, NMTCB
Florida Nuclear Medicine Technology
GSSNMT
Private Office
Rocky Mountain Nuc. Med Tech Assoc.
SMRT
OVSNM-Ohio Valley
AERS
SNMFT
SFNMT
SFNM
NYSNA
Garden State Society of NMTs
Local Chapter
RMRIT
NCT, CT certification
Houston Technologist
SDMS - Society Diagnostic Medical Sonographers
SNM Tech Section
FSNMT
SCSNM
Local N.M. Chapter
SNM SW Chapter

Q.D.3. In what settings do you currently work? Please identify your primary work setting where you work the most hours and one secondary setting if applicable. (Other. Please describe. ----)

Primary

VA Med Center
University
Bracco Diagnostics-Applications
PET/CT
Cardiology Office
Siemens Applications
Travel Tech.
Compounding pharmacy
Free Standing OP Radiation Therapy Center
Family Care
Vendor
Traveler
Applications Specialist
VA
NM Applications in various areas
Director of Nuclear Medicine for output clinics (13)
RP Sales
College Health Center
Nuclear Power
Physician Practice radiology
Retired
Manage mobile imaging modalities
University
Mobile PET Imaging
College
Hospital, Clinic Private Office
Non-Medical
Physician Office Private Cardiologists
Education

Secondary

Office
Currently unemployed
ACR
Education
Patient's Home Visits
Government regulation
Sales
PET Fusion, PET/CT Center
Cardiology Lab
Fitness Center
Home based Business
Comprehensive Cancer Center
Federal
Radiopharmaceutical
VA Govt. Setting

Other

State Govt
Contract Service
Lecture at cont. ed.
ARRT
1st year intern

Not currently working
Orthopedic
Registry Exclusive with one institution
NM Registry

Q.D.4. Please describe your department in your primary workplace. (Other. Please describe. ---)

Mobile PET Unit / Mobile PET / Mobile PET/CT, PETCT (14)
Clinical Research / Medical Research / Research-All modalities included / Research (5)
MRI /MRI dept. (5)
Sales / Marketing / Sales & Marketing (5)
Education / Education Program (4)
Mobile / Mobile Unit (4)
Ultrasound Department / Ultrasound (4)
CT Center / C.T. Dept. / CT (4)
Academic / College (4)
Dr.'s Office / Physician's office/ Cardiology Office (3)
Radiopharmacy (3)
Sonography (2)
Radiation Safety (2)
University (2)
Industry (2)
All of the above (2)
Radiology (2)
Accreditation
Application specialist
Brachytherapy
Cardiology Office
Compliance Audits
Community College
College Nuc. Med. Program
Corporate
Customer Support
General Office
Independent service provider
Mammography
Mobile Nuclear Cardiology
Mobile Radiography + Cardiography
Mobile imaging
Mobile Digital .we take out nuclear med. Center with us each day.
Mobile for Internal Medicine Doctors
Nuclear Stress Test LAB
Nuc. Cardiology
NM Applications Support, Philips Med Systems
Private office
Radiology Management
Radiation Society
Physician Assistant - Interventional PA in Management
Temp-Changes Daily
IT
Multimodality Imaging Center
Nuclear Medicine Pharmacy
QA+RSO

Oriental Medical
NM & PET Mobile Units
N.M. In Lab
Geriatrics
Nuc. Med in Cardiology Center
Surgery
All TAAT contain PET/CT scanners
State Government Office
Government
Ultrasound Program Chair
Radiation Oncology
Commercial Com.
MRI/CT/X-Ray
Auditing
NMT educational program
Radiation Therapy Medical Dosimetry
Unemployed
Breast Screen & Diagnostic Center
LSRT
Nuclear Medicine in Radio. With high volume cardiac and 2 Pet Cameras (Cardiac/Oncology)
Psychiatry
Educ. Institution
Medical Physics
VBA
Work in Nuc. Med Dept in Cardiology Dept & Cardiology Centers and Nuc. Dept.
PET & Nuc. Med Mobile Unit
Nuc. Med/PET Center
Physician Office/Private Radiologist, Technology Company
Diagnostic Imaging
Imaging Center
Siemens Medical Applications
IT
Radiation Therapy
Radiology Education
Radiology Information Systems
RIS/PACS Admin
Bedside Portable
SFSNMT, FSNMT
Radiation safety officer UMC - Columbia
Vendor
Nuc. Med and PET in multimodality Radiology Office
Part of a College of Health Sciences
Varies
Pharm Sales
Commercial Rep
Sell Radiopharmaceuticals
Field (Travel)
CAT Scan
Information Systems
Nuclear Med in Cardiology Center
Corporate Office
Application Specialist
Nuclear Cardiology Dept.
MRI/CT Imaging Center
Cardio-Pulmonary Testing
Staffing org. We do NM Cardio, Output Rad. Hosp.

Cancer Center
Rotating between Cardiology & Regular
Clinical Sciences (Imaging)
Clinical Education
Clinical Education, PET/CT
Clinical Application
Clinical Specialist Field Support EAST COAST
Department of Finance
Micro PET Research
Compounding pharmacy
Private Office Cardiology
OEM
N.M. dept. in Rad. Dept.
First job not in medical field
Oncology Center
Breast Care Center
Rad Oncology
PET/CT Dept. in an OP Imaging Center
PET/CT & MRI
PET Center
W/PET/CT
Company Providing Turn Key Operations
Physician's Office-Ultrasound & Bone Density
Dept Split between 2 areas (Nuclear Medicine Center in Rad. Dept. and Cardiology Center)
Dental CT Cone beam
Relief Tech
Inspection
Learning & Development Human Resources
Pharmacy System
Stand Alone Nuclear Cardiology Dept
Nuclear Medicine Technology Program
MRI/CT
Business owner Dancewear
Full time Sonography

Q.D.16. What kind of procedures do you routinely perform in your primary employment site? *Please mark all that apply.* (Other. Please describe. ----)

PET/CT (17)
Administration / Administrator / Administrative (12)
MRI (7)
Sales (7)
Educator / Education (6)
DEXA Scans / DEXA (5)
Sonography (5)
Research / Research PET (5)
CT (4)
Plain X-Rays / Chest X-Rays/ X-Ray (4)
MRI/CT (3)
Bone Density (3)
Mammography / Mammograms (3)
Manager / Management (3)
Manufacture RP / Manufacturer (2)
Blood Volume & Schilling Tests / Blood Volume Analysis (2)
Health Physics / Health Physicist (2)

Infectious Imaging / Infection (2)
In Vitro / In-vitro work as well (2)
Radiography (2)
Radiation Safety / Radiation Safety Officer (2)
Radiation Therapy (2)
Thyroid Scans / Thyroid Update (2)
Ultrasound (2)
Bone Densitier
Some Bone Density
Bone Density (DEXA) Scans
MRI, CT, X-Ray
Health Physics
PET/CT + CT
PET & PET/CT
PET/CT-Oncology
PET
SPECT/CT
MRI/PET/CT
Rad; MRI, CT, US, Mammography
X-Ray/CT
X-Ray; Mammography
Medical Physics
Thyroid Ultrasound- Bone Density
Clinical cons.
Blood Volume
Endocrinology
QC; Licensure rad safety committee
Apps & Tech Support
I am administrative
Dexa Bone Density, CT
X-Ray, Sono
Medical Research
Brachytherapy
No Procedure
Research + Bone Density
Program Dir
Neutro Spec Scans
Computer
PACS
Non-Medical
Audits (Nuclear)
Pharmacy
Product development and support
Accreditation
QA+RSO
Acupuncture
Compliance Inspection
Imaging Core Lab
Prosta, Octreo, MIBG
Double Blood Volume
None
DNA
RIA
Oncology Non-image.
Brachytherapy
Mobile Modalities, US, CT, MRI, BD

X-Rays
Corporate Camera Company
QC, Health Physics
PET/CT & general NM at our other site
Gallium Scans
Echo
Auditing
Medical Dosimetry
Radiology Technologist
Radiology
Radiopharmacy
Sell Radiopharmaceuticals
Radiopharmaceutical & WBC tagging
Radiographic Procedures
Radiopharmacy-distribution- WBC labeling of Radio pharmaceuticals
Inject all PET exams, All PET QC waste management
Renal/Thyroid/GA67
Dept. director for Diagnostic Imaging
Temp
Non Imaging
I am a Physician
Therasphere, SIRSPHERE
Not a clinic
u/s
Clinical Coordinator
Stress testing
Nuclear Physics
Veteran Benefit
Research/Teach
I train technologists in General Nuc. Med and Cardiology
QC, QA, ETC
General Radiology, CT
Training
BMD Scans MRI
PET & PETCT Pharm Sales Marketing, Business Development
Analyze/Process Clinical Trial N.M. Data
FDG
IT System Admin.
Bone Mineral PET/CT, Antibody Imaging
RIS/PACS Admin
Fulltime RN, PRN N MED
Echo/carotid Ultrasound
Pediatric Imaging
Bexxcr, new experimental procedures
Education RAD Tech Program
I-123 Thyroid
Technician
Vendor
Treadmill Unit
Therasphere Research; Epilepsy Research
Teaching
I am a special procedures tech also
Information Systems
Clerical
Echocardiograms
Changes

Compounded prescriptions
Nuclear Pharmacy
Thyroid Ablation I-131 Therapy <30mCi only
GFR Kidney
Hida CCK
BEXXAR
Presently I work as an Orthopedic Assistant
Brachytherapy
Assist with Therapy as RSO
Applications for cardiac PET
Physicist
Dental CT
1) Endocrine imaging; 2) Teaching NM Staff, Technologists
Teach, X-Ray
Inspection of facility
Dx-X-R
Training
Hematology
Pediatrics
I-131 Therapy
Educational Program
Primary not Nuc. Med
Supervisor
RND
A lot
Nursing
CT/Sono; X-Rays & Mammo
Computer Conversion
None
Spect CT
VQ Scans
Diag. Routine X-Ray

Q.D.17. Please indicate your current job responsibilities (not including clinical services). *Please mark all that apply.* (Other. Please describe. ----)

Staff Technologist / Staff Tech (15)
Lead Technologist / Lead Tech (11)
Technologist / Tech (11)
Sales (8)
Application Specialist / Applications (6)
Education / Educator (6)
Imaging / Technologist-Imaging / Image Processing / Processing Images (6)
NM technologist / NM Tech / Nuc. Med. Tech (5)
Echocardiographer / Echo / EKG's (4)
Owner (3)
Safety Committee / Safety Officer (3)
Administrator (2)
Chief Tech (2)
Staff (2)
Scanning / Scanner (2)
Rad Tech / Radiology Technologist (2)
Therapy / Therapist (2)
Marketing (2)
Preceptor (2)

Management (2)
Nursing / Nursing Duties (2)
Radiation Therapy (2)
Scheduling (2)
Sonographer (2)
HAZMAT TEAM
Senior Tech
Chief Tech + RSO
Lead PET Tech
Lead Research Tech
Team leader
Asst. Chief
Dept. Head
Supervisor Lead Tech
Sales Rep
Sales, marketing
Sales, Marketing PET Tracers
Sales Engineering
Marketing/education
Sales/Educ
Independent Contractor
Secretary/part time
Sect/Scheduler/Receptionist
Scheduling
Scheduling 2 day pts.
Scheduler/Payroll
Payroll
Receipt & Disp.
COO
Retired
PET/CT
PET/CT Fusion
PET & PET/CT Imaging
PET/CT Training
PET/CT Specialist
PET/CT Technologist
In charge of lab
Lab manager
Supply ordering for radiology
Research Technology
Apps & Tech Support
Product support
Customer Support
Support Services
Gamma Camera Product Manager
Medical Research
(Room Monitoring) Survey
BLS instructor
Supervisor of CT, Stress Lab, Mobile
Business Development
Data Analyst
Compliance Inspection
Health Physicist
All- Only Tech
Temporary Tech
CT Tech

I.V./Nuclear Tech
Accreditation
Nurse Practitioner
RN
PRN
RSC Chairperson
Technical Director for ICANL for 3 Sites
Rotate NM CT MR
Quality Assurance
Medical Dosimetry
Run dept. on weekends
START N's
Diagnostic CT's
MRI Technologist
Physician
DEXA
Trainer
Voice Coordination
Day to day coordinator
N.M. Coordinator
Research Coordination for Nuc. Med.
Regulatory Compliance
All as are necessary
Service rep
Doses scheduling & ordering
Doing patients
Clinical Specialist
Call
Power user of PACS
Analyze/Process Clinical Trial NM Data
Supply/PACS
Fulltime RN, PRN N MED
Archiving Inventory
For 5 yrs. CT Tech. Now
Vendor
Philips-PET/CT Clinical Education Specialist
General Nucs
APPS. SPEC.
Vitrea
Slave
Product Director
Rad Therapy Director
Radiology Director
Program Director
Technical Director, QA
Product Development
New product development marketing
IT & Marketing
Research & Dev
Tele-imaging Admin.
None
Clinical Consultant
Changer
ICANL
Tech II
NM Tech II

Student Manager
Do NM Studies
Draw Blood
Technical
Everything technical
Technical Director
Sharps/H & S
Physicist
QM-RA
Application/Clinical Rep
Apps. Training
Training Nuclear Cardiology
Training/Start up Consultant
Patient Counseling
Scan Patient, Inject Patient
CRA
Ordering, Procedures

Q.E.1. Did you work in another career prior to working in nuclear medicine? (Yes/No);
Q.E. 1a. Was this career a health career?
Q.E.1b. If yes, please describe your previous health profession. (Other. Please describe. ----)

Pharmacist / Pharmacy / Hospital Pharmacy / Pharmacy Tech / Hosp Pharmacy Technician (11)
Med Asst / Medical Asst. / Medical Assistant (8)
Secretary / Secretarial / Med. Secretary / Medical Secretary (6)
Hospital corps manag. / USN Hospital Corpsman / Hospital Corpsman / Corpsman (5)
Nurse's Aide / Nurse Assistant (5)
Medic (4)
EMT (4)
Hospital's radiology unit clerk / Unit Clerk / Hospital Clerk / Clerical (4)
Exercise Physiology / Exercise Physiologist / Exercise Physiologist - Cardiac Rehab (3)
Dental / Dental Assistant (3)
Med Sales / Sales (3)
Office Management / Med Office Admin. (3)
Ultrasound / us (Ultrasound?) (3)
Physical Therapy / Physical Therapy Asst. / Physical Therapy aide (4)
Animal Health / Animal Care (2)
Biomed Engineering / Bio-Med (2)
C.T. Tech (2)
Cardiac Tech (2)
MD (2)
Resp. Therapy / Respiratory Therapist (2)
Mental Health (2)
Research (2)
Recreation Therapy / Recreation Therapist (2)
Bioengineering / Engineering Med. (2)
Medical receptionist / Receptionist (2)
Public Health (2)
Lab Assistant (2)
Radiation Safety / Rad. Safety (2)
Sonography (2)
Research Lab Tech / Research Tech. (2)
Psychology (2)
Student
MD (Foreign)

MD in Russia
Cuba MD
Medical Doctor in India
MD from Ukraine/Physician-infectionists
Medical Physics
Teacher
Went directly from Rad. Tech to Nuc. Training
Radiology Tech Assistant
See before
Density
U.S. Navy Corpsman
Tech/Unit Manager
RD
Health Unit Coordinator
Pharmaceutical company
EMT-P
Drug/Alcohol Counseling
ENT
CORT
Consulting
Hosp. Security
Medical Billing
Exercise Specialist
Army Medical Administration
Contract Research
Research Chemist
Cardiology Dept.
Mammographer
Chiropractic
Occupational Hearing
Vascular Tech
Sales Rep
Paramedic
High tech manufacturing
Clinical
CHUC
Army Combat Medic
Navy Medic
Finance
NM Physician because in Azerbaijan
Radiological Control: Shpyard
Drafting
No previous Health Profession
Scrub tech, purchasing agent for hospital, transcription
Pharmaceutical Research
Med. Assistant Clinical Instructor
PA, Legal Assist
CMD
Aid/OR
Industrial use of Isotope; Research in Atomic Energy Plant
E.E.G.
Rad Therapy
Health & Phys. Ed Teacher
HIM
Cath LAB Tech
MRI Tech

Monitor Tech
Radiopharmacy Tech
Ophthalmic Tech.
Endocrine Tech
GI Tech
ER Tech
EKG Tech
Ortho Tech
Care Tech
CAN, Home health
Manager
Health Inspector
Retail
CMA
Entertainment industry
Computer specialist
Engineering
Physician
US Army Medic
Medical Technologist MT (ASCP)
Nursing Home Assistant
Per fusion
Surgery
Surgical Asst.
Optician
Dialysis
Phlebotomist + EKG Tech
Phlebotomist
Microbiologist
Welder

Q.E.2. How did you develop an interest in nuclear medicine? *Please mark all that apply.* (Other. Please describe. ----)

Friend / Friend recommended / Friend's advise / Friend's Referral (9)
Financial Benefit / Salary Scale / Pay / Money / Increase Pay (6)
Volunteer / Hospital volunteer (5)
Friend told me about Nuc. Med. / Heard it from a friend / Friend talking about the NM medical field (4)
While in X-Ray school / Elective in X-Ray School / Rotation during X-Ray School (4)
US Navy (4)
Job Opening / Job opportunity / Job Availability (4)
Friend was a med tech / Friend was a Nuc. Tech / Friend was an X-Ray Tech (3)
Toured the new Nuc. Med. Dept. while visiting the Radiologic Tech School / Saw during tour of Radiology Dept. (3)
Pure Chance / Found it by chance / By Accident (3)
Career/College Fair (2)
Unemployed / Needed a job (2)
College roommate
College friend was enrolled in a certificate program & spoke to me about it
Friend in N.M. School
School visit with clinical instructor
Rotation through nuclear in RT Training
Short rotation through Nuc. Med during Radiology training
While in Rad Tech Program I had a rotation in Nuc. Med & loved it.

Within Rad. School spent time in Nuc. Med
Academic classes and rotation through department as a radiology students
Was a required rotation in rad tech school.
Discovered Nuc. Med in Rad. Tech School
In Rad. Tech. School
Took a tour at a Hospital & liked the work being done in NM
Volunteering Pre Med
Volunteering at a hospital during high school & seeing NM
NAVY Hospital corpsman
US Army, Walter Reed Hospital
Naval Nuclear Power
Orientation at college
College catalog
Career day @ SLU
Job shadow program
Health Science Orientation
Introduction class provided by University
Career Night
Career counselor
Employment agency
Job with long-term job security
Job Advancement
Analyzed Job Market
Wife read about NM being in demand
Recommendation from my sister
Cousin is a Tech
Both parents are technologists
Family Friend ran a school for Nuc. Med Technology
Magazine Article
Read an article
Research after reading a newspaper article
Personal reading, became aware of opportunity
Read about Nuclear Medicine in a career book and went to school for it
Own research
Research into health profession
Researched Internet and stumbled on NM
Wall Street Journal
Personal Research
Saw an ad
Exploring Healthcare Professions
Had a NM test
Being a patient as a child
Personal injury
Son was very sick
Auto accident, had a brain scan
Wanted a change
Will to change
Hated X-Ray
Hospital asked me to
Working as MT. Supervisor asked me to do nuclear medicine
3 years prior experience in NM
Technology
In degree program
Manager Previous
Hypothyroidism at the age of 9 yrs
CA/Viral Technologist

My BS major in Physics
Radiologic Clinicals
Dr.
Recruited by Dr.
Asked to work in N.M. by Physicians
Recruited by south central PA School of Nuc. Med. Tech. Director
Advertisement
Advertisement / Interest
TV
No Weekends
Visit to hospital
ROTC
Radiology School
Desire to work in Healthcare; NM vs. Patient
Internship
Asked by radiologist if interested in training
Had to start NM Dept. at job
College study
Did not want to loose my radiology training. No openings in X-Ray at the time.
Research Paper
Nuc. Med Tech
Coworker
MDs
Minority Enrichment
Asked questions of 2 clinical sites
Program Director
Interest in medicine
Interest in PET
Interest survey bore out interest in medical field
Interest in computers
Interest in Chemistry
Pamphlet
Sounded interesting
The course looked cool
Library
Book. Brian's Song
Asked by Chief Tech X-Ray
Reference from another tech
Lab tech told me about it
Advice of a coworker
Emigration
Drafted by Director of Program
Chose it and made it work
OJT Training available
Anthropology
Cross training was necessary to avoid loosing my job
Online
Chemistry degree and interest in Radiopharmacy
Granfatker Program
Chemistry Instructor
NM/US Fulltime for 16 yrs
Specialized
Too old for med school
They needed a tech and I was put in NM
Local hospital advertised: pay for schooling living, expenses & Salary
Looking for something medical, thought it sounded interesting

Sounds Interesting
Sounded/looked interesting and I wanted to work in health field
The college was offering and I thought it was new
Wanted something lucrative in health care that I should train for in 2 yrs.
2 yrs tuition paid by government
Scholarship
Human Resource Dept. at Hospital
Pre-pharmacy student
Was in nursing changed to NM
Demand
Did RT, R+N, then ultrasound then Nuclear Med again
Knowing need for this service
Grant USPHS
Waiting for reply from grad school & med school
New modality; new equipments where I was working
Worked VA Hospital; New Field- got in on Ground Floor
Hired for on the job Nuc. Med Tech with Medical Technologist Training
Radiology Technologist recommended it.
Application related
Less labor intensive

Q.E.3. Please indicate your future work plans for the next five years. *Please mark all that apply.* (Other. Please describe. ----)

Seek Director Position/Exec Management/Management/(Manager/Director)/Get more into hospital management (6)
Undecided / Somewhat undecided / Not sure / Don't know (6)
P/T Raising child / Indefinite Maternity Leave / Stay home with kids / Stay at home (4)
Learn (PET/CT) / (PET/CT) Training / Train in (PET/CT) (4)
PET/CT (4)
Continue Education / Further education (3)
Retired 2001 / Now Retired / Retired (3)
Administrator / Administrative / Move to administration (3)
Return to Nuc. Med / Train to further skills in NM (2)
Medical School (2)
Went part time / Part time (2)
Plan to be traveling tech. (2)
I plan to get certified in PET and CT / PET Certification (2)
Sabbatical to learn PET or PET CT/Specialize in (PET/CT) (2)
May retire in 3 to 4 years
Retire if I can. Make $20K/month from Investments
NM Practitioner
RPA Program
Biotechnology
Schooling
Bi-vocational Pastor
Get PhD
It could be all of the above
Medical Physicist
I expect to pass MD exams
Attend grad school
Start business
Pacs Administrator
To be full time RN
Recruiting

Continue ultrasound
Not currently working or planning on returning
Remain unemployed
Recently married. Personal changes require professional changes
RIS/PACS
Applications
Radiology Management
Management/Apps Training
Educational Program Management
Marketing or Applications
Medical Coding
Work in/start a part-time business
Return to workforce after children
I may start teaching High School Mathematics
Advanced Nuclear Med Education
Do PET/CT imaging
PET/CT Clinic
PET Scanning
Explore PET
Learn SPECT/CT
PACS/IT
Radiology/PET/CT manager
I expect to add CT to my daily activities
Cont. to promote Nuc. Med. Through my surgical specialty
I am presently semi-retired
Stay in Rad Tx.
20% Nuc. Med; 80% Parkinson's Research
Bachelor
I will be starting Radiology Residency
Medical Residency
Attending PA School
Go back into the industry Full Time
Plan to return to clinical Nuclear Medicine
Plan to work more hours in NM
To incorporate nursing with Nucs
Work in N.M. to pay for future schooling to leave N.M.
Physicist
I am Disabled
RA-RPA
Promotion
Pursue RA Degree
Travel
Add echo
Equipment sale for Nuc. Med
Teach in Health care
Pediatric Super.

Q.E.3a. If you expect to leave nuclear medicine, please describe your reason.

Retire / Retirement / Retired (25)
Retire ASAP / Will retire / To retire / I plan to retire / Retires Jul 1, 2005 (5)
Old Age / Age (4)
PET/CT / Move up to PET/CT / Moving from nuclear medicine to PET/CT (4)
Am retirement Age/Retirement when reach age requirement/Plan to retire at age 62 and 1/2 or earlier (3)
Possible retirement / Retirement - limited opportunities (2)

Time for a change (2)
Retirement to ride my horse and play with my 11year old daughter
Pre-Retirement Changes
Only when I retire
Full Pension @ age 65
My husband and I plan to retire in 2009.
Officially will retire in 2 years, but plan to continue under hire-back policy
Retire when I reach 60 years old.
Age, And after 40 years, I am tired.
Age, unable to continue with lifting patients

I am close to retirement, so I will look for less physical stress career. Or I will stay PRO (Part time) in N. M.

Want more of a challenge
Not Challenged, Pay
"New Challenges"
Thinking of something new. Being on feet too much.
I want to pursue a different career
I want to learn something new, I am bored.
Change of interest
Pursue another interest in the medical field
Need a change
Need more
Respect and reward
I'm ready for a change, and tired of working with radiologists.
Call
Tired
Burn-out: Good Field but ready for a change.
Burnout and other financial opportunities
Too many call hours. Work holidays, weekends, and nights.
Too much stress for 20+ years
Too much call, stress, overwork, under paid
Call Burn out
Call is the most negative aspect of my job
Too much call
Demands of Call, Staffing
Hospital hours & Pager duty
Further my degree
Back to school to become a doctor
Going back to Medical School
Left NM for the call and further education in medicine
Want to pursue a medical degree
I plan on going to Med School and eventually become a Radiologist
I am pursuing management position- either in Nuclear Medicine or another healthcare position.
To go into Administration as manager of an outpatient imaging center
Move to an administrative position
Career path to executive leadership
I would like to go on into Management within the hospital
Moving into an Administrative role
Teach High School Science
I am currently be certified as an elementary teacher
Dead end job
Jobs not available in area
No opportunity for growth. Job not filling.
Lack of salary, lack of respect, lack of growth potential

Decline of job opportunities
Possibly considering leaving due to job shortages in my area although I love nuclear medicine.
Because I don't like how medicine and procedures are based on the almighty dollars. Do more patients and cut corners on protocol to make more money w/o regard to quality of results.
Difficult Day Care possibilities, Physically demanding, not flexible, no advancement in sight.
Injury to ankle, cannot stand for long hours.
I retired this year because of Medical Reasons
I severely injured my back on a patient and am on disability and will never be able to perform in Nuc. Med. Again
Exec Management Promotion
Health Issues
Ready to do something else. Job is physically demanding with a heavier population…danger to my health, esp. my back.
My disability wouldn't allow me to work full time.
Have developed passion that I want to pursue
Opportunity to run family manufacturing business.
Very please to own a small business
If I leave it would be to pursue a personal goal of self employment involving animal day care.
Want to focus on Real Estate Sales. Company was becoming too much about $ vs. Patient care. Not what I enticed into healthcare for.
Not enough time allowed to provide care. Financial priorities over taking patient care priorities
The Federal government is going bankrupt and will not be able to fund healthcare. Salaries are already shrinking. I am learning farming.
Real Estate, want to be my own boss-Work my own schedule less hrs
Work in Ministry
Becoming an RPA allows me to advance professionally, educationally and financially
Biotechnology, sales & Marketing
Hospital VP
Other Opportunities
I hope to always work in both Nuc. Med. & Resp. Therapy
I am studying for the ECFMG (Medical Doctor Lic.)
Can’t support family on the salary
Low pay for the responsibility
Same industry but different coding consultant
I left NM in 1986 to pursue Sonography due to changes in lifestyle and low NM morale in worksite.
Open a Nursing School
I will do Healthcare (Communication) Consulting
Raising a Family
Starting a Family
Children
Need a career that is more conducive to family
Family responsibilities prevent full time work at a distance from local area of home
The hours of Nuc. Med are not conducive to family raising (e.g.: Call)
Not family friendly. Either requires call, long hrs & weekends, holidays
Receiving Medical Physics degree
I would like a fixed site rather than mobile
I like to work in the radiation oncology department
I do not want to work with radiation forcer. Also I would like more room for advancement. PA school
Possibly return for Nursing someday. Sounds interesting to me.
I would like to be a full time Registered Nurse
I have done everything. Somewhat boring
Prefer corporate/business
To advance my education I will leave Clinical routine Nuc. Med, but continue in Nuclear field of Oncology as a Medical Physicist
Echo Cardiography
Currently staff Sonographer
Currently teaching + coaching as strengths/conditioning specialist at University

Lack of financial incentive to advance. Insight and experience through additional accreditation is not appreciated.
This area is extremely "flooded" with nuclear medicine techs.
The future of Nuclear Medicine in Louisiana is too uncertain. I am a highly skilled administrative assistant
I am also interested in PET
I expect nuclear medicine to continue to be a dept. for which I have director responsibility
Project Management for Information Systems
Potential for other medical sales
To be an optometrist
New career- Disaster Management
Have already left- Veteran Benefits-
Have already put 31 years in the profession, time to move on.
Currently I cover some call in NM but will be trained in MRI
Technologist Physician interaction
Moving to a bigger city
Personal reasons to move to different community, not job related.
Decrease in benefits. Not enough balance between work and family life.
I am debating on changing careers. There is so much stress on the job. The pay is not keeping up with all other cost of living.
I am planning to evolve to medical coding working as a consultant for working at home in 2-3 years
Starting Master's of Nursing program for Acute Care NP- left NM related to lack of upward opportunity (except managerial)
Coming back to my major profession
Cannot afford to support a family on a Nuc. Med salary
After 5 yrs or longer I plan to pay off my house and do something else more exciting
Been working out of profession since 2001
M.D.; Leave for medical school
Limited management growth potential
I am a manager for All Imaging Services. I do less and less clinical Nuclear Medicine.
I hate my job
After 25 yrs in Nuclear Medicine, the working environment has declined and no longer supports my philosophy
Without experience jobs not available
I'll be 65 yrs old. Time to go out to Pasture and enjoy fruits of labor
Too much repetition; Lack of opportunity
Want to get into Director Position
I wish to train for a more preventive-oriented profession and record music, which I currently do as a hobby
Want to attend law school and specialize in medical law
Retired from Nuc. Med in June 2005; Now working only 5hrs a week in an orthopedic office
Lack of opportunity for advancement plus Radiation exposure
Only for possible Nuc. Med Mgmt Position
Interested in PACS
I have recently acquired a Master's Degree and plan to go into management or research.
I'm planning on getting a Master's Degree in another field
Plan to raise a family, stay home, change career
Boredom
Ph.D. & MBA pursuit
I have a Master's in Public Health; and would like to pursue this area.
Graduating w/ Master’s, moving into Health Physics Role
Probably will retire within next five years-been in Nuc. Med almost 36 yrs.
Better hours
Job responsibilities developed
Would like to receive MBA in Administration but would continue doing Nuc. Med. once in while.

Full-time Physician Assistant switching from per diem N. Med to Per Diem PA, more $$$
Would like to advance to administration
Unhappy with field & personal aging.
The job is too routine & stagnate, no change or interest from physicians

When I can no longer enjoy what I do everyday.
CT certification in 2005- over 20y Nuclear -will be looking for PET/CT.
Great job offer with Nuc. Med Physician in Research.
I did leave NM because job opportunities were limited in the area I live now. Although, I do maintain my CNMT certification.
May pursue applications once children graduate.
Increased use of AIDs.
Hospital no longer provides services. After 48 years, I've seen lots of modalities.
Pay and additional challenges.
Over committed
Maternity, I plan to return on a part-time/per diem basis as staff tech.
I became a physician but will specialize in Radiology.
Work in Medical Physics-Radiation Oncology after I finish my Master's (3 yrs).
Health Physicist.
I have completed my Doctor of Medicine degree; will be starting residency.
Pursue a field for more money for retirement-> Real Estate.
No Appreciation of hard work (Financially).
Currently in Dental CT, intend to move back to PET-PET/CT when management position opens
Go to management
Lottery Winner
No nuclear medicine work hours available
I want a more flexible schedule. I do not want call anymore. I am beginning to have back problems
Variety
Except to become a radiologist Assistant
Seek position as imaging services director
Physics
I anticipate my position to be phased out.
I hope to use my experience in N.M. to excel & move forward in sales & education
30 yrs in field - time to move on.
NM is very specialized and limited but rewarding. I want to grow by pursuing other interest.
Possibly a different career choice
More interest in Sonography
Conduct within Hospital/Department; Used to more advanced protocols in imaging than offered with current employer.
Poor support from HR & Other Managers
Radiation Exposures & Worry of Cancers
Less radiation exposure better paid (MRI)

Q.E.4. Please indicate any training that will be necessary for you to continue to work in nuclear medicine. *Please mark all that apply.* (Other. Please describe. ----)

None (19)
Keep CE credits / CE Credits / C.E. Units / CE's (6)
CEU's (6)
Continuing Education (4)
Bone Density (2)
Retire / Retirement (2)
Not working in Nuc. Med / Not Working (2)
General CEU's
None other than CEUs
Mandatory CEU's
Continuing Ed credits beginning 2006
CE Credits, Additional School if necessary
Continue Ed for RT
Continuing education in NM

Cont. Ed (CNMT)
Already experienced in PET & CT
None, although I plan to study PET/CT Fusion because I think it is the wave of future
PET/CT on any new scanners
Probably modality involving PET
Other-None
None currently
Pharmacy
Not sure
Computer
Coding
Supervisor of a Nuclear Dept.
Nuclear Cardiology Exam
In-service N.M.
Continuing Education
EKG
Training on new camera equipment
Cardiac CT
Perhaps the cardiac boards
X-Sectional anatomy
Cardiology boards
I stay current
Management Courses
Current credentials
Continue training, 24 credits every 2 years
Prof. Growth
Molecular Medicine
In-company training
Did PET, too much radiation exposure
Nuclear Cardiology
CME Credits
PACS
NCT
SPECT update
HIS/RIS (HIR/RIS?)
Service excellence, service improvement
Neurology for research
ACLS, EKG, Treadmill, Paramedic Drugs
Not planning on any-
I taught all aspects
DEXA
Cardiology Board
Cardiac NM
Administration

Q.F.3a. If yes, please describe those changes. *Please mark all that apply.* (Other. Please describe. ----)

*MRI Heart Scan
*Our outpatient caseload has decreased due to cardiologists opening NM imaging labs in private offices
*Paper work
*New Operating Facilities
*Changes in Requirements
*Too many techs not enough jobs
*Increased Workload

*The lack of purchase of new up to date equipments letting competitors take market
*Organization unwilling to purchase new equipment that we need. Cardiology clinics taking a lot of patients from us.
*Downsizing; not enough techs
*Downsizing Staff
*Downsizing
*Facility Moving
*Loss of patient population. Local Doctors have purchased their own cameras
*Educational Responsibilities
*Reduced hours and staffing causing severe increase in workload
*Radiologists taking away from Cardiologists
*No Call
*Downsizing due to new hospital opening
*New RIS/PACS System
*No cross training for CT
*NM
*Radiologist is in another state
*Time given for patient exams is limited
*Mobile PET
*Less patients & Lower reimbursements
*PRN
*Fewer Exams
*Hurricane Katrina
*Two separate supervisors
*Preparing for JCHAO is affecting our workflow with new higher standards of cleanliness and patient education and injection techniques
*Change in Physicians
*Inexperienced M.D.'s other than Radiologists reading exams.
*Less emphasis on patient care
*NMT required to do Physician & Nurses responsibility with no training or license
*Checking out different Cardiac Radiopharmacy and drug induced stress pharm
*Hospitals in the group are sharing technologist-Resulting in the need for less technologists
*PACS
*More organization
*More students in programs means not being trained as well and technologists are left to pick up slack. *Also some students are argumentative and disrespectful of seasoned techs.
*Opening new clinic
*More contracting consulting techs
*PET/CT Fusion reserved for only two people out of 8 total techs; yet the other 6 are expected to fill in doing PET &/or PET/CT Fusion when the two specified techs are not available
*Departmental issues
*Cost of Registry tech forcing me to be laid off soon. $35 million Budget deficit
*Merging with another hospital. Now rotations to 4 sites
*PACS
*Current Rad. Group retiring. New group will be starting
*Six schools in area
*None
*Day offs, Decreasing hrs, increasing $, increasing workload,
not enough patients
*Cardiologists who own their own equipment reduce productivity in hospitals
*Understaffed
*Will be working and answering to CT techs. Once they purchase a CT/PET
*Military eliminating NMT: hiring civilians
*Staffing Org.; Too many schools opening therefore too many techs, less jobs.
*Lack of department support from Radiology Administration
*The company was bought out by a larger company. They want more for less.

*Working in MRI sometimes takes me away from Nuc. Med
*Reduction in hours
*Cardiologist now reading Cardiacs and demanding a lengthier processing times; (twice if not more) as long to process.
*Increasing workload; decreasing staffing
*When working CT, I work with Radiologists; Only if NMT's are also RT's; This is a positive aspect affecting my work as NMT
*Lack of interest in Nuc. Med Studies from Rads.
*I'm not fulltime; so don't know
*Hiring new grads without any work experience to go and float into facilities
*Radiologists are very inexperienced in Nuclear Medicine
*Cross training to cardiovascular
*Union
*Fusion of CT with Spect Images
*PACS System
*Chest Pain Clinic
*We have always been short staffed
*PET/CT
*More work & less hour allowed to do it.
*Decreased exams required education of FTE
*Less experienced, PR and ancillary personnel working.
*I will be working on getting ICANL accreditation
*Budget cuts- Reduced Staffing
*Radiology new increased department equipment- PAX system

Q.F.6a. If yes, please rank the top three changes in your job that would bring you more satisfaction with 1 being the most important change. *Mark only once in each column.* (Other. Please describe. ----)

1st
No call (9)
New Manager / More real support from my manager / Change upper management/ Management / Better Management / Training management (8)
More Staff / Better Staffing / Additional Tech. Or support staff (5)
Call (2)
Sr. Admin Changes / New Administration (2)
More coworkers
Coworkers
Permanent qualified supervisor
Getting out of increasing management middle
More Radiologists who are interested in N.M. and are educated in the field.
More support from the Radiologists
More Vacation
Adequate workspace
More Oncologic and Neurologic Procedures in this region.
PET/Ct or PET Training
Increased call pay
Less hours, less responsibility, higher pay
More technology
More nursing responsibility
Having Radiologists who like Nuc. Med.
Less RSO duties
Less Travel
Less training
Shorter commute

Driving to closer locations
Realistic Schedules
To purchase a PET/CT
PET/CT Training Program
More procedures
More Qualified Techs
Decrease the amount of travel. Currently I travel out of State very week.
Rules followed
I would step down from supervisor
More honesty in changes to be made, more support for Techs
Better-trained doctors to read NM
Fixed Site
Fair Supervisor
Eliminate Call holidays & weekends
NM Practitioner
Physician change
A competent supervisor who was properly trained in Nuclear Medicine. She was a Mad tech + Cross-trained. A very poor tech.
Nuc. Docs Vs. Rad Docs
Personnel
More balanced = more time for home/family
Opportunity to learn modalities
Hiring Nuc. Med Supervisor
More technological help-more time to spend with patients
Better Benefits- Health & Dental
Better Physician manners
Less pressure to stay to specific number of procedures per hour

2nd

No Call / No on-call / No call in NM (7)
Call (2)
Staff increases
Get a different co-worker
Another technologist on the staff
Less hours, less responsibility, higher pay
Become non union
Less Callbacks
Less On-Call
One more full or part time employee
Less workload
Less travel
Decrease the amount of travel. Currently I travel out of State every week.
Smaller territory
More help
Fairness between Technologists
Cross train in PET, PET/CT
Help with transporting patients
(My changes would involve hospital specific changes- not the field)
Better benefits
CEU's required
More vacation time
As lead tech seeing deficiencies in teammates that would improve with training in personal relations and not getting approval.
Additional technologist
12 Hrs Shift
Less Hrs

3rd

More help / More Staff / more staff to help with workload (4)
Able to hire more staff / Hire Additional Staff (2)
1 more Technologist
Additional help
More competent office staff
More employees
More practice in PET
Non-mobile PET/CT
Perform PET/CT
APET/CT Camera
Less hours, less responsibility, higher pay
More off time
Time for lunch
More respect for Techs.
Larger Department
Less Paperwork
Less call/none
Better call/Beeper monies
Hospital pays for conferences
Improved management/leadership
Continuing Education
More power in my decision-making
More freedom
More time to provide compassionate patient care. Less hurried.
More patients
To work with MD's with more focus on Patient care. Less focus on revenue. "Don't question the ref M.D. order"
More time at new modalities -> PET/CT (future) PET/MRI
Decrease the amount of travel. Currently I travel out of State every week.
Having a Nuclear Physician as well as a Rad.
Better Management
Longer workspace
Hospital money support for further training in multi modalities
Management
Better Management
Less students
Higher demand for my services
M.D. Availability
Management Training
Change of Co-workers
Steadier, less hurried work flow
Floor Plan and Working Space
Better Hosp Administration
None
Less Stressful
More Procedures Ordered
More leadership training
(My changes would involve hospital specific changes- not the field)
Opportunity to instruct others
We haven't had a manager for ~ 1 yr. No one internally wants because of poor treatment of the hospital of managers.
More scheduling control

Pay diff. For B.S. degree vs. 2yr.
Access to more educational credits
Appreciation
No call

No Rank

Less call / Less on calls / No Call / No on call (9)
More Staff / More Techs / More Help (4)
Hire another Nuc. Med Tech
Working conditions
A more controlled environment
Cleaner work environment
More Seminars
Better scheduling of pt workload
Consistent Hrs.
Less-Responsibility decisions
Lower exposure from PET. Better dose sharing with co-worker
Redundant Documentation
More Stability in Person
Regulations with call
Less emphasis on Money
Newer Technology
Want to work part time
More utilization of field & recognition
NMT required to do Physician & Nurses responsibility with no training or license
Better communication
Physician Interactions Responsibility
Job security
More pay
NYS License
To become licensed
More available CE credits
Another Technologist to help
Benefit changes
CT Training
Honest productivity quantification
Do case review research with NM Physician
To focus on Nuclear Medicine only
More Technologists
More respect from supervisor
Pediatrics
Less paperwork

Q.F.7. Please rank the top three reasons why you work in nuclear medicine with 1 being the most important reason. *Mark only once in each column.* (Other. Please describe. ----)

1st

I like the work I do / I enjoy what I do! (2)
Only job I know! / Can't do anything else-stuck- (2)
Feel very competent & comfortable in profession
I like the place & the people with whom I work
People person
Helping people
No choice

No call/Weekends
Research. No weekends, nights or call
Out of health physics field but still in general field of study
Scholarly Activities
Research Opportunities
I do not
Ownership
Pay level
High level of autonomy
Available work/demand for NMTs
Freedom of decision-making
I entered the field hoping there would be work anywhere I want to live
Love Teaching
It is a fascinating field
RIS PACS
Better than work outside in 120 degree heat
Stimulating, Dynamic environment
Not currently working in NM
Live where I want too
Self directed work environment
None applied when I began. Now it's my job.
27 years in this company
Own business

2nd

Working on own
Work Environment
No call
Easy profession
National job availability
Working as a team with my current co-workers
Financial Support for Continuing Education
Very busy
Ability to make an impact on facility patient care
Interesting work/Busy
Job responsibility (traveler tech) fits my lifestyle
Think for yourself
Distance
Patient care
Schooling did not take too long-3 yrs.

3rd

Technology / The evolving technology (3)
Only experience that I have right now / No Other Skills / This is where my skills are / All I know (4)
Helping Patients / I enjoy helping people (2)
Can work independently / Ability to work alone (2)
The research
Co-worker
No call
Nuclear Medicine isn't as rushed as the other modalities
Habit
Interest
Dynamic
Job Security
Job Availability

Working 1 modality in specialized dept.
Longer leaves of absence as contractor
Enjoy scientific basis of nuclear medicine and continual changes that accompany the procedures
Necessity-Single Parent
Need the money
The respect I get from the Radiologists I work for and the MDs that refer to us.
People I work with. Other NM techs
Close to home
High Tech Equipment
Working with pediatric oncology
Ability to learn PET/CT
Sales
Variety
The ongoing changes in the field in many years have kept it fascinating
Industry Opportunity
Not sure of other professional strengths.

No Rank

A lot of jobs
Relater, closer for patient needs. Diagnostic & Therapeutic. Most profession wants
More involved than any other modalities
A unique healthcare/service job
Teaching Responsibility
I love my job, the people I work with & the patients I interact with. I LOVE IT!
Working one on one with patients
Radiology manager
Creativity
That's what I'm trained to do
Interesting
Particular job is great.
Everybody works it to make a living, patients' care is also important
Mortgage payment
No night work

Q.F.8a. If yes, please rank the top three aspects of this job that are dissatisfying with 1 being the most dissatisfying. *Mark only once in each column.* (Other. Please describe. ----)

1st

Call / On Call (22)
Too little Pay / Salary / Inadequate pay / low pay / Pay (7)
Long commute / Commute / Travel / too much driving / too much travel (6)
I have to take call / Taking Call / Being on Call (4)
Difficult Co-workers / co worker / Incompetent managers and Co-Workers (3)
Call time / Call Hours / Night Call (3)
Pressure of the profession / pressured to increase output / High Pressure environment (3)
Radiation / Radiation Exposure (2)
Lack of clerical support / Short Staffed (2)
Late Night Call
Working (call) on holidays
Call & Weekends
Call ins & Call on holidays
Weekend on call hrs. (In addition to 40 hr week)
Night & Weekend call
Call- Night/Weekends/Holidays

Call, weekends, holidays
Supervisor
Supervisor Micro-Managing
Too Administrative
Management needs leadership
Frustration with large academic administrative policies
Not autonomous
The Radiologists do not have much interest or respect for Nuc. Med
Radiology professionals are not respectful
Radiologists not interested in NM, Unlicensed coworkers
Profession help in low regard by Radiologists
Because I am not RT certified I am not valued within the dept.
No Nuclear Medicine Physician for support: advancement
MD Attitude
Physicians are demeaning
Other management is not respectful of my knowledge of what I do vs. opinion of radiologists who hate nuclear med.
No Support from Radiologists
Working with Physicians with poor attitudes
Others do not respect the education associated with NM job.
Dr.'s office ordering wrong procedures or invalid prescriptions
Getting called in or doing scans unnecessarily for things with no merit Dr.s order & don't understand concepts to scans
Often questionable necessity of studies
No opportunity to make a difference in patient care
I manage US+NM. Spend a lot of time managing both
Too much multitasking
Job shortages
The lead tech is hard to work with
The scare of nuclear medicine jobs being scarce
Difficult to get raise and vacation (one man only tech)
Money raises
Technology has become production driven and not patient care focused
Too large territories
NM is being phased out by other modalities
Treatment by NM Physicians
Patient Apprehensiveness
The way medicine is practiced at this facility
Not performance based advancement on time in not ability
Being exposed to Radiation. NMT have high exposure in comparison to all other Diagnostic Imaging Professionals
MD Availability
Too many techs, not enough scans
Crowded, busy workspace
Financial stabilities of this hospital
Clear Advancement Path
Too busy
Having to D CT without Certification (Full Contrast)
Some patients are very difficult & help is limited
Daily maximization of productivity. Essentially a quota system
Supervisor does not enjoy this job
My coworkers lack experience- both are new grads
Misuse of Technology
Working in Nuclear Carsiology waiting for physicians to do stress test!
Time demands of job are great leaving little time for personal & family
Poor working environment
Lack of interest & education from Radiologist
Students have more rights than faculty; Salary

All about number of patients & money
Better Medical Benefits; Better opportunities for CEUs
Equipment Breakdown (Downtime)
Time demanding
Political disputes among techs
Politics-Internal and External
Departmental Politics
I prefer working with patients and now there is too much paper work.
Too many regulations. They make patient care more difficult
Getting stuck with performing job duties that should be done by others in the dept.

2nd

Patients expect you to speak Spanish
Radiation and Biological Exposure
Poor outlook for department future
Work Schedule not flexible
Long hours (12-14 hrs work day)
Company wants us to tell them when to send patients. Stepping on toes.
Call
Too few patients
Poor Radiology readings
Radiologists don't care
Lack of educated and supportive radiologists
Radiologists I work with do not value Nuc. Med, therefore hospital does not either
Radiologists/Physicians order incorrect studies
Management
Coworkers with kids often calling in sick
Low pay relative to other like positions
I didn't get a raise this year
Little or no chance for salary advancement
Many tests are ordered that don't need to be VQ Scans are much abused by docs.
Too much oversight by physicist
Non-nuclear med techs doing my job ARRT
Pay should be higher
Want part-time position
Stressful driving "rush" times
Job is mentally demanding (multi tasking); Have to be laundry, cleaning, secretary as well as nucs.
The staffs in the registry office don't understand hospital work
Students have more rights than faculty; Salary
Better Medical Benefits; Better opportunities for CEUs
The apathy of fellow employees
Unregistered co-worker working as Nuclear Medicine Technologist

3rd

Salary / Pay / Money / Low Salary / very low pay scale / Compensation (9)
Call / too much call (6)
Coworkers decrease / under staffed / cannot retain good employees / Short Staffing (4)
Work too many hours / not enough off time (2)
Radiation and Biological Exposure / Radiation Exposure (2)
Dept. too small for workload performed / Need Larger Workspace (2)
Working with old equipment / Poor Management old Cameras (2)
No reimbursement for continuing CE / No Financial support on CE (2)
Younger M.D. ordering more exams unnecessarily, not looking at patient as a whole
Radiologists/Physicians order incorrect studies

Management has no clue about the workload, equipment and training needs of NM--NM is a foreign language to management. New equipment gets applications on site for 2 days, which is basically set up, and minimal training. We're constantly calling apps. To get us through the 1st year. We need all techs to go off campus for real training.
A few doctors who know about NM exams
We have to do tests for stupid reasons that do not correlate with test reason
Prima Dona Doctors
Staff (Referring) physicians don't appreciate work we do.
No recognition for the work we do by management
It seems at my job the management is all about management
Radiologists favor other modalities than Nuclear Med.
Faculty Doctors do not appreciate my 20yrs experience in the field
Radiologists I work with do not value Nuc. Med, therefore hospital does not either
No National Licensing Requirements
Sonographers make more $
I have to wear "many hats"- Tech, EKG Tech, Transporter, only NM Tech in Cardiology- Spread thin.
Stressful and multi-tasking job
Heavy workload
Change of Radiologist Group
Supervisor issues
The distance that I drive to work
Would like opportunity to job share.
Not enough time to accomplish all that needs to be done
Quite boring at times
Intellectual Boredom
Would like to work closer with NM physicians- we are at a satellite location
New Chief
Laziness
Responsibility
Bored
None

No Rank

Being on call / Call (6)
Short Staffed / Not enough staff (2)
Unreasonable callbacks, tests ordered by ER physicians that seem unneeded
Poor patient prognosis
Too much work with not enough techs
Difficult co-workers
No control over our own cardiac exam scheduling. EKG schedules our heart exams with no regard to what we have on our schedule (Bones, Gall Bladders etc.) We have only one camera.
Nuclear Medicine is last in equipment purchasing
Physicians do not believe that I have a great enough understanding of what they want when a study is ordered incorrectly
Getting burnt out
Time pressure
Overtime free hours
Need more family time
Doctors not satisfied with the number of patients able to be done per day
I severely injured my back on a patient and am on disability and will never be able to perform in Nuc. Med. Again
Dr.s who cannot read NM
Some of my colleagues are very negative
Patient health awareness and knowledge are very poor
Disharmony between fellow-workers
Nuclear Pharmacy gives lic.

Chief Techs have power control issues
Little Research
Color discrimination
Cont. Ed. is on your own

Q.G.2. Please indicate the providers of continuing education programs for nuclear medicine technologists in the area where you work. *Please mark all that apply.* (Other. Please describe. ----)

Vendors (22)
Pharmacy / Pharmaceutical Company (21)
Society of Nuclear Medicine / SNM (20)
Radiopharmacy (ies) (13)
Internet Sites / Internet (11)
Nuclear Pharmacy (ies)(11)
Drug Company Reps / Drug Reps (10)
Pharmaceutical Vendors (7)
Drug Companies (7)
No one / None (6)
Self / Self-Journals / Self Study /(Self/Home Study) / Purchased self-study journals (5)
Journals (4)
ASRT (4)
Cardinal Health (4)
Pharmaceutical Reps (3)
ASRT (3)
SNM ASRT (2)
SNM, Cardinal Health (2)
SNM, ASNC (2)
Cardinal Health Pharmacy (2)
GE Pharmacy /G.E. Healthcare Pharmacies (2)
Vendors/Internet
Vendors (CEUs)/lectures
Vendors, NM Pharmacy
Vendor Programs
Online
Online Cont. Education Programs from NMTCB
For profit on-line services
Websites
On-line->Gage cont Ed.
Online, ASRT
Journals/Online
GE Online
Pharmaceutical Sales Reps provide speakers
Pharm. Corp.
Pharmaceutical Vendors Physicist
Pharmacy -ASRT
Pharmaceutical Suppliers
Pharmaceutical Company, Nuclear Pharmacies
Pharmacy or Equipment Provider
ASRT directed readings
ASRT, SNM, Radiopharmacy, vendor

Annual meeting & online with SNM
SNM RADIO PHARMACY
SNM Programs
SNM Tech Sector
Local SNM
SNM/T
SNM Online
SNM, ASNC
SNMT
SNM, Vendors
SNM, So. Calif. Chapter
Internet, SNM
SNM-National Associations
ASNC
Radiopharmacy, Sales Rep
Radiopharmacy Distributors
Radiopharmacy labs online CEUs
Radiopharmacy, Cardinal Health
Rad. Pharm Companies
Business-Radiopharmacy
Cardinal Health magazines ASRT
Cardinal Health RT Image
Cardinal Health Fujisawa, etc.
Cardinal Health Radiopharmacy
Sales Reps
Do not know
Private CEU providers
Prof. Assoc.
There are none we have to go out of the area
Equipment Vendors, Product Vendors
Distance Learning
JNM/JNMT/SNM
Drug-Squibb Companies, Equipment Companies-GE
GI Bill
ASRT Magazine
My Company
National Certification Organizations
Dupont Vendors
Industry Reps, Pharmaceutical Co.
Hospital training, e.g., CPR
Equipment manufacturers
American Society of Nuclear Cardiology
National Organization
Paid CEU courses in mail
SNM/ASRT Commercial Reps
MUC of Nuclear Medicine
Manufacture's Lecture Series
Apps training
There are very few opportunities for CE locally
Oakstone Med. Publisher
Nuclear Physicist Quarterly Audit
Med Companies, Cardinal Health etc.
Pgh Chapter SNM
Business/Suppliers. Local Professional Organizations
Area Hospitals
Corporations

SFNMT (South Florida NMT)
State & National Organizations
Nuc. Med Vendors
Some Vendors
Regional professional Associations
Volunteer Education Fund
Mail/Companies
Onsite Training
Sales Reps
Local Facilities
Shertech Pharm
Society of Nuclear Tech Section SONM
Syncor
Syncor where we set our pharmacy
Local NM Chapter/Vendors
Mostly go to meetings
Rocky Mountain Nuclear Med Tech Association (RMNMTA)
Drug Suppliers
Union
Rocky Mtn. Nuc. Med. Tech. Assoc.
National Certification Groups
National Society Meetings
National meetings
National Organizer
Pharmacy provided a few credits

Q.G.3. Please indicate the source of your continuing education credits. *Please mark all that apply.* (Other. Please describe. ----)

On line cell / Online CEU's (4)
Internet / Internet CEU's (4)
Tip TV / GE (3)
SNM / SNMT (3)
Online (3)
Graduate School / University credits from Master's Program / College credit (3)
Online Program Org / On line credits / Online courses (3)
Radiopharmacy (2)
ASRT / ASRT Magazine (2)
Not pursuing
National Conference of Society of Nuc. Med. Cd through the Society of Nuc. Med.
These are to be done
Internet Pharm
Distance Learning
Giving lectures
Training on new equipment
Equipment manufacturers
FDA
Nuc. Med. Pharmacy contractor
National Nuclear Cardiology Exam
University Courses
Educational Program
MUC of Nuclear Medicine
Independent Study Program
Nuclear Pharmacy
Syncor Pharmacy

Have not needed yet
Books
Nuclear Physicist Quarterly Audit
Training Class
Phila SRT
OATSTONE
SFNMT Meetings
National Association (SNM)
College courses which apply towards BS degree
Cardinal Health, Online CEUs
CEU businesses
Onsite Training
Oakstone Publishing
GE
Local professional association
Professional exams (NCT)
Local Chapter Pittsburgh + SNM
Private Org
RMNMTA
Consultant

Q.G.4a. If yes, please indicate the provider of these educational opportunities. *Please mark all that apply.* (Other. Please describe. ----)

Not Sure / Don't know (5)
Self study / Self Study Courses (3)
Internet (2)
Online / Online College Credit / Online courses (3)
CE Company / Independent CE Companies (2)
Journals / Journal Articles / Journal + Net (2)
Vendor
Private CEU providers
Pharmacy Vendor
Pharm co.s
Local Pharmacy
Cross Trainer
Uncertain of this # 4
ASRT
Hospital Training Program
SCIR study Tests
I just ordered a X-Sectional book 85$
Cooper Hospital in Canden
Books
Hospitals
National Self Study
None that is open to working techs.
Pharmaceutical Vendor
Lq Hospital
RMNMTA
Societies
National Profession Association
Seminars
Gateway Community College

Please share any additional information.

“I am a full time PET/CT technologist currently serving as the active supervisor of the nuclear medicine department. The PET/CT department & nuclear medicine department are 2 separate independent areas”

“Question (D5) poorly worded, both radiologist and nuclear medicine physicians read at our institution. Question (D7) poorly worded, the state disallows this but I can because of dual modality dual license. The direction of PET/CT is disturbing for technologists. When oncology trained on CT a decade ago, no such fuss was made. A nuclear medicine technologist should be able to do PET/CT exams with minimal training but disallowed from performing full-fledged CT examinations without extensive training. ASRT and CNMT seem to be looking for new test revenue without exploring the issue. This is my opinion as CT and nuclear medicine technologist with 10 years experience in both modalities.”

“After the birth of my 3rd child & chose to go from a full time/high demand call job with supervisory responsibilities to a part time job working with a mobile company at a small hospital. It has allowed me to put more focus on family but at the same time I have career concerns: continuing education through my employer is limited as well as the ability to cross-train into new modalities, I worry about the future of basic nuclear medicine with the new modalities (i.e. PET/CT) coming into play.”

“I find the whole nuclear medicine field is very interesting. We do a small variety of scans at my place of employment, unfortunately. The frustration and stress level are high so I will likely leave and take a job as traveler in the next 2-3 years. So I can gain more experience and more money. My educational experience was lacking, as there are certain areas that required extra training. Renal studies can be complex and barely covered them in college.”

“I have always found field of NM to be exciting and fulfilling. I am rarely bored. I enjoy the interaction with patients.”

“If anyone isn't happy working at what they do, change! You need to be happy with what you do in order to do a good job. If you choose a healthcare profession then treat your patients with respect as you would treat your own family.”

“Although I am a physician I have kept my license in NRT. I will be starting my radiology residency next year in Miami, FL”

“Working in an outpatient diagnostic center/physician office appreciate more as an employee especially when there are shortage of NMT in the area. In my experience, the hospital/large institution you are just another employee. Due to the demand of NMT, the salaries have gone up. I love my profession and I plan to continue in NM for coming years.”

“I would like to get more information about continuing education.”

“Salary increases and education dollars are reduced every year”

“Healthcare has changed its primary objective to meet the business aspects of the industry and to create a "concept" of providing care to meet the "patient's expectations". This is not always the most quality focused imaging process. Productivity is ranked higher than quality. Compassionate care giving is secondary. Standardization isn't always the best way to diagnose.”

“A great concern for many of the nuclear technologists is the amount of exposure to patients in our busy cardiology areas-in some offices up to 25 patients (dual isotope) per day are done in a 12-hour time span. With many patients all in the same areas, exposure is higher than in some other areas. While the levels are barely below the allowable limits, this may be of concern after years of continuous exposure.”

“Please note I am a part time employee.”

“Cardiologist support is superb. Radiologists are very interested and under trained for nuclear medicine. Continuing education programs could be offered more frequently. For those of us with Bachelor of Science degrees, we would love to see recognition for dedication to the field as opposed to the "quick" programs that are popular today.”

“For the past 7 years there has been a lack of nuclear med radiologist on our facility. It hinders our opportunity to grow or "market" our new scans. We do not have enough opportunities to learn any other modalities. The community college has program, but need 500 hours, almost impossible to get when already working.”

“I do not work on nuclear medicine. I work 2 days in PET/CT and 3 days in MRI. So many of the questions do not apply to me.”

“Though my state does not recognize a nuclear medicine technology as a professional. I consider myself one by the way. I conduct myself at work the way I dress and how I interest with patients. My patients are fully informed of the procedures they are having. I always take the time to educate them. I believe this promotes nuclear medicine.”

“I am blessed and thankful for my professional training in nuclear medicine. It was the experience obtained with imaging software as well as my affiliation with an accredited NM school, clinical instructor, that opened the door to my current career. Although I no longer practice NM, I maintain my license and try to keep current on the new technologies. This helps me to be better PACS/RIS manager.”

“I am currently director of imaging services including NM. My experience as a NM tech has been invaluable to my current position.”

“I came from a very large and busy nuclear medicine department to a very small hospital, when I relocated.”

“Great field, lucrative salary, great advancements in the field.”

“I have been involved in the NMT field since 1978 both in the clinical and business sides of IT (radio pharmaceutical rep x 12.5 years). The changes in technology have been amazing and satisfying to see and be involved with. The level of patient care provided by techs I have met and worked with has been great. I am less satisfied and more dismayed by the level of care being given by providers. The younger the M.D., the more they are inclined to order exams. Cost not an issue. In the 4 years I have been at this nuclear cardiology site we have not performed 3 exams. In approximate 4500 as they weren't deemed necessary. (See 6a) It is not that the older MDs don't know about the benefits of our tests. I believe they do a better job of looking at the patients as a whole, not body part A, B, C, ... I cannot imagine the number of exams done with CT/MRI also due to the newer way of practicing medicine. Too much about the money now folks.”

“I have been responsible for starting the nuclear medicine department in a brand new outpatient imaging facility. I think NM technologists need to tale more interest in knowing state regulations because there are a lot of regulations that most technologists do not know exist.”

“I have been working as a program director of a nuclear medicine technology program for the last 3 years. Prior to that I worked as a NMT in hospital. Answers that pertained to clinical environment were listed as N/A.”

“Your survey should be divided into general nuclear medicine and PET. Although PET technologies are certified in nuclear medicine, the questions need more clarification.”

“I am currently employed one day a week and have been working in a sleep disorder clinic in the evening. I cross-trained before my second child. Nuclear medicine does not allow the hours so I can be home with my children. When they are a little older and expect to resume working more in nuclear medicine.”

“PET/CT imaging is imaging modality that will be the gold standard when we have more tracers to do more studies breast, brain, etc.”

“I am not currently working in nuclear medicine. I plan on maintaining my certification in case I decide to return to the field.”

“After 20 years in nuclear medicine I am transitioning into full time PET/CT and MRI imaging. I only perform nuclear medicine now on call occasionally at the local hospital. The most challenging aspect of my job now is learning MRI so that I can take the MRI registry exam. Eventually I will take the CT registry exam, and I would like to see the State of California recognize the ARRT CT registry and grand father NMTs with it to a state license.”

“I receive from my patients more than I will even give to them. My feelings work hard, play hard, pray hard. I am paid very well, but play for new equipment. County hospitals should have the ability to not have to worry about, Doctors Building Imaging Centers and Stealing Business for profit hospitals. Anything goes, but county hospitals are working on 3-5% margins. We lost 15-19% of MRI this year, thus no raises.”

“Employed in Radiopharmaceutical industry, many questions are not applicable or relevant. Minimum responses provided, either integrated answer or discarded.”

“I have recently been laid off from my position in nuclear medicine and cannot find employment within 30 miles from where I live. It is a little frustrating, since the reason I went to school for this was so this would not happen to me.”

“I am a traveler, for the last 5 years. Love it!”

“Overall I am satisfied with my job. I feel that my salary is good compared to other professions but not comparable to other NMTs in other regions.”

“Haven't worked in NM for more than 16 years.”

“I am currently working in industry as a medical/medical imaging sales representative.”

“There needs to be higher standards and licensing requirements to be a NMT. I hope/pray the care bill changes all that and requires NMTs to be nationally licenses.”

“Our PET/CT scanner is not a dedicated PET scanner, it is a "GE Hawkeye". Our department is looking into getting a dedicated PET scanner in the near future.”

“Very satisfied with primary employer. Very dissatisfied with 2nd employer (cardiologist office).”

“I love nuclear medicine! I would never do anything else!”

“I have been a nuclear medicine tech since 1968, when I quit nursing school, when a doctor friend suggested I give his department a try. I said OK. For 6 months, then it’s off to nursing school, that was 1968 and I am still that nuclear tech. So I've must have enjoyed the job cause here I am at 57 and still enjoying my patients’ contact and doing my job as a tech. Loving it. Paul Early and Bruce Sodee were our physicists in the 60s.”

“There are too many people to report CEUs to. In our state, to keep license in x-ray and nuclear (although I haven't done x-ray in years), you pay $50 for each every 2 years and you have to pay to keep certified. They do nothing for you or the advancement of our field, ridiculous (the state society that is!).”

“I work as a contractor directly for cardiologists who respect my skills and judgments. I don't have a manager demeaning me because they don't understand about the complexities of nuclear medicine. I used to work in an imaging center where there was disrespect for all radiology technologists. I was glad to leave there and work as an independent because I am so good at what I do and I am appreciated by cardiologist I work for. I recently returned to nuclear medicine after a 20 years absence. I received much more respect in the other profession I did - teaching.”

“We need more frequent or monthly educational programs.”

“As a Sonographer- I was disturbed by employer's lack of empathy/downright intolerance for safety concerns. I raised scanning recently injected nuclear medicine pts. Time, distance, shielding meant nothing to them and the radiation safety department supported their position since they were unwilling to work on scheduling change to protect me. I quit my job in Sonography (echocardiography).”

“I have NCT certification. The questionnaire does not ask anything about NCT under licensure part c.”

“My position is 90% cardiac with imaging. I will do nuclear medicine when they are short staffed. Haven’t done much this year.”

“I graduated with B.H.S in nuclear medicine. Physical limitation following car accident forced me to seek education and employment in another field. I am the RSO over broad scope type A, which included academic research and medical use of radioisotopes. My NMT degree helped me qualify for my current position.”

“No longer am I working in the patient care area of nuclear medicine because I was diagnosed with a radiation induced NMT in 1996. I further pursued my master's in management so I could work in a management level to avoid additional radiation.”

“I worked in a hospital setting for 20 years but moved to a freestanding cardiac only office to escape call. As I aged, nights and weekend on call become increasingly demanding. Also as a mother, I now have more free time for family.”

“We have RN's working in our department-great asset because radiologists do not visit area (PAC's). Cardiologists do care stress test. Our tech aids were let go this year - they were a great asset.”

“How can I find out about continuing education self study programs? I you can help with this, I will really appreciate it. (248) 625-9655. Thank you very much. Diane Isaac.”

“I like my job but sometimes I feel like a mindless robot. We have to do every test that is ordered. We orient allowed to question any orders -even if we think the patient needs a different type of test. Patients are getting larger and larger and are unable to move. Our hospital fired all the transporters. We are inefficient because the camera is empty while we are transporting.”

“I left nuclear medicine to have a family in 1995. Reentering the field was close to impossible, employers were not very open to hiring someone after time away.”

“With addition of PET/CT and SPECT/CT technologist need more training. In CT and cross sectional anatomy to appreciate introduction of fusion imaging.”

“Item 3 in education and training: leaves out high school with 2 year x-ray + 1 year. NM training (certificate) shows my age I guess!.”

“There need to be an exam for PT/CT that all state recognizes for licensure purposes. Our facility employs a CT tech to basically push the CT button/portion of the exam. I am a PET technologist and we basically cross train each other in each modality. Licensure for (nuclear medicine and radiology techs) in PT/CT.”

“My place of employment is low on the scale. Nuclear techs in other facilities (recent graduates) are starting $3-5/hour more. Hospital NM department will be in my opinion, small inpatient only studies.”

“Worked at my job for 29 years. 2+ years to retirement. Pay has not advance with private sector (VA employee). Too close to retirement to change job. Do more will less compromises to care.”

“I have retired (07/01/2005) out continue to work PRN through a few more years. All of my management and academic/clinical educator responsibilities have been relinquished to my successor.”

“The nuclear medicine profession is changing with the advent of fusion imaging, Nuclear medicine technologists will have to diversify and further educate themselves in order to remain competitive and up to date in their profession. You may want to include some questions on the role of the nuclear medicine tech in radiation safety and in disaster preparedness.”

“I will be working for cardinal health agency specializing in nuclear cardiology. “

“I have been doing portable NM for the last five years and getting paid well. But now since I enter my 60th year, the 24-5 routine is having its toll on me. In the last 10 years of my career I see myself in an outpatient clinic, i.e. cardiology (no call) or entering a more exotic phase of NM, i.e. the fusion modalities.”

“There are a few disappointing areas not mentioned. I see poor ethics often. From radiologists and techs, such as overdosing of radiotracer. I have even heard of departments doing I-123 uptakes with pinhole collimators. The employers here don’t give techs all the resources necessary to run a nuclear medicine department efficiently. That includes equipment and employee salaries.”

“I have reduced my hours and will retire in a year or two. I feel total disgust for the hospital system I used to work for. They did not have a license tech. to insist on things being done correct they would break even law to save a dime. When I first started they were sucking the xenon gas into the AC ducts and gave me a hard time before they agreed to fix it. There were so many short cuts; I was ashamed to be associated with them.”

“I am generally happy with my career in NM, although the market is flooded with disrespectful students. The major problem is when there is not much going on in the department. Also when dries order the wrong test or a test that isn't even needed is ordered. I have found that department supervisors usually know little about nuclear medicine and should be better educated to the needs of the department in order to manage it better.”

“I believe the information requested in the demo graphic section is not necessary. Age is a personal item and is not even to be discussed regarding our patients (HIPPA) and race/ethnicity is not relevant. We are mostly, if not all, USA citizens. Race discussion is another HIPPA violation if we share that info about our patients. Why continue to find distinctions or divisions in American citizens who happen to choose to become nuclear medicine technologists?”

“Get rid of the call + dependability policy. Hire enough staff so that people can go home at reasonable hour.”

“Currently studying for nuclear cardiology exam.”

“B1+B2 not clear on how to answer. After high school went to state university for 3 years of bookwork and then on to 1-year nuclear medicine program. In the end I have B.S. in nuclear medicine technology. E4-I think CT training would be beneficial (not necessary) for a nuclear medicine technology (for personal knowledge mostly). Nuclear medicine technologies have many avenues to head towards. I think the most important training still comes from a nuclear medicine program with understanding the radiation involved in each procedure.”

“I would like to see these questions added in the future: are job opportunities in this field limited by a tech's older age? (agree/disagree) What percent of diagnostic tests are performed in your opinion - for financial interest only? How much sleep do you average a night, "on" call and off of call? Just some ideas.”

“Due to physical limitations from diabetes, I am working per diem for last five years mainly in the non-PT related functions-QC/QA, radiation safety organizational and supervisory capacity, consultants. I have recommended NM field to many New York RTs to advance their careers. Good support from SRRT and ASRT. MD's loss interest in old stand by procedure when new technology emerges.”

“To many administrators of radiology departments also head the nuclear medicine department have no idea how we operate. Blanket management won't cover both departments. Administrators need more understanding of nuclear. We are not X-ray.”

“CE is very difficult to acquire as there are very few local opportunities to obtain credits. I work limited hours as to be able to be involved in my children's lives. This also hampers acquiring CE credits as trips to larger city are much more challenging. I have worked as a nuclear cardiology tech for many years and feel I have lost my imaging skills in all other area in nuclear medicine.”

“I have kept up with the business somewhat over the last few years, and con-ed credits, but am not currently employed. Many of the questions are only of current employment status-not what you left or what you are looking for in a new job. I left after 9 years and here stayed home with now 2 children with planed of one day re-entering the workforce not at the same facility. I love the patient contact more than anything else; but the coworkers and management nearly made it impossible for me to enjoy my job.”

“Nuclear medicine is an awesome field of study. I just have my third child and look forward to getting back into the hospital. I am only PRN right now- but I absolutely LOVE the field.”

“I am leaving the field as soon as possible, because of colleges pushing too many students threw these programs, once other modalities start taking the business from nuclear cardiology which is about 60% of the business. There will be no jobs and hospitals and cardiologists will take advantage of the situation and cut wage. It happened before and it is coming again soon.”

“I completely enjoy my job as for the nuclear aspect. The only change that I wish would occur area in management. We are treated more like children than technologists. I would love to have training in other radiology areas, but I think nuclear would be my job of choice.”

“High demand and good compensation as a result of it are still major stimulators. Freedom in terms of establishing of the business is the other reason possibility to work almost independently.”

“Nuclear medicine is a field that is not well known despite the number of years it has been a profession. I think the general public should be more aware what nuclear medicine is, and its importance in diagnosing and treating disease. I see so many repeat patients that still do not understand what they are having done - always thinking it is CT or MRI. It is kind of frustrating to me as nuclear medicine technologist.”

“I have been a nuclear medicine technologist for 10 years and an ultrasound technologist for 4 years. Currently I am working on my ultrasound registration. I primarily work in the ultrasound department at my hospital but I also work one day a week in nuclear medicine department to keep my skills up to par.”

“I have only been a nuclear medicine technologist for a short time, I love it! I plan on taking the ARRT board exam in a few months. I also plan on going back to school to finish MP.”

“Working as a temporary technologist locally allowed me to see the many and varied skills/tasks performed by nuclear medicine technologists. However it has become somewhat disheartening to see some physicians practice and run (business groups) their private business; Lack of quality control and burn-out due to high workloads to fulfill the bottom-line have, in my opinion, compromised the profession.”

“Please note that due to my employment being outside hospital setting like individual, answers may skew your results for questions 7-12.”

“Please note that I am retired following 38 years in a hospital imaging department. For almost 20 years I was the department director and nuclear medicine was a section within the department. I have belonged to SNM and SNMT, but with limited income I had to give up membership. I currently teach in a small private college in a rad tech program. This account for the reason that I could not answer many of your questions.”

“Since moving to Idaho, I am very concerned about the number of working nuclear medicine technologists in the area who "trained" through "distance learning" at a college in Utah. Basically doing on the job observing and going to "class" once a month. Is this the training we want for our future technologist? We need to have licensed technologists with appropriate training.”

“Would like to see Michigan, a license state. With cost cuts, the threat of aides doing the NMT’s job is great every day. I would participate in what ever it takes to see that happen.”

“Reason I would leave the field would be 1) physical demands-my whole department has back pain. 2) call hours, holidays, and weekends. It is hard to spend time with family sometimes. However, spray is great and the people like family.”

“I really enjoy nuclear medicine. I have only been a tech for 2 years but I enjoy every minute of it!”

“As noted earlier I am a certified nuclear medicine technologist working as an orthopedic assistant. Job responsibilities are: casting, surgical assisting, wound assisting, staple removal. I do keep my ayes out for NM jobs in the areas. I was relatively pleased with NM as a profession.”

“I attended a hospital-based program in 1979 in nuclear medicine. In 1980 at the same hospital, I attend the ultrasound program. Since 1980, I have worked in ultrasound. “

“I feel that I need to learn the CT technology need for PET/CT but it is difficult to pursue education with full time employment in busy imaging center.”

“PET/CT currently is performed on send out basis. Within 3-6 months NM will have a new PET/CT suite. Training will most likely be provided by the vendor chosen. Additionally, I work at a federal facility; certain rules which apply to state run facilities do not apply to me. An example would be required state licensure.”

“I would like to take this chance to make a statement about the nuclear medicine program I recently graduated from. The program I completed is at gateway community college in Phoenix, Arizona. It is not a well run program, operated with fear, intimidation, and lack of ethics. I managed to pass the program and pass certification exam by self-study. Please take this information seriously and include it in your survey. Feel free to contact me with any further questions and needed information. Thank you for your time and assistant.”

“Overall, nuclear medicine has been a positive career path for me. My situation is extremely difficult due to patient volume and lack of support staff to perform stress testing. I am noticing a large number of students flooding the job market, but they are not able to perform cardiology job due to the emotional stress of job. Also, these students are driving the salary down because of their availability, but they typically stay 1 year or less. I hope to stay in the profession, but not as a technologist over the next 5-10 years.”

“As a supervisor, I am also responsible for preparing for ICANL inspection. 3 years ago my administration hired a tech with no certification. ICANL told us that he had to pass the CNMT by January 2005. He still has not passed the exam and they refuse to fire him because he works for very little money. This individual is liability and I am saddled with him. This is extremely frustrating.”

“I still work part time as CNMT, but decided in 1998 after 8 years as a NMT that the lack of professionalism, opportunity for advancement and extensive call would not bring me career satisfaction. I miss the technical aspects of NM and feel that my experience has served me as a RN”

“I worked for 12 years as a NM locum tenens. I took the RIS/PACS position to learn new technology in radiology. I plan to lose that knowledge to move into medical coding for my retirement years. I have evolved into a lecturer, writer, trainer, at the institution I presently work. Across the nation, I saw the highs and lows of the state of nuclear medicine. Personally I loved the field and the patients. I always recommend this field over x-ray technology for pay or satisfaction in their job.”

“I am currently registered in x-ray, CT, mammography by the ARRT and register in nuclear medicine by the CNMT. I am as ACLS instructor and certified in ACLS.”

“Worked in nuclear medicine until 7/1987. Left profession as chief technologist at a 300-bed hospital. Currently working for medical practice MGT company. RT and CNMT knowledge invaluable in making this transition.”

“Perhaps I should not have participated in this study since I work on the commercial side of medicine in sales for a major manufacturer and the majority of these questions do not apply.”

“I would like to learn of local college/courses that teach CT/PET or SPECT/CT training.”

“Have been retired since 2001”

“Nuclear medicine is looked on positively by physicians in other department that I work with as far as the information they receive from the tests. However, they don't seem to understand what nuclear medicine is, let alone the time it takes to compete these studies and the prep and cost involve for some procedures. Also, poor planning on the requesting physicians' part often causes stressful patient loads at my facility.”

“I am quite concerned about the PET/CT combination. I work in PET/CT and would like to be certified in CT but cannot quit my job to go to school. I want to know how this is going to affect NMT. I also feel on-call studies are not necessary 24/7 and I feel very strongly about this! Other than that, I love my job.”

“Management decisions to increase workload per tech and decease time off flexibility has led our whole department to search for other jobs. Doing 2 or 3 patients at one time is common place. This is no concern when it comes to patient safety. Much less flexibility in worked hours. Example: job sharing, part time, extended hours, weekend program etc.”

“There are a few hospital positions for nuclear medicine technologists in the Harrisburg area but not many out patient facilities that feature nuclear.”

“Biggest problem is Dr's offices do not understand we have other studies from other Dr's offices. Our problem is almost too much for 1 camera at times but other times not enough for two cameras.”

“NM needs more exams - feels like the research to find new imaging techniques just isn’t there. More and more NM exams are taken over by CT or MRI. Length of exams is a factor as well as cost. We are slowing down and looking at fewer technologists. We lost 2.5 FTE's this year with seemingly more to come. NM needs more marketing.”

“Washington State does not permit NM technologists to operate the CT portion of PET/CT. I am able to, as I am registered in radiology, nuclear medicine + CT with the ARRT.”

“NM has been a rewarding career. Now I am winding down to retirement, at which time I will miss my patients.”

“I truly believe we need more nuclear medicine physicians. There are few in our area. The radiologists do not have an interest in nuclear medicine and that is reflected in the number of studies we do. The interest, commitment and energy that nuclear MD's bring to the table are much needed. The interest in new tracers, new technology, new protocols is not there, especially with new technology (example CT is now doing cardiac imaging taking away from nuclear). So the interest has shifted.”

“One and only tech constant call cut back in call hours pay. No possibility for advancement. No matter the reason the tech gets to stay late, hospital policy bereavement leave 3 days. "Sorry, gonna take all 3 days?" "Not in budget" spent elsewhere.”

“As a former teacher of studied NM with plans of teaching it. Schools close constantly. We need places to learn NM!! Also, continuing education is a constant search for me. More home study causes would be welcome. Thanks.”

“I love the one on one with my patients but I hate all the politics at our facility. Our salaries are low because we have a college in our town that trains for nuclear medicine technologists.”

“Nuclear medicine is a very rewarding career. The salary is excellent and you are providing a service to the public. It is also very stressful and a tiresome job.”

“I am an educator and do not perform patient procedures. I hope my answers are separated from those of working techs or else my answers might skew the data. Some questions did not have a response that accurately reflected my situation. My best availability responses were made. Thank you. I will be very curious to read about your finding.”

“I would like to train In PET/CT and move into PET imaging eventually so that I do not break my back frequently. I love my job but some times it is hard physical labor. My company pays me well and hear to me for my suggestions which I feel is very encouraging.”

“6.5 years old work only part time in NM department at hospital from which I retired. State hospital. No call duty, no weekend!”

“I am a PRN employee averaging 10 hours/week.”

“Currently many opportunities exist for NMTs especially with the growth of cardiology and PET. I do have a concern that at some point a flood of technologists will exist without a position. Schools should be limited to 25 students max or may be 30, but some schools (Finley OH) are over 100. The profession needs to be protected and assured that only highly trained professionals are graduating.”

“In Hawaii no employer gives financial support for CME to NMTs. We have a radio pharmacy owned by 4 groups. The radio pharmacy gives up to 1500.00 per tech. In Hawaii the SNM tech section puts on an annual meeting annually in February, during the president's day weekend. We offer 12 CME voice and ARRT and physician category 1 credit. I am retired since 2000, started learning nuclear medicine in 1960. A family friend and physician got me interested and I continue via "OJT" and I never regretted it! First employed in 1965. Salaries in Hawaii are not comparable to mainland salaries.”

“I have been in position of radiology safety officer (RSO) SINCE 1990. I had to give up my ARRT certification because they would not accept AAPM and HPS (physicist) causes for CE credits. I want to keep my CNMT since I do assist with therapy I-131 and Gliasite etc. I hope SNM will allow me to continue my NMT status and accept the CE units I get at AAPM and health physics society meetings. My salary is as RSO, not NMT- hope this does not mess-up the average.”

“Jobs are quite abundant now depending on where your students are looking.”

“You should pay me instead of putting my name in the hat! I would not have done it had my write not made me.”

“Working at my facility in the past has been difficult due to NMTs cross-trained from X-ray. They do not have the knowledge base necessary for the profession of nuclear medicine and have contributed to the lack of respect shown to CNMTs at my facility. “

“While working in a private cardiology office I was ordered to push meds, read/interpret EKS's, all without a MD present. This is not in the scope of an NMT. In Lexington all private practices expect you to do the job of physician assistant, nurse, MD without education, certificate etc. I hurt my back on a pt was refused any medical treatment and now I am disable and will never be able to lift 20 lbs, transfer patients etc. Now I cannot get anyone to consider me for employment.”

“Many of the questions are not applicable since I currently work as a rad tech specializing in mammography. I left NM due to inability to work part time where my children were young.”

“There are too many licenses and continuing education corresponding to these licenses required. Where is too much enough? I give up my x-ray licenses (need fewer Mammo etc) with nuclear - gave up ARRT. Now, we are going to PET cardiology, have to go for PET-CT. I am totally exhausted. Count me but! Are all these CE units and licensing a money making proportion for all concerned?”

“I am proud of being a nuclear med tech and I also welcome to learn about CT and fusion modalities. However working in a community hospital and working with radiologists that are minimally trained in nuclear medicine can be frustrating. Also the lack of understanding about what I do in nuclear medicine by other imaging professionals creates misunderstand and an unpleasant work environment. However it is my job to educate them and introduce them to the rule that nuclear medicine plays. The lack of knowledge about the field and the availability of faster modalities that are favored by radiologists present an upward struggle in small department. I am sure exists all over America. The grass is not any greener anywhere else.”

“I really enjoyed my job! I enjoy working with my co-workers. Helping people is very rewarding, when patients respond to you with a positive attitude, it’s a wonderful feeling! I feel very blessed to work in the environment I work in, and I am very thankful to have the education and knowledge to help people when they need it most! Thank you!”

“I worked at a hospital NM department for 3 years, and just recently left for a job with a company based out of Anaheim, CA. I work out of NC and VA on PET/CT mobile unit. My average drive time is between 2-3 hours, one way to each site. The company reimburses the drive time and mileage, which is very rare in this region. I am very satisfied with my job.”

“I think it would be helpful to technologists who have been in the field a couple of years to have training in new things that are out like PET/CT/CRESS sectoral anatomy. Right now there is not any.”

“As the chief technologist in a large Boston Medical Center's nuclear medicine department, I feel there is no further I can go as a technologist. I am now considering a position in applications to try something new and possibly increase my salary.”

“Presently retired (June 2004) but working part time 25 hours in nuclear medicine at UAB-ALA and cardiovascular OP center. Most answers are adjusted for the final 3 or 4 years of practice full time. I full time my annual salary would be $32.5 per hour approx $66,000 per year.”

“As an applications specialist traveling all over the country, I see a variety of education levels of nuclear medicine technologists. I see more levels of dissatisfaction then satisfaction. I see the big issue as a push on through patient. This is extremely important in patient care but not when patient care suffers. Volume is the big ticket item and quality of patient care. Their studies are affected when too few technologists are made to do much. Job responsibilities need to be better defined and distributed through out nuclear medicine department.”

“Recent implementation of continuing education requirements have become a burden and seem to be excessive in the quantity that must be acquired for recertification. I have been doing nuclear medicine since 1976. While instrumentation has drastically changed the basics of the science has not. Continuing education ought to be a pleasure rather then a chore and the number of required units ought to be greatly reduces.”

“Overall, I enjoy my work. My main complaint is the hours. I hate taking call working weekends and holidays. It is also very demanding physically - pulling and lifting heavy patients and equipment that does not roll. It would be nice if the camera companies would keep this in mind when developing new camera models. Patients have no way of sitting up from the tables unless they and or I pull them.”

“I am very pleased with my profession. I just wished there where more nuclear medicine physicians available to read our studies. I am interested in learning PET and anything new.”

“I have tried to answer all questions to the best of my ability, I have not worked as a NM tech for about 20 years, although I keep up with CEM education and still have friends in the field.”

“Like to get more education about PET/CT. It is hard for a single physician to buy these equipments or change the imaging equipment that frequently.”

“Nuclear medicine has been constantly changing for the better in the 32 years and has been involved. It is a fascinating field and continues to pack my interest, the only reason I plan to retire in 5 years is do to health problems and I will probably unable to accommodate patients who are unable to moving themselves. I have back problems (and most health professionals my age do). Thank.”

“I was employed briefly after graduation in 1994, then relocated to another state. Employment in the nuclear medicine field was very sparse at that time (1994-1995). I started a business in 1996 and have worked there since and at the present. I keep up with CV's but plan to retire this year.”

“Initially upon entering the nuclear medicine profession I was given the impression that our salaries are higher than that of Sonographers. We were led to believe that given the radiation exposure we experience we are compensated accordingly. It has been my experience in a private cardiology practice that the Sonographers are given an incredible rate compared with that of the nuclear technologist. They earn $75.00 per echo, for $150.00 per hour. $1200.00 for an 8-hour day compared to $264.00 for an 8-hour day for nuclear medicine technologists. Please help us to raise our compensation as nuclear technologists.”

“The call pay could be better. It is almost not worth taking call due to the little pay. The benefit of being called in is nothing either. It should be pay based on shifts as well. If call in at 3 a.m. should be getting the benefit of pay with 3rd shift etc.”

“In addition to my nuclear medicine duties, I also have other responsibilities. I am the meditech radiology coordinator for my hospital. The meditech part of my job usually encompasses 2 hours/day. Recently, the radiology director added the meditech duties to my job description.”

“I have worked in nuclear medicine for 31 years. I have worked at the dome hospital for 30 years.”

“I no longer work in nuclear medicine. I am an x-ray tech in an orthopedic office.”

“I have always enjoyed my career. It has given me so much satisfaction in knowing that I can make a difference in a patients' life.”

“Nuclear medicine is a satisfying and rewarding career with reasonable pay and benefits. I would like to see employers get more involved in cross training NM techs into CT. Our department is also involved in a union - SE un local 250. The relationship between union and hospital is extremely hostile and negative. This is the major downside for my job, however this has nothing to do with nuclear medicine per se.”

“I am currently working part time. I plan to retire in the next 2 years.”

“Nuclear medicine is a boring profession. Too few of the same exams are preformed over and over. Very little variety.”

“Salary has dropped over years due to buy out of hospitals and deals with doctors that are changed. Salary reduced over 1/3 over last 5 years, $15K in last 2 years. Due to hospitals selling and new buyers firing any one above a certain dollar figure. Administrators bonus are linked to cutting best employees and building of the business.”

“Cross training is very important in Knoxville where I perform nuclear medicine duties. I am a one tech., one camera department. I responsible for general nuclear medicine, nuclear cardiology, EKG's, DEXA scans, all QC, organize quarterly radiation safety meetings and record minutes, and I perform annual rad safety for all employees of my facility. I am proud of my profession. It is discouraging when administration does not understand or appreciate our role in health care.”

“It is my opinion that for the profession to continue to grow, radiologists are key in promoting nuclear medicine.”

“I live in a relatively rural state. I have to go out of state for CE credits. Wish we had more in LA. I enjoy the profession very much and think it was a great decision to pursue the degree. I did not like radiology after getting a bachelor in it so this gave me an opportunity to use that knowledge to get into something I did like.”

“Would like to train in PET”

“I no longer work in nuclear medicine due to physical disability.”

“I have been working here for 24 years but we never got sent to attend a seminar or any big nuclear medicine event at the expense of the employer which is very sad.”

“I left a 300 bed hospital to work at a 50-75 bed hospital because work environment. Bigger hospital wanted more work in less time - no time for bathroom breaks or some times lunch. Pay did not increase until I left along with someone else, then overall pay increase $2 per hour. I still work there part time and cover call but environment, work pace and respect make all the difference in the world. However, physician in both places do not really respect NM. I do not know if they do not really understand it and see its value or if they need more training. In neither place we have NM physicians, all are Rads, just with minimal NM training.”

“Conferences are difficult to attend. Small clinics only hire one technologist to perform only PET procedures 5 days a week. This limits vacation time to almost nothing and no time to attend out of state conferences. These out of state conferences provide updates in the technology.”

“After 27 years in my profession, I feel trapped and burned out with few options in my future. I can stay with my current employer and work for a radiology director who cannot give me the staff I need because he does not understand what we do. Or I can risk starting over at age 50 with the unknown of another employer.”

“Generally satisfied with nuclear medicine as a career. Absolutely do not like call.”

“I am nearing retirement. I work in a tiny hospital in the middle of the Pacific Ocean. We provide the best services we can, but mostly we are in the backwash; away from the forward edge of NM. I would like to see our state of the art studies sent electronically to competent readers, but we are stuck in the politics of radiologist's control.”

“I become involved in health physics and medical nuclear physics in 1976. However, all of my work centers on nuclear medicine and radiation therapy aspects of medicine. I began in a University Radiation Safety Office, became a nuclear pharmacy RSO and began hospital/outpatient imaging consulting in 1981. I am a licensed medical physicist in Texas.”

“I retired when my first child was born in 1985 and have not returned to the profession. I kept my credentials incase I wanted to return. I now believe that to be highly unlikely.”

“Pay scale needs to be increased. My pay is on hold until area pay goes up.”

“I am an NMT program director (IRC-NMT) accredited program.”

“I have worked full time MRI since 1991. I quit nuclear medicine because of too much call and paperwork.”

“Schools are pumping out too many technologists. Most of these new grads are only in the profession for money. Their patient skills are dangerous, and they just don't care. They seem to be trained only to pass the boards and not be good techs. Also the doctors and managers on average are rude and horrible to technologists. This work is the same as an assembly line in a parts factory, which is sad.”

“I am a nuclear medicine technologist currently working in CT. I needed a change and basically do CT angiograms. They thought my nuclear cardiology back group was more important than my CT background. I love nuclear medicine and am hoping to get into the fusion imaging in PET-CT through our colleges-at night or weekends. That would be wonderful.”

“I am semi retired, free in few vacations, work PRN.”

“I have been a nuclear medicine technologist my whole adult life. I have seen a lot of changes in 25 years. The technology changes so much (for the better) and the equipment is really state of art! My shift has changed to 7 on/7 off which is a welcome change after working every day being on call. Our facility has grown from a 2-person department to a 7-person department. I enjoy my patients and helping them.”

“Being only technologist. I feel needed when we have study to do. At the same time, it is extremely different to request a long vacation or a raise. Supervisor is not supportive in most matters.”

“Some of these questions were hard to accurately answer, where I am a part owner in a mobile nuclear medicine business. I am also the only technologist.”

“Midwest salaries low compared to graduate.”

“Being a PET tech c/o CT certification has me worried about job security as the company moves to PET/CE. In NY we are not allowed to "push the button".”

“I have recently changed jobs to PET/CT. It was a difficult change after 10 years in Nuc. card and 15 years in general nuclear medicine. I feel there is a need to educate technologists in the modality.”

“I am a part time employee and do love my job. I have been with my employer for a number of years, therefore I have my "hands" in everything. I find it hard that we must pay hefty prices for educational meetings. Isn't educational experiences meant to be free? We have a very busy department, with multiple technologists and multiple exams. I am also a RT(R) as well as RT (N). I have been trained in CT/PET, CT/SPECT, and do diagnostic CT's.”

“I would like to see more support from the employers so the employees can receive continuing education credits, no (technologists) get sent to the national meetings. So there is no support or reason to learn more.”

“I have been told that nuclear medicine is a dying career, but I believe PET and PET/CT will keep it a live. In the near future, all NMTs should be cross-trained into PET and/or PET/CT.”

“Very interesting and demanding job. Little recognition of the professional nature of work. “

“I have been used to a better cared - for facility- more advanced imaging - more professional techs - cleaner facility - better employee and patient care more high-tech-state of the art. Day to day care of patients. I would not want to be a patient here. Overall no confidence in facility or department. Looking for work somewhere.”

“Ongoing reimbursement issues and increase operating expense associated with hospital-based care make it difficult to provide the kind of care we want to provide to our patients. Since I do not provide direct patient care, I could not answer all questions.”

“I have been an NMT for twenty years. I have seen so many changes in the field. I truly enjoy my job and working with the patients.”

“I recently joined cardiac health and began retraining. I live in Baton Rouge and there are few nuclear medicine facilities in the city other than cardiology groups. Nuclear medicine is not marketing itself well and it is sad to see such a useful diagnostic tool be last in the glitz of PET/CT and MRI. It is nearly impossible to find a fully operational nuclear medicine department in this area. Now with Katrina it may be months/years before department lost in New Oreland are put back together. I was working PRN hoping to find a permanent position.”

“I feel badly that I could not answer so many questions as I have recently retired from the field. I do not believe I will return to the field as I was doing mobile cardiology. Very strenuous job!”

“If a person has a registry in radiology and nuclear medicine, along with certification in CT and MRI, why does that tech have to be registered in CT also in order to do PET/CT.”

“My facility (being an IDTF with good equipment, excellent NM doctors, no weekends, holidays, no call) has no difficulty recruiting or retaining good NM techs. However, the hospitals have hired RT's (R) to perform NM and then inadequately trained them nor invested in them. They could not recruit CNMTs due to low salaries. Their department, their patients and profession all suffer because of this. The largest hospital in town refuses to pay their nuclear techs a respectable salary and their department performs awful work. I guess you get what you pay for.”

“I work in a one-person department. At present I am an independent contractor but will begin moving of my facility in a permanent setting for the next 4 years.”

“I work in a one-person department.”

“I am a food technologist but changed my career to nuclear medicine and worked in nuclear pharmacy and veteran hospital for almost 4 years, 1984-1988. Switched back to food service area by joining (transferring from VA hospital) the Department of Defense in 1988 and still working as technical/quality assurance specialist in foods procurement of D.o.D”

“I feel lucky working in my accidental choice of nuclear medicine. I think there are few jobs where I could get so far with so little education. My present job is monotone but my employers are kind and my patients interesting. I would be interested in pursuing PET/CT training but the path is not obvious to me.”

“I am very pleased and proud of my profession. I have done nuclear medicine for 23 years. I am a one-tech department and run my own show and get paid well. Life is good!”

“I enjoy my job as a nuclear medicine technologist in a one camera, two-cardiologist office. However, I am extremely disappointed with the "money money money" attitude that is always present. I am always reminded that reimbursement is going down, and I am sometimes led to believe that my job is on the way out because of this. I view the tests I perform as valuable tools for patient care, but the doctors seem to be interested only in their profits. P.S. they make approximately 2 million dollars/year on these tests.”

“I am in radiology admin. I oversee 80+ FTC including 4 NMTs. They are great staff!”

“I am very lucky in my area/career/ I have already done my CT training and certification just after passing CNMT registry. As I am doing PET/CT once a week I have been to GE in Milwaukee for further training. I am blessed with opportunity to do online college classes with tuition reimbursement.”

“I think with my RT(R) I can do PET/CT. I think you learn daily in nuclear medicine.”

“Due to hurricane Katrina, I lost my job. There are currently no jobs in this area in nuclear medicine or radiology. This is why most of my answers are blank. Please keep me in mind for future surveys. I 'd love to help out.”

“I think continuing education will begin to be more easily available those of us who work schedules not conducive to attending in person such as online and possibly self-administered programs. I love what I do, but sometimes think upper level managers do not realize what is required to do the job well. Thank for the opportunity to participate in this survey.”

“Since I am getting closer to retirement, I have chosen not to take advantage of opportunities for other responsibilities. I have retired from a very hectic environment and gone to a staff position which is a better fit for my health and lifestyle. I still love my work! I work in my retirement community, where the residents truly appreciate what I do.”

“The reason for more tech than job in this area is due to a 4-year nuclear medicine program at Oregon Institute of Technology, a local college. Our radiologists do not support our nuclear medicine department much. They prefer a CT scan for almost any diagnosis. Cardiologists read all myocardial perfusion scans and MUGAs. Radiologists read all other scans.”

“Sorry I was not able to answer many of your questions because I am staying at home with two small children and I am currently not employed in nuclear medicine.”

“I like to see more luxuries for patients. TV's in rooms would be phenomenal. It can be so hard lying still for our marathon scans with a ceiling stare at. A lot of times we have other things we must do while our scans are going on. Education for patients on the different tests in modalities would great to ease patient anxiety. It would reduce rescheduling as well.”

“I find NM to be a very satisfying field. I love working in our hospital. The pay is quite low compared to Dr.'s offices, love the patients. Very low regard by the radiologists. X-ray, CT, MR, and US do not understand NM, view it as weird. Lack of understanding by everyone for scheduling our patients.”

“I have enjoyed my experiences as a nuclear medicine technologist, however as I mention earlier on the survey due to some recent medical condition I obtained, I had to retired from my profession.”

“There is little advancement opportunity in nuclear medicine. Employers prefer to hire NM techs with less than 5 years of experience. Nuclear medicine techs with greater than 10 years experience have great difficulty finding new jobs due to high pay requirements. This area is over saturated with nuclear medicine techs. I am currently looking for other educational and employment opportunities outside the field of nuclear medicine.”

“I have worked in nuclear medicine for 20 years earning my CNMT. Love my job and very satisfied with my employment at our facility.”

“The hospital currently does not have a PET scanner. The CON requirement in the state is limiting/preventing us from obtaining one. Also, we have no dedicated nuclear medicine physician, one who encourages nuclear medicine. We have no radiologist who truly understand or encourage the use of nuclear medicine, they rather discourage it. I don't think referring physicians are aware of the exams nuclear cam do or the information it provides. I would like to see further education opportunities in nuclear like an M.S. degree that allows a technologist to interpret studies or something similar.”

“Has any survey been done to determine the ratio of cancer among RAD/NM workers vs. other health care professionals?”

“As I approach retirement, my son is approaching college graduation, and looking for a NM program to get into. He is excited about my profession.”

“My career has been a fine ride! Rectilinear Scanning to PET/CT; AV-198 and SE-75 to F-18. I'd do it all again!!”

“Nuclear medicine is a business not helping the great good! All about charges. Many unnecessary tests, cardiology practices are the worst. 9 out of 10 nuclear tests are negative (cardiologist own camera).”

“I am no longer a member of the SNMT. There are no reasons to remain a member. I am not interested in PET or fusion CT or nuclear cardiology exams. PET has long way to go before it become main line modality. Fusion CT is interested but its not NM. At least not until the lawmaker decide it is not. That’s a long way down the road and the nuclear cardiology exam is a bad idea.”

“I am not sure if my survey is valid, many of the questions ask about NM employment. I do not work in NM but keep my license. The survey does ask if you currently work in NM. It did not state to stop if the answer was no.”

“I am the manager of 4 departments CT, MRI, NUCLEAR MEDICINE, PET/CT, and do not work in direct patient care.”

“The need to do more with less tasks its toll on me when I worked full time. The demands placed on my time and even finances left me drained. Before taking this break from working in nuclear, I went from a hospital setting to an office with no call, weekends, or holidays. Even with these changes, I still felt drained by my 20 years in the field and the increasing demands made on me by the changing health care environment. Fortunately for me, a recent marriage gave me a chance to take a much-needed break from the field. I continue my CE credits.”

“2 portable cameras. Constantly short staff. New technologists are not well trained in our area.”

“Our facility has a PET/CT scanner, but it is in clinic location on another part of the campus, and is “staffed /operated by NMTs other than those in our department. Select few NMTs from our department have received training in PET/CT. It is unknown whether another PET scanner will be purchased for the hospital area of the nuclear medicine department. As most of our NMTs are NMTCB-certified, there has not been much opportunity or need for CEUs, but I believe more CEU opportunities are in the works as the date approaches to begin accruing CEUs to maintain certification.”

“G1-yes is not entirely true. There is a strict limit and only offer once a year program. Must be in the area and total cost under $500 they will pay for some instances. Forget going to SNM programs. 8a - New equipment gets applications on site for 2 days which is basically set up and minimal training. We are constantly calling apps. to get us through the 1st year. We need all techs to go off campus for real training. I am looking forward to retirement in 8 years.”

“I strongly oppose the use of nuclear medicine assistants. In my experience, they are counter productive and a liability.”

“I do not work in nuclear medicine currently. I work as a radiology physician assistant.”

“I notice that many of the older nuclear physicians are becoming increasingly annoyed at salary levels of nuclear techs. It seems okay for a doctor to make half a million to a million per year doing tech radiology/on call but not the tech. I have seen in Dallas hospitals where nuclear physician will have ER call them first before calling the on call tech just so they (the hospital) can save a few dollars, so the story goes "the patients can wait".”

“Administration is willing to sacrifice patient safety for increasing through profit. There is also no flexible scheduling which promotes long term employees seeking work elsewhere.”

“Until March of this year (2005), I worked in a hospital as a lead tech in the nuclear medicine modality.”

“Our state is currently trying to require state licensure for NMTs. This is one effort I support and am actively involved in pursuing. Also, as an NMT and educator, I am against requiring a bachelor’s degree. Nothing will be gained in NMT education. The general education requirements of the state would not allow for much expansion, if any, of the NMT core curriculum.”

“I quit my part time nuclear medicine technology job to stay at home with my 3 kids. Now I am ready to go back part time but there are no jobs available.”

“NM is still a great career. But, like all of health care, it is suffering from problems lack of raises, less budgets for new equipment, less time per patient, too much paper work, etc.”

“Obviously, I left the field in 2000, but have maintained my CNMT certification while developing skill selling insurance and financial products. I have recently received an independent contract from state farm and am self-employed. This has been a very rewarding career change. My answer to your survey may be invalid for statistical purposes, but I felt I would try to respond as you may develop some data as to reasons some of us may choose to leave the profession.”

“I like nuclear medicine and take pride in my work. It is very tiring to give 200% in my work just to have the radiologist here refer to nuclear as "dinosaurs". There is very little call here - so at my age that is a huge plus. Other than the rads and management (since our income to them is little). I get high respect from patients and other X-ray techs.”

“I have an associate degree but I also attended a hospital base radiology program for 2 years before I attend the nuclear medicine program.”

“It is concerning that there seem to be too few jobs for the escalating number of newly certified techs in the profession.”

“There should be local certification training for CT and MRI cross training of NMTs. These programs should be aimed at techs who work full time and should occur in evenings and weekends.”

“Before nuclear medicine school I went to a 2-year radiology certificate program. This is greater education than just high school diploma.”

“I worked in nuclear medicine for 10 years then was (after a move to a new city) unable to find a position. I went to work for the state inspecting nuclear medicine labs then worked on high-level radioactive waste issues for 20 years.

I am recently back to nuclear medicine part time after some intense OJT-10 get back up to speed with equipment changes."

"It was discouraging to learn that approximately 50% of those who took the first PET certification exam did not pass. The feedback that I received concerning the contents of the exam indicated that the material tested was in dire need of a study guide. As far as I know, there are no good study guides. The categories to be tested are far too broad with no references listed. In short, techs had to "fly by the seat of their pants" to prepare for this exam. Thus, my instincts are to wait until these "kinks' are worked out before taking the PET exam. This delays my pathway to PET certification."

"I work part time, at my request, approximately 24 hours a week. When needed I work more. I am required to take call, however, since I live 30 miles away my co-workers help me out with this a lot."

"I left nuclear medicine 8 years ago with a very dissatisfying job. We were being demanded to increase patient load without meet quality time to explain procedures to patients. I felt at the time very used for monetary advancements for the private sector. Felt an unethical quality that I could not out my patients through."

"I left nuclear medicine in 1990 due to excessive call, unhappy co-workers and re-location. Even though I now work solely in mammography, I keep my ARRT status current. My intent at this time is to retire December 2006 at age 63."

"I love my job, recently we get a new chief and all she preaches is efficiency, no breaks, no lunch, work late. She complains about the hearts that once were head OK by all others, now there is a big problem on processing, our department need to purchase new sdt-wave."

"Due to a family emergency I have been unable to work in the nuclear medicine field."

"I have currently been unemployed by choice for the past 5 years raising young children. I do not plan on being re-employed in the field. I do maintain all my continuing education credit to maintain my NMTCB license and ARRT (R) license."

"Like to see some type of education or retirement vehicles created for all professions of our field. Would like to see more educational programs created."

"I have not worked in nuclear medicine for many years. I left because of more job opportunities, higher pay, and more responsibility in radiation oncology and medical dosimetry. My current salary in medical dosimetry is $81,000.00 per year with no call. I answered questions as best I could but they are answer toward medical dosimetry. I hope I have not skewed your data."

"I have the job in nuclear medicine in Amarillo Texas. This is a very competitive area for jobs, being a graduating city for NMTs. Thank you for letting me contributes in your studies."

"As an NMT program director, I found section F difficult to responds to. It is difficulty geared towards job satisfaction for the technologist who regularly works in a setting with constant with patients and physicians."

"CEU credits seem to be increasingly hard to attain."

"My job is part time and my employer is very flexible. Although I will be going to school for venous mapping to help with EVLT's. Thank you for the opportunity to fill out this survey. Since changing to an office job I am satisfied, but when I worked at a hospital with call, weekends, and holidays, I was burning out rapidly."

"Job is great! Tired of call after 31 years on."

"I need 12 CEUs for nuclear medicine a year, I now need another 12 CEUs a year for X-ray tech. cert. That's 24 CEUs a year. My full time position is PET/CT. Am I going to need another cert. in PET/CT or CT or PET?. Does that mean I am going to need 12-24 more CEUs a year on top of my 24 CEUs I need to have all ready??. That is 36-48 CEUs a year. That is crazy!!! That is expensive!! That is time consuming!! There needs to be another way."

"My position was terminated because of cessation of operations (the hospital I was working for shut down 9-8-05)"

"One bad apple doesn't decay other apples, not a good thing."

“I have had a rewarding career as an NMT. We are currently a clinical site for our local technologist school and have the opportunity to train those that will replace us as we leave the field. The RT program has a distinct advantage and will continue to do so as hybrid technology take over.”

“Please let me know if there will be results of this study.”

“Patients complain a lot because tests take a long time and there is radiation exposure due to the injections. Also there are too many QA to perform. More than the other imaging modalities.”

“I left the radioimmunoassay department in the nuclear medicine department upon the birth of twins due to the fact that job sharing or part time employment was not available. I would like to return to the radioimmunoassay lab but have found that most of these tests are out sourced to reference lab with night hours.”

“#4 question. I often felt as a nuclear medicine technologist that there were thing lacking in my training and I felt that medical assistants and LPNs knew more. I feel that nuclear medicine technologists should be cross-trained for basic X-ray, CT, Phlebotomy, so the person can assist in other areas to be more utilized. Nuclear medicine technologist should be educated regarding cardiac drugs, crash carts, etc.”

“The field is very "reactive" to supply and demand situations. Unlike profession such as physical therapy, this field has over reacted to the "shortage" and is churning out a huge number of technologists (example Findlay College in Ohio call and check the numbers) for limited jobs in a field with diminishing growth. I would not recommend my kids to enter this field until the supply demand situation is controlled.”

“I work in nuclear medicine for 10 years in Dallas, TX and in Youngstown Ohio. I have and still use many aspects of my nuclear medicine experience as a strength and conditioning coach at Youngstown State University. I intend to stay current in nuclear medicine for that reason, as many athletes require scans and stress testing modalities used in nuclear medicine.”

“I have work part time in the same institution. My hours have varied due to the needs of the hospital and my home life.”

“I believe every nuclear medicine technologists should some kind of bachelor's in science before they enter in nuclear medicine certification program. And there should not be diploma or associate or no B.Sc. and the level of knowledge, understanding and maturity is always lacking in compare to some who has bachelor's in science. The job requirement for nuclear medicine technologist should require some kind of bachelor's in science. Nuclear medicine job is very important in today's world and it should be taken more seriously.”

“Continuing education outside of the NMTCB and ARRT is scarce. A push for newer, more modern, NM practice is not pushed hard enough where I reside. Nuclear medicine in Las Vegas is shown little regard from most physicians. Salary is very good in and around Las Vegas Valley. For opportunities for advancing exist. I would really like to see more specialized training in newer of NM in the west.”

“Although state regulations are not necessary to follow within the realm of the veteran's admin hospitals, we still include state licenses, certification boards, etc to ensure that we have a professional work environment for research and academic purposes.”

“Nuclear medicine is a very rewarding field. We solve a lot of cases in our department and that is real satisfaction. I am always surprised how little money is spent on training techs with new technology and newer equipment. That can be frustrating. If I go to a conference I have to pay for it all. I do not learn by tilling out journal articles, I need interaction with other for learning.”

“Was an x-ray tech and be one nuclear medicine. I am happy with nuclear medicine, basic scan and cardiology, blood volume shilling test, jack of all trades. If possible, would like the results of the survey.”

“Nuclear medicine technologist should have an expanded role. - able to administer other things. - master's level in PA type program.”

“I wish to change jobs when I can make important decision. About my department without being controlled by some managers who has no understanding about nuclear medicine.”

“My current job with nuclear medicine is dealing with procedures done for safety evaluations of research on clinical trials. I am not directly involved with daily clinical practices. NMTs are very well trained for career advancement in the clinical research area.”

“I really enjoy my profession as a certified nuclear medicine technologist, specializing in nuclear cardiology. The cardiology group I work with is dedicated to advancement and improvement. My chief technologist has perfected the balance between management and staff. Overall, my daily work experience is wonderful.”

“Our hospital's administrative decision to fill job vacancies with high cost registry personnel (NM, radiology, and nursing) instead of raising salaries to attract and retain employees has, according to the administrator, caused a 3.5 million dollar budget shortfall. This in turn has caused layoffs (me soon), and decreases in services, why are hospital administrators unwilling to pay employees what a registry will pay but are willing to pay 2 times that to a registry company? I myself have been hired by a registry firm, but I am unwilling to work out of my area at this time.”

“I am a manager of a large hospital nuclear medicine department. I prefer to hire new graduates from our school. We have 2 schools in our city and the job market is saturated here due to many gradates. I do worry that CT and MRI are advancing to a point that can intrude upon our patient load. RT certified NMTs can run a CT camera, non-RT's can in our state.”

“I work as a health physicist for a large pharmaceutical company providing support for radio pharmacies. I hold my CNMT and RT (N) still. I have never worked as a technologist.”

“Additional responsibilities coupled with forced reduction in staff take away from quality patient care. Lack of knowledge and the complexities of a nuclear medicine department, i.e. radiation safety etc, make it very difficult to perform all of the functions adequately when the main emphasis is on patient through pvt.”

“As the majority of NMT getting older, they are no longer able to keep up with call and are opting for career change. Also older NMT are concerned with their radiation exposure, physical limitations and health status.”

“The survey did not really apply to my job title as a nuclear medicine application specialist. It appears to be more for a NMT in a hospital, clinic, or office setting.”

“I am fortunate to land a job in a heart hospital that is a joint venture between a hospital and a group of cardiologists. The atmosphere is pleasant, we are respected by patients and our physicians. My director is fabulous. Before finding this job, I almost switched jobs to become a teacher. I did not like call, and I find the lifting patients was straining my back. At one clinic that I was at for 2 years, we were short staffed. The workload was too much.”

“It seems as though nuclear medicine departments are treated second class. Possibly because of the time our study take and radiation safety issues.”

“Nuclear medicine at the present is a changing field, I have worked with PET for 4 years. Nuclear medicine is my first love and that is why I am where I am at the present. The work pace allows me to interact with the patients and make their test a comfortable experience.”

“I took the test for certification as a nuclear cardiology technologist specialist in 2003 at the ASNC 8th annual convention in Indianapolis. I am proud to add NCT to BA and CNMT on my lab coat. As a 1965 graduate with of degree in math, I worked for IBM as a computer system specialist. I stayed home for 16 years to raise my three children. The health care field called me and I am totally fulfilled by my career in nuclear medicine.”

“I worked as a radiologist technologist for 16 years and changed to a nuclear technologist and after 17 years I was grand fathered to take the CNMT certification exam. Worked 8 years certified. “

“I worked in NM for 32 years. Trained and certified as RT(R), but never worked as x-ray technologist. Went into NM after completing 2 years x-ray school. Have been doing NM for 22 years and PET and PET/CT for past 5 years. I do not think as an RT and RNMT that we need NMTs to do CT. I feel that it is taking away from CT techs.”

“I am production manager for nuclear medicine products, cardiology products, and CTA, MRA, and CHO. The field is changing fast and for good reasons. I were still an imaging technologist my answer would be different regarding continuing education. I would be seeking more training in other modalities.”

“I am currently not working in nuclear medicine, after 31 years I am almost retired - working only 5 hours a week as a radiologic technologist.”

“Since I left NM in 2003. I tried answer some questions that would be pertain to the time I was in the profession, not the present. I hope these answers will help. I did enjoyed working those years and still try to keep current with credits in case I did decide to work some but not full time at my age. I am in very good health.”

“Employed as a medical imaging administrator with some responsibilities in ultrasound.”

“State and board certification renewal dates should be the same. Currently, the differences in these dates cause gaps non-compliance when trying to meet the required CEU criteria.”

“Nuclear cardiology is a large volume around the area. More information from health related professionals would be helpful. Example, radiologists, cardiologists, vendors.”

“Nuclear medicine field, for the most part, has been a very positive for me. I work 12 years in a hospital environment where I have learned so much and I was given many opportunities: senior technologist position and training in PET scanning. I found the hospital setting physically and emotionally demanding and call just added to stress. I move into an outpatient cardiology office where the environment is very pleasant, fast pace, great supervisor, and staff, not very challenging though (my choice). But with my background in x-ray, PET, and NM I know there are ample career opportunities for me to pursue them which make nuclear medicine a great profession to be in.”

“I believe that the SNM represents nuclear physician not nuclear technologists.”

“I hope to endure in nuclear technology for years to come, and I hope new procedures come about frequently.”

“I would like to see our profession get more respect. I previously worked in a hospital that had nuclear medicine physician. I now work in radiologists who think nuclear medicine is a dying field. I think nuclear medicine will have many benefits for oncology diagnosing as well as therapy.”

“You forget the return envelope. I opened this October 4th. Thought it was college info for my sr. in high school daughter. Upper management in our hospital seems to be dragging their feet in finding new manager for us. No one internally in the department wants the job because middle and lower management often eliminated at will. Management is a very unsecured position.”

“Several nuclear medicine tech programs started up in Texas at the same time, thus flooding the local market. Many had to look elsewhere for jobs. I took a PRN position and temporary position an hour drive from home before I finally found the job I have now. (The person who took over my temporary job as FTE switched, I took their job).”

“I left NM after 28+ years in field, all in major medical center/university. Reason: new physician from Turkey could not stand strong/edu. Women in work place! Found another job within university to maintain benefits.”

“We are paid too little for the amount of work we do and the patient load that we take on every day.”

“I would like to see more educational opportunities for cross training into CT. Our cardiology clinic may be adding a CT scanner in the next year. As CT angio becomes increasing popular I am concerned that nuclear cardiology exams may be on the decline.”

“Administrative politics play a large negative role. There is not enough organization among the cardiologists. Long wait times and delays for them to stress. We end-ups and delay our routine procedures. Poor planning - this institution is brand new and a lot of issues were not dealt with accordingly or in a timely manner. Bad habits were allowed and are now growing worse.”

“I feel that nuclear medicine technologists should not have to take call anymore since the CT of the pulmonary arteries provide much better results. The VQ scanners are so indeterminate in older patients.”

“I have left many questions blank as I am currently an ultra-sonograph (certified with the ARDMS). I maintain my certification in NM (NMTCB) as I still maintain an interest in the field and may some day go back to it.”

“I am currently still active CNMT but am working in RIS PACS side.”

“I absolutely loved my job until we get new supervisor, when our former supervisor became the RIS coordinator. The current supervisor was cross-trained from a RAD tech, she never attended a formal nuclear medicine program, and it really shows she is a very floppy tech who has poor technique, and is dangerous to our patients. She was "grandfathered" in, therefore allowed to work in under whose conditions.”

“I struggle to find a NM position in Milwaukee, Chicago area. The first place I interviewed in Boston hired me. I attribute this to high concentration of nuclear medicine students in the Milwaukee/Chicago area.”

“I have been chief technologist of 2 hospitals over the years and served on radiation safety committees, participated in PET program set up. Salary does not reflect any increase for BS and MS. Supervisory position paid 15% more than staff. I decided at age 50, to choose a lifestyle more conducive to peace of mind. I now work as a staff tech,

make almost the same money, no call and out patient office. The reasons why I left the hospital: constant technologist shortages, capital budgets not allowing nuclear equipment, lack of funding for continuing education for all techs and patient care issues."

"Answer questions that pertained to me or of which I had knowledge from other technologists. My nuclear medicine career led me to another field, MRI, which I have worked in for over 15 years, therefore many of these questions left unanswered."

"Every prospective employer says come back and apply for job after I have one-year experience. How can I get experience without a job?"

"In past 3 years, too many students entering this job market. There is a real conflict in supporting clinical/education goals when you feel job are locking. College faculty - senate want full enrollment despite reduction in available jobs. Concern that CT techs will overwhelm NM techs in job market because x-ray more powerful than nuclear medicine. In my place and others, NM departments the bastard children of radiology department. This is worsened by lower numbers of pure nuclear medicine doctors."

"I would like to sit for my registry (ARRT) in nuclear medicine. Because I trained OJT I cannot take it. I have done the prerequisites and passed the NMTCB. I wish the ARRT would work out something so I could sit for their NVC's board too."

"Nuclear medicine is not typically as well received as other radiology modalities. It is easy to burn out in nuclear medicine."

"I would like to do PET scanning. I recently took weekend course in Atlanta Technologist and I also worked in the CATH lab."

"The ability for NMTs to not only chess train and learn CT hybrid exams is paramount in NY State. Currently very few people hold both radiology and NMT degrees which NY state wants. Too few places can afford to pay 2 technologists, slowing the growth of the emerging and important "hybrid" imaging of PET/CT and SPECT/CT."

"I have no CEUs. We work in a small radio pharmacy with a full staff of 5-pharmacists/technologists. CE programs do not allows for weekends and we have to staff the pharmacy with minimum 2 techs driving business hours. Only radio pharmacists get to go to the seminars. Techs are low man on totem pole. Most programs are clinical in nature and do not pertain to my job."

"As currently unemployed, I did not answer those questions dealing with current employer or work place. I am currently looking for work as a nuclear medicine technologist in a private office, which I would intend to work for another 5 to 8 years. I will be going to school in the evening to pursue a program in horticulture, which I expect to go into when I stop working as a nuclear medicine technologist."

"Working in nuclear medicine over the past 10 years has been a pleasurable and rewarding experience. There is now however some concern among my staff regarding both licensure and the operation of the PET/CT hybrid units. I feel it very important for all techs in supervisory capacity to stress to their staff the importance of supporting state and local agencies to make the appropriate and necessary changes."

"Please be advised that though I maintain a current registry in nuclear medicine I have not worked in that modality in over 20 years. I do not feel my responses in this survey would be adequate nor accurate to contribute to your survey, thus the reason for its return."

"I have been in health care since 1968. I was always employed from N.Y. to L.A. Some times had 2 jobs. Health care is always growing and in need of professionals. I would highly recommend it to any students who want a safe, secure and fulfilling career. Helping other and being highly compensated and respected for your efforts."

"Once you get past the incompetent managers, ungrateful patients and inconsiderate physicians, it is not the bad way to make a living. Like all jobs, it has a good and bad, but the good outweighs the bad. Many hospital managers do not appear to be very good at their jobs. Many appear to be deadwood."

"I think the trend is to put too many people through the nuclear programs. This floods the market and lower wages. It's to our advantage if employers are a little hungry!"

“Received flyer for SNM New York/New England chapter for meeting in Newport RI. Flyer indicated that voice credits are pending approval from SMMTS. I plan to ahead only if CE credits are approved. It would be nice if I know ahead of time (i.e. when flyer is published).”

“1965-1967 Radiologic tech student. 1967, 2 year student started 1st nuclear medicine department in Lanc PA. Left 1970 to have child. 1987 returned to nuclear medicine part time. 1985 became chief tech. 2001 left hospital because health management association out of Naples FL purchased my hospital and things when down hill. I accepted staff position at Ephrata Comm. Hospital. I love my work. I always have. My current hospital is wonderful, great place.”

“Nuclear medicine provides very little mental stimulation. I much prefer nursing but M-F schedule helps me in nuclear medicine.”

“Small nuclear medicine department. No new equipment and cutting edge techniques.”

“I think if CT technology should be advancing and taking over NM then NM certificates should be accepted and techs from nuclear medicine should be cross-trained so they will not loose their jobs.”

“I have been a nuclear technologist for twenty-seven years. Lots of changes have made it a wonderful adapted career. I never was sorry that I became a certified nuclear medicine technologist. Continued education is something that worries me in 2006 when I became mandated to have a lot of CE, CoS. I would like to learn more about continued educated credits if applicable.”

“I recently left a hospital job that indeed doing nuclear, PET/CT, and densitanty. I was also responsible for doing all paper to include state reg. and ACR accreditation. Being the only full time employee. I hummed out after 13 years. Taking call even other week was not fun either. The hospital said that the number did not named for the second tech. May be education for employees onto what a nuclear tech does would be helpful.”

“Although I now work in clinical research I maintain my HM certificate and C. Ed in NM for CEUs. Some of my answers reflect my knowledge about the NM field in my geographic area. I remain informed about NM and the people who work in the field. One of my best friends is director of imaging at a large hospital.”

“Unhappy with a 37.5 hour work week vs. 40.00 hour work week compared to other health careers like nursing.”

“I am a field applications specialist for Siemens.”

“Nuclear medicine is a great profession! I really hope no other modality takes over for nuclear cardiology. The cardiologists at my office feel stress testing (MPIs) are still the most beneficial. I hope that feeling is supported for several years to come.”

“I love PET/CT”

“Since I am part time, I do not rotate through our facility's PET/CT unit. However, full time NMTs rotate through with one tech being the primary person in that modality.”

“Space in our institution is a building problem. With HIPA regulation it is impossible to work in a timely fashion. The management has no clue or does not want to understand the problem we face. Radiologists are too busy in their politics or making investment of their money. Nuclear medicine does pay more than other modality and my work place is really located conveniently close so I am happy.”

“I am sorry I was unable to fill out the majority of this form. However I am retired and only work part time in a doctor's office, not doing any nuclear medicine. To question 3, we must be licensed as a rad tech not a nuclear medicine tech.”

“Would love to have on site continuing education and a shorter workday. For the work can be emotionally draining. Also, more vacation time is needed for regenerate.”

“Employers need to share more of the cost of obtaining CEWS. This additional training is for their benefit as well as ours.”

“Been in the business since 1968. Hope to retire soon and pursue a non-medical job.”

“I had a degree in biology, but could not find any work in the mid seventies. I wanted to go to UVM and nuclear medicine was surely something that would get me a job. I really knew nothing about it before I went to into it, but I still enjoy it after 25 years.”

“Currently in MRI I am very happy. Would like to consider PET/CT if I could get license in CT.”

“Would like to work in PET/CT areas only but most sites in Pittsburgh area you must work in nuclear medicine and rotate job duties with PET. Must take call which I no longer want to do after 25 years of work. Facilities also keep wages down by keeping nuclear medicine and PET together.”

“Interesting survey - not all items applied to me as an educator/program director but I hope my responses will add to the database. A survey of program directors/educational programs might also prove fruitful - how many have added PET/CE? CT physics? How many clinic hours? Good luck with this study! I look forward to the results and analysis.”

“Section D Q5: nuclear medicine physician is a cardiologist. I did not mark both. Section G Q4: unknown. Section B Q2 and 3: 2 year certificate as radiologic technologist included NM training.”

“I am a stay at home mom that want to go back to work and only do per deem.”

“As a traveler I am unable to really give meaningful answers to a number of questions. No permanent bases for comparisons. I am licensed in 8 states and must say the license provides mainly for state revenue, not as a means of quality control.”

“I would like information in cross-training in CT and PET/CT if it is possible. I worked on a mobile PET unit for 1.5 years and enjoyed it.”

“My participation in this study is problematic. As the owner of a business in the field, and not having performed in a clinical situation for almost 20 years. My answers might not be an accurate reflection of the field.”

“I have been retired since the year 2000 and do not plan to re-enter the work force, including my former profession of nuclear medicine.”

“Currently nuclear medicine technologist can specialize and take exams that certify them in cardiac PET/PET CT etc. but employers make no distinction between certificated programs vs. college programs. A tech is a technologist. To upgrade this profession we should make college entry level.”

“Being an experienced technologist I see every year academic programs not properly training their students adequately. These students are put into the work force with only "book knowledge". Patient interaction, hand techniques, and IV training are not a critical part of training as it appears. I am seeing seasoned technologists aggravated by having to reiterate basic nuclear skills. Keeping notebook and writing things down are a part of the past!”

“Income has stagnated. Hoping that PET/CT will provide better salary/benefits, with ability to do CT or nuclear part time to earn more. It seems that I will need 2 jobs to be compensated as 1 job would in other areas of economy. The cost of medicine is high, so is education, so is recreation, so is gasoline. There is no waste in my facility. Can pharmaceutical company say that? What they do is a sin, and should be stopped!”

“It has been my experience that nuclear medicine is often not a priority to radiology administrations. A general under appreciation for nuclear medicine and the services provided exists. Professional must be educated.”

“I got my MD degree in 1976 back in Azerbaijan. I did my PhD in 1987. I had been working as anesthesiologist for 12 years and chief NM physician for 6 years. I graduated a NM program in 1998 in Sioux Falls, SD.”

“I love my job and being help people. I feel that I am in the right place. Although we are not always fully appreciated being a nuclear medicine technologist is very satisfying.”

“Finding continuing education opportunities that are affordable is becoming more difficult. A $ 600 weeklong conference in Steamboat Spring Co. is just not possible for pt tech with kids. Daylong seminars within driving distance (1-2 hours) are few and far between. Currently I am a per diem tech, I spend more time doing continuing education than I scan.”

“I would like to see state licensing of NMTs. I think it's imperative that nuclear medicine professionals be allowed to do pet/ct legally, after reasonable training.”

“The fact NY does not license NMT. We cannot operate fusion equipment, i.e. PET/CT. No matter what our education, therefore, nullifying any reason at this time to pay for training in PET/CT technology. Cost of living and CE credit requirements with assoc fees eat up the available money.”

“There are people doing the same work as me, with only an X-ray degree. I wish there was laws to protect my professional status. You don't see CNA doing RN's work.”

“I would like to see call be limited to weekends only. I would like the opportunity to cross-trained to PCT/CT and learn heads on the job training. No local teaching for PCT/CT.”

“I have been an NMT for over 32 years. I have seen the changes in the technology, educational requirements, the rise and fall of the need for NMTs, and changes in wages. Wow! What a ride it has been many of us are closing in on retirement. I have ten years left to work and I did not want to miss a thing. Of concern is the salary compression that we are seeing. The young techs are starting at salaries just slightly below where I am now.”

“Some CNMT and RT(R) are not qualifies to do their basic functions after they pass their boards.”

“I use to work full time doing nuclear cardiology. I tool off 5 year to be a stay home mom. Currently I work part time while my children are in school. Nuclear medicine has provided me with this opportunity. It is flexible and I enjoy it tremendously. I would do it all over again!”

“No call, no weekends, out patient, private clinic. Multiple sites locations in CA. PET/CT is the future. PET alone is out dated. PACS +di cam, no films.”

“I wish there were opportunities in my area to earn CEUs in CT.”

“A BA or BS degree should be the minimum qualification for entry into a NMTs program.”

“I am very satisfied with my career choice. Nuclear medicine has given me the foundation to advance my career and opportunities. I love my current job, however, the pay is terrible in Pittsburgh. I am relocating to Ann Arbor, MI, working 1-2 days per week in nuclear medicine and the rest in research. I will finally get paid an appropriate wage for my profession.”

“PET/CT is causing nuclear medicine to lose its identity as a specialty. There are far too many radiologists reading PET/CT with only a rudimentary understanding of nuclear medicine and there is little desire to learn on their part. Watching F-18 FDG devalue into CT contrast against is saddening. This is progress?”

“Overall I am satisfied with my choice of a career in nuclear medicine. Thank you for this opportunity to provide feedback.”

“I have work as a NMT/RT over 30 years - seen many changes - cross-training is great - should be part of school instead of employer responsibility -helpful ideas: “ better IV training “ Eka and rhythm identification “ infectious disease “ cross section anatomy “ CT/PET “ basic RT training for NMT “ management/supervision “ care of patients.”

“Since 1996, I have function full time as the health system RSO. Worked as RAD tech from 1972 through 1975. Worked as full time nuclear medicine technologist and RSO from 1975 through end of 1996.”

“Would like to see a listing of authorized texts for certification for CT limited license. Would also like to see cross-training available for radiology technician.”

“Constant changing demands on workflow can be stressful (i.e. short staffed, or being sent home for low work load). Our NM physician group are heavily invested in fusion techniques and PET and therefore do not promote purchase of these modalities in the hospital setting (don't want to share the lucrative income).”

“My employer allows me to work 1 weekend/month so I can be at home with my children during the week. If I want to work more weekends (8 hour shift/day) I have the option.”

“I have generally enjoyed working in nuclear medicine. It is definitely a young persons field though. When I started hardly anybody was over 250 lbs. Now we have 400+ lbs with regularity, and they want more help getting up. I am not sure that our backs are made to lift these patients. Perhaps craws could be added to the new cameras.”

“It worries me that persons with minimal (associate "degree") or no (certificate, cross-trained x-ray techs, on the job trainers) college education are allowed to sit for the national board certification exams. If this field becomes saturated with button pushers, myself and a lot of high qualified people are in for a bleak future. Patients too: the quality of available service will plummet.”

“Many years ago I was a nuclear medicine program director for VA. Currently I am an imaging service admins. We worked tirelessly to bring licensure to NYS for NM. It never happened the techs always felt less than recognized by others in the field of healthcare and legislators. The field has been diluted by cardiologists, etc. It is also degrading not to have "mandatory nuclear med board put for the MD.”

“Several years ago I was looking for work outside nuclear medicine because I was so burned out from long, strenuous workdays followed by call back. The demands were ridiculous at best. All of the techs were also under paid, based on local standards. Moving from a hospital setting to outpatient clinic has made a big difference. We still work long and hard but I know my nights are my own.”

“I wish my employer would have a transport requirement. I had three inpatient studies today and I am on a lower floor and down the hall from the wand. On my way downstairs I was asked to pull a bed to help an x-ray tech out. I am tired of it.”

“I left nuclear medicine in 1978. I own and operate a MRI unit for veterinary needs.”

“As a nuclear medicine in technologist, I take great pride in the career I have chosen, my only concern with my current position is the availability of physician for stress test. This greatly limits my ability for scheduling patients.”

“I work for shared imaging services which started as a mobile service. We now service 15 hospitals in NW Wisconsin in which we have installed in house equipment, so we are no longer a "mobile service".”

“I answer questions with section F based on reasons that I left the field of work.”

“I currently am employed in a position where I perform both nuclear medicine and ultrasound procedures. I prefer ultrasound over nuclear medicine and would not work just a straight nuclear medicine job. It's the variety that makes my job satisfying. My wages also reflect my dual competency and dual certifications.”

“The state of Massachusetts is making it hard for CNMTs to do PT/CT. They are required an RT license. They are not accepting the other certificate.”

“Not sure if there is opportunity to gain CEUs for CT.”

“It would be nice to have the opportunity to grow into a role such as nuclear medicine practitioner. Many smaller institutions have radiologist reading the exams and they routinely rely on the technologists’ knowledge for reading the exams. This would also help departments that do not have nursing readily available to inject cold pyp, laser, etc. Finally, this would allow a technologist the opportunity to grow in this field especially if they are not interested in becoming an administrator.”

“Nuclear medicine is a very satisfying field. It would help if others in health care not familiar with nuclear medicine understood its purpose and benefits.”

“Before becoming a travel technologist I worked in a hospital-based department that did have PET/CT. Techs that were certified in nuclear medicine were the primary operators of equipment. Being an RT(R)(N) I believe that with the CT portion being basic CT that the nuclear technologist should be primary operator of PET/CT not CT.”

“I am currently working in the outpatient clinic of a large hospital. I love the hours (no nights, no call, no weekends) but our limited workload. Ideally, I'd like to have the opportunity to perform some of the more advanced procedures, i.e. PT/CT, oncology exams but not if I have to go back to a "call" situation (I have children who are involved in my sport activities).”

“I work for a very progressive company outpatient imaging center spanning two counties in growing SW FLA. Due to rising real estate costs and high population growth in 50-80 years, old range, we find it very difficult to recruit at a rate to meet our new site completions.”

“I love the field of nuclear medicine. I have seen drastic changes over the almost 40 years in the field. Better studies less exposure. All very positive. At the onset of C4 and MRI people though NM was a lost field. Not true. It is better than ever. I could never understand when rotating students would say NM is boring. What planet did they come from.”

“I would love the opportunity to train for PET/CT. I have no working experience in nuclear medicine besides my school training. Management does not seem interested in helping me obtain my nuclear medicine abilities. They keep me in radiology due to short staffing.”

“Enjoy the job as a nuclear medicine technologist, but, it is becoming more difficult as I am getting older to push and pull patients while transporting or transferring from tables to stretchers. Definitely more challenging in a physical respect. The on-call for most hospitals has become absolutely ridiculous. Not all procedures are emergencies so we are doing routine exams.”

“I was an NMT educator for 12 years. I left for a pharmaceutical position which was more money, more flexible.”

“Section F #1, we are approaching the over saturation of students for the job market.”

“I have not worked in nuclear medicine for 8 years. Most of these questions I have no insight for.”

“I really shouldn't be included as my primary employment is that of Sonography and I only fill once in a while in nuclear when I am needed if others call in sick. I've been primarily Sonography for more than 15 years now.”

“I am sorry I wasn't able to answer all your questions. I am presently unemployed. I will soon commence a PRN position in NMT at the end October. I have been overall happy with the field, very rewarding here. Recently it has become more demanding physically, use to hard work, just have to be open to physical changes we all experience in our lives.”

“I have been a (temporary) local and/or traveling contracting consultant for most of my career. As such my income is 2-3 x that of regular employees (on a week to week bases). Demand for contract services has been sporadic the last few years. Demand for nuclear medicine techs, in general, has been relatively low for several years now.”

“I was a NMT for 18 years then decided to learn CT. I am certified in all 3 - radiology, NM, CT. Some of the answers (on this survey) were left blank because I do not currently work in the field but filled this out anyway because this was the second survey I got in the mail. In the future I may decide to go into PET/CT imaging as my next job.”

“Would like to have more info to profession concerning advanced nuclear medicine degrees.”

“You need to first find out who is still working in the field before sending out surveys. I have been out for 4 years and I am afraid I was not much of a help. Most of your questions do not apply to me so I just left them blank. Good luck! I hope you have a good turn out and can use the information. Thank for your hard work!”

“Nuclear medicine has been a very rewarding career for me. I work in a positive and very professional environment. We work together as a team and provide quality patient care very promptly. Down falls, our hospital just stopped co-contributions to our 401 K program, reduced medical benefits, and eliminated retirement health benefits. We all hate being called in after hours and especially on holiday for unnecessary exams.”

“Education of physicians who order make med studies. Better pay. Respect from the radiologists, most express they hate reading nuclear studies. They also need more education.”

“We have new management, they have hired 4 new techs out of school to pay them less than techs with experience. We had set hours by seniority, now we rotate hours and rotate call days. Seniority means nothing anymore.”

“After working in New York City for almost ten years, I relocated to Northern California. I used to work in a big city hospital and now I work in a cardiology office and for some reason NMTs who work in hospitals are paid more than those in private offices w/c is the complete opposite in the East Cost.”

“My employer (hospital) is teaching hospital for nursing, therapy, nuclear medicine.”

“When I needed "mothers' hours" there was no openings in nuclear medicine but there was in the lab at the hospital in my hometown. The lab has kept me very happy with my hours and pay therefore have not returned to nuclear medicine, but I do keep up on all my license/certifications and CEUs”

“(Nuclear medicine has been a great career for me. When I complete my master's degree, I hope to become active in the society of nuclear medicine on an administrative level.”

“I have been out of NM since my pregnancy Nov. 2003. I will most likely return to NM in the next 5 years.”

“I think that the school which I attended is now accepting to many students, which is not doing them any favors when they cannot find a job. They take about 40 students every year.”

“My responses may not be representative of other techs on my geographic area. 2 have been working in nuclear medicine for 22 years and am ready for a change so I am getting a master's degree and teaching certificate. While

working on my degree I am only working part time in nuclear medicine (0.4 FTE) at a community hospital rather than the university hospital which has a better professional environment."

"I believe that a BS in NMT should be standard. The students that I seen, seem to be lacking in some very basic information. How the tracer works in the body, general physiology and they need more hands on technical time. They do not problem solve in the clinic. Basic knowledge of CNTS/intensity, what makes an adequate image and how to talk to patients and understand them and explain the tests to them."

"I am currently not working. I became pregnant after graduating from NM school and did not apply for employment. I will be a stay at home mom until 2011 or even longer. I hope to practice NM or back to the lab for employment. Sorry I could not help you more."

"In summer of 1977 I was married and moved to Ann Arbor MI where I found a job ultrasound (registered in 1998) for which I had some on the job training. I never spent time in NM except for the year I was training (1976-77). At which time I also did ultrasound call and vacation fill in. I know cross sectional abd & pelvic anatomy but am doing per diem mammography now. Due to family obligations I may or may not be able to work full time again."

"I enjoyed nuclear medicine as a technologist, supervisor, manager, teacher for over 40 years 1963 - 2005. I retired effective 1/1/05."

"The state of Connecticut does not required licensure for NMTs. It does licenses RTs and radiation therapists. This is a huge hurdle for NMTs that wish to become certified to perform PET/CT or fusion imaging. With the merging of modalities, I am fearful that NMTs will be phased out."

"Good field to work in. When I started 7 years ago many were not good. If not in growth in many would not be in field."

"We as (nuclear medicine techs) need greater access to training to increase and maintain our skills."

"It has been very long time since I have had a clinical job in nuclear medicine. Most of my career has been in radiology education and administration - radiology department, hospital, and physician practice - so most of my responses have little to do with career in NMT. Many questions are left blank because they are not pertinent to my work."

"As more non-nuclear entities encroach into areas of nuclear imaging or modalities with potential to replace aspects of nuclear imaging (e.g. MRI). It appears our work is in danger of extinction. So, programs, options related to possible job transition training that builds on a nuclear background, or allows retiring nuclear techs to keep working after retirement would be very useful. More online C.E. in nuclear medicine by ASRT, SNM would also help."

"I work at a large institution that does its best at trying to keep a large department happy. (40 technologists) Shortages of techs several years ago force them to increase pay to reflect market trends or many would have left. Now that C.E.s are a requirement of CNMT. It will be a challenge to get credits needed for licensing. There is very little turnover in techs so that saves a lot!"

"I am traveler, so those answers would change from each job site."

"I feel that health care workers are at a huge disadvantage compared to corporate Americans including teachers, factory workers, etc who are given fantastic retirement packages. As a health care worker, we do not even get a discount on health care insurance when we retire - ironic!"

"I am in sales now because of the increase pay. I would like to get back into field because of the patient contact."

"I would like to see more reasonably priced DVD educational courses available for NM. I would like more/better study guide for advanced imaging certificates (cardiology PET) and the ability to take exams on line locally. RSO training on line as well."

"I presently do not work in the field of nuclear medicine technology. I do not plan to work in the field at this time."

"Very interesting questions. Thank you."

"Cross-sectional/CT anatomy offered at university day works am unable to get time off work to attend. I love the work, patient care, new technology. My actual main function does not handle multitasking with instant interruptions. Well causing me to make more mistakes as we leave "more efficient" with fewer resources."

“Overall in my 11 years working in nuclear medicine, the hospitals are brutal, especially due to inappropriate on-call studies from the ER Dr's. There is an overall dislike of nuclear medicine studies by radiologists who have to read them. There is an overall disrespect at times, a negative connotation with nuclear medicine, so at times I feel my job is not respected. Now that I work in an outpatient setting, things are more positive as a whole. Administrative/management level people in hospitals and outpatient settings are very antinuclear. Mostly because they are RT level with no interest in nuclear and therefore do not always understand what and who is needed to run a nuclear medicine department. This experience along with years working in the hospital setting breaking my back, have left me with 2 things: 1) I basically want to leave the field all together and work with animals not people. 2) I like the financial end of nuclear, as a female I can support myself without depending on anyone else. Thank you and good luck with the survey.”

“I am in the US Army and transfer every few years to a new area and new hospital. Some of these questions are very vague as far as military goes.”

“NM has been good to me for 3 years. Took a buyout due to difficulties with micro managing by people who do not know/or care what we do. Happy more. Duties stress test in private office.”

“EI is no. Please direct any reward to SNM ERI.”

“My employer should cover the cost of continuing education and should provide the means for other modality training pertinent to the equipment being used. “

“No longer reforms nuclear medicine. Manage a catch lab (procedural side).”

“I had to leave many items blank as I am working as a health physicist as a hazardous material shipper.”

“It is my opinion that there is a professional attitude on the surface. However when hospitals and Dr.s are faced with a choice of high quality technologists or low salary requirements. The quality concerns go out the window. At the end of the year my earnings are high. However, it has been at a high cost in my quality of life. I would still consider NM to be a rewarding profession.”

“Financial support for CE by our employer is $100 total per year. My annual base salary is based on 32-hour workweek.”

“My facility does not have a board certified nuclear medicine radiologist. While other modalities are respected, mine is largely ignored. I see no enthusiasm or leadership within nuclear medicine. Our nuclear techs find this extremely dissatisfying. My salary and flexible work hours make this job tolerable.”

“Thanks for conducting this study. My husband who is a nuclear medicine tech was involved in the SNM's manpower study in the 1980's.”

“I am no longer working in the nuclear medicine profession, but maintain my license and continuing education. I provide relief in this field for call, sick days and vacation.”

“Nuclear medicine society should develops program to get technologist certify in PET/CT. To fulfill the future demand and work loads in nuclear medicine, I think we should have a MASTER program so that technologists can further their education in the field of NM.”

“I work in health care because I am great with patients and grew at my job. Smaller PET clinics are forcing us to be sales people, also want us to push the physician to use PET/CT for all suspicion but there is a more professional way to do this than making techs go to launchers everyday and tell the med one who sends 90% of our patient volume to send more or to repeat these patients more. My morals/ethics are not in that interest anymore. PET who needed not for $.”

“I have noticed a trend in increasing class sizes in nuclear while decreasing clinical hours required. I feel these students are not prepared to enter the field and require too much initial training. The increase in students is going to saturate the market.”

“Radiation is always an issue long term.”

“Hope I answered all questions accurately. I have NM degree and have kept up all CE units but have decided to remain in radiation therapy (oncology). I seem to be an exceptional case.”

“I have just recently gone from full time nuclear medicine supervisor to assistant director of diagnostic imaging. I am pursuing BS.”

“No separate fees for additional education in the same field or closely related field, rather than change for each endorsement, you would encourage people to additional education by charging a little more for general membership and having free or very low cost endorsements. Cost is a big deal to the members and so is education, take the cost factor out.”

“I love what I do and love patient care, but I hate/dislike the fact that so many institutions are all about money and numbers rather than healing the patients. I feel like it’s all about how much $ can we gain off this patient. It's sad!!”

“Multimodality cross training ability is abused. I have no regular hours at: 7:30 M, 3:00 Tue, 8:30 W, 12:00 Thurs, 7:00 F as starting times for this week. I take call for all 3 modalities; CT, MR, NM. For no extra pay. I like the variety and want more but it is the devil to take a day off.”

“Working in echo cardiology for the last 5 years. Registered in x-ray NNTCB ARRT (R) (N) RDMS RDCS.”

“Hate call, tough IV's, unwarranted blame.”

“Currently, I am a staff Sonographer. Back in 1975 at the beginning of my career, as then a staff nuclear medicine technologist, my manager also acquired the first ultrasound machine. We were told we had to learn u/s as well. Then in 1985 we had to make a choice. I chose ultrasound because the on call exam would be of less time to perform. I am still working and on call! HA! However, I do miss nuclear medicine.”

“I have been in nuclear medicine for the last 19 years. The greatest change I have seen in the Pittsburgh area was the switch from NM radiologists to cardiologists in the reading of nuclear cardiology studies. This change caused many NM specific radiologists to leave area to find work where they could read cardiology studies. This resulted in a loss of support in nuclear medicine as these physicians were a voice in many major physician committees. When I need administrative help I now speak to cardiologists. If cardiac MRI or other modality ever replaces stress testing, I see a further disaster in nuclear medicine departments.”

“I have been working fulltime in MRI since 1981, initially in a research capacity, changing to a purely clinical capacity in 1988. My employer is currently beginning a PET program, which I would be interested in participating if the opportunity arises. Currently I am a chief technologist at an outpatient MRI facility.”

“I have been involved in nuclear medicine nearly 25 years. It is a wonderful modality that provided me with great opportunities. I wish everyone could have experienced the benefits (emotional, financial, and mental) that I have derived from my association with some of the leaders in this profession. We have lost many good people, fortunately many high caliber folks continue to enter the field. God bless!”

“I would like more opportunities for nuclear medicine technologist to become trained in PET/CT, CT, and MRI. The training should be able to lead to certification in these specialties.”

“Our facility is a teaching hospital. We are required to perform as EKG tech nurse, secretary, scheduler, and coding for hospital.”

“I need to learn how to negotiate with employer how to only work part time without having to change careers.”

“Continuing education needed to keep in touch with new products and imaging.”

“Please note in section B, question 1, I had 2.5 years of college work completed prior to entering a nuclear medicine program.”

“Because I do not work in PET/CT and we don't have a PET/CT scanner, I am not well informed regarding state requirements for that modality.”

“Please do not mail future surveys!”

“I no longer practice nuclear medicine, but am interested in keeping abreast of new technologies in nuclear medicine. The opportunity to work in a department from time to time would be nice.”

“I work primarily in RP scan. I will still fill in at some cardiology clinics in Houston as needed.”

“Market pay raises only increase 2% per year. Night call is extremely difficult as you get older and young technologists with small children. Down sizing employees with a higher workload.”

“My responses may not be helpful since I am employed in D.I. sales.”

“I was a nuclear medicine cardiology tech for 13 years. I recently tried to go back to general nuclear to enhance my skills. I found that my colleagues were not supportive and understanding that I needed to be trained in general nuclear. Again because my exposure was limited. The work environment was not conducive to fostering a positive work atmosphere. I will be staying in nuclear cardiology where the attitude is different.”

“Question #18, I am a new employee at a small community hospital and my time and salary is split between nuclear medicine and rad tech. Prior to my position here, I worked for a large teaching medical center for 15 years. That position was very stressful and demanded doing 2 or 3 procedure simultaneously.”

“I have been employed in nuclear medicine for 31 years. I have seen certain studies such as bone scan, brain scan, liver/spleen scans, and gallium scan decrease over the years. The above being replaced by tech increases in ultra-sound CT and MRI. Hida scan, GI bleeds and UQ lung scans seem to be the tests most doctors rely on today.”

“I am currently on a NMT leave to have - raise my children. I will be re-entering the work force within 1 year. I am a little worried about getting a job after being out of work for 4 years. I would love to have more opportunities for CE.”

“I have 20 years in the health field, I work full time in nursing PRN - nuclear medicine PRN - nursing in radiology. I also have ACLs and PALs.”

“Eliminate local unions for the employees at the workplace because it is doing an injustice to our career professionals. I see people getting away with "bloody murder" and they should be fired from the profession. Another situation is when the new grad has worked for the institution as a janitor (for example) for 15 years and suddenly becomes a nuclear medicine tech with no experience but has seniority over someone else who has 7 years of nuclear medicine experience seniority rules in this case.”

“NMTs no longer have the respect as they once had. Salary have felled behind.”

“I already left nuclear medicine field to attend Laws School in 2001 and become an attorney for last 2 years.”

“Personally I enjoy nuclear medicine. In particular I enjoy the nice mix of technical and social skills required of a good technician. However, I am routinely disappointed in the knowledge level of newer technicians. The almost complete lack of theoretical understanding of what we do and the importance of obtaining good quality images without cutting corners is disappointing. Also, I am disappointed in the quality of training of many doctors; many of whom were radiologist reading nuclear medicine films without full understanding. Medical ethics and more regulatory oversight of doctors and technicians is needed. JCAHO in NYC is a joke.”

“Somewhat discouraged at the lack of opportunity for those nuclear medicine techs at little community hospitals.”

“Thank you for gave me this chance to voice my opinion.”

“Established nuclear medicine program and taught 5 years. Many state and education program have participated in research past. Past member education program educator team.”

“I love my job. I now do PET with previous experience in general nuclear. I don't think that there should be a separate registry for PET or PET/CT ever. I think a nuclear tech should be qualified as long as the CT portion performed isn't used for anything other than fusion.”

“NM tech is becoming more PR in nature. There are too many, new non-experience NM tech, other health professional functioning as nuclear tech. The direction of nuclear tech is dwindling.”

“I recently moved from Georgia to Louisiana and I have had problems finding a full time job. I currently have only been able to find part time work. It is very disappointing especially when you leave the profession. I think it is an issue with the university accepting a large amount of students every year. The amount of students tends to increase each year.”

“I am pretty satisfied with my job. I would like to get PET/CT training. I most likely will get CT certification. I have enormous responsibility at my employment, NM, clinic teaching, education patients, research, nursing, QA, QC, cardio tech, scheduling, secretarial all in one. I could really use more support staff. I am really awesome at making the most of the resources available to me.”

“I have been a technologist for the past 23 years and it seems to me that not so long ago I performed my first scan. A lot has changed in the technological aspect of the field, but the attitude and dedication toward patient care has always remaining with the same enthusiasms as the first day. I love the job that I do, I respect the profession and has always been respected as people sound. Nuclear medicine has been good to me and I am proud to be in NM.”

“Both physician and nurses think NMTs have no formal training. I get tired of hearing how much "smarter" CT and MRI techs are. Radiologists do not support buying new equipment for NM or support the field itself. Salaries for technologists in NM are "capped" by the notion that nurses have to make more $ at my institution. The radiology director and hospital VP are ex-nurses.”

“I haven't worked in nuclear medicine technology since 1989.”

“I am presently doing agency work. I work in hospital settings as well as private settings. This has been working out great for me. The money compares with working as a full time employee hospital based and I have the ability to take time off when I need it. I also feel more independent.”

“Nuclear medicine holds a special place in my heart. I was tired of one on one patient care after working as a tech for 13 years. Became an RN and attorney with my ultimate goal of improving the quality of patient care on a broad scale, particularly in the area of nursing homes and elderly, nuclear medicine techs do not have the same opportunities for advancement than RN's. We assume great responsibilities, very similar to nursing in some larger institutions we do same credit for that.”

“Sorry, does not apply, not currently working active for the last 3 years.”

“Education is not as much as a problem as attitude and professionalism. Our patients are human and can not only see our sincerity but can hear everything we do and say. This is what our parents thought us and its hand retrain adults.”

“This questionnaire lacked proper directions to ensure valid responses. Because I do not currently work in nuclear medicine, and indicated so in D-1, my response to following questions would have been invalid; however there were no directions to "skip ahead". There should have been questions to f/u asking why I no longer was working in the profession.”

“I have worked in NM for 20 yrs earning my CNMT. I love my job and very satisfied with my employment at our facility”

“There is very little advancement opportunity in NM. Employers prefer to hire NM Techs with less than 5 yrs of experience. NMTs with more than 10 yrs experience have great difficulty finding new jobs due to higher pay requirements. This area is over-saturated with NM techs. I'm currently looking for other educational and employment opportunities outside NM.”

“I have enjoyed my experiences as a Nuclear Medicine Technologist. However, as I mentioned earlier on the survey due to some recent medical condition I obtained I had to retire from my profession”

“I'm pretty satisfies with my job. I would like to get PET/CT training. I most likely will get CT certification. I have enormous responsibility at my employment; NM, Clinical Teaching, Educating Patients, Research, Nursing, QA, QC, Cardio Tech, Scheduling, Secretarial all in one. I could really use more support staff. I am really awesome at making the most of the resources available to me.”

“Education is not as much as a problem as attitude and professionalism. Our patients are human and can not only sense our sincerity but can hear everything we do & say. This is what our parents taught us and its hard to retrain adults.”

“I am presently doing agency work. I work in hospital settings as well as private settings. This has been working out great for me. The money compares with working as a full time employee hospital based and I have the ability to take time off when I need it. I also feel more independent.”

“I have been a technologist for the past 23 years and it seems to me that not so long ago I performed my first scan. A lot has changed in the technological aspect of the field, but the attitude and dedication toward patient care has always remaining with the same enthusiasm as the past days. I love the job that I do, I respect the profession and have always been respected as a professional. Nuclear Medicine has been good to me and I am proud to be in N.M.”

Miscellaneous

Q.B.1. M.D.-Foreign Grad
Q.B.1. High School Diploma + RT®
Q.B.1. Radiographer
Q.B.1. Had a certificate for RAD Tech 2yr program
Q.B.1. Doctoral
Q.B.1. +2yr X-Ray Program
Q.B.2. One year certificate program- clarification - R.T.
Q.B.2. On the job training - clarification- 8 wk program, 40 hrs a wk.
Q.B.2. Two year certificate program - clarification - 1 yr of Sciences etc. at Univ of Cincinnati & 1 yr Training at Hospital Program
Q.B.2. On the job training -clarification- 40 hrs Cert. Course for Boards Prep.
Q.B.2. 14 months
Q.B.3. H.S. Diploma,
Q.B.3. X-Ray certificate
Q.C.1. ASCP (Lab)
Q.C.1. BSRT (N), BSRT®
Q.C.1. NMTCB
Q.C.1. ARRT
Q.C.1.CNMT-HRRT
Q.C.3. Don't Know
Q.C.3. Military,
Q.D.1. Part time - NM, Full time – Sonography
Q.D.1. Part time NM & Ultrasound each.
Q.D.3. Physician Office
Q.D.3. Same company owns various outpatient imaging modalities,
Q.D.3. Both are mobile at a hospital, It is a mobile contract at hospitals;
Q.D.4. Nuclear medicine dept. and PET center combined
Q.D.4. Nuclear Medicine Dept. - clarification - Manager of Nuclear Medicine & Nuclear Card. & PET
Q.D.6. 25% in NM, Full time ultrasound
Q.D.7. Yes-Have State X-Ray Cell (Regional for CA)
Q.D.7. But we don't have one; QG.1.-For college work only
Q.D.7. Yes, No, - Dual Reg Otherwise No
Q.D.7. Yes (if we had one)
Q.D.8. Yes- Joint Venture with Radiologist Located in Radiologist's Office next door.
Q.D.10. Kentucky won't allow
Q.D.10. We have to be X-Ray certified.
Q.D.11. Training in CT and MRI - both YES - Limited;
Q.D.14. Secondary employer- every other weekend.
Q.D.14. Self employed
Q.D.14. Both are Sonography (May be this person is referring to the primary and secondary settings and says that they are the same.)
Q.D.14. They are one in the same company
Q.D.15. US Army Nuc. Med- 1991, Current assignment from 2005
Q.D.16. Transplant IMC
Q.D.18. Does not apply
Q.D.18. No call required
Q.D.18. 60% P.P.T.
Q.D.19. Occasionally
Q.D.19. Primary not NM
Q.E.2. Experience in the workplace- clarification- volunteer
Q.E.2. Experience in the work place- clarification- EKG Tech Nuc. Med
Q.E.4. Does not apply
Q.F.1. Not Sure
Q.F.1. Healthcare downsizing
Q.F.1. Way too few!

Q.F.1. Since 2003 3rd option is true; Prior to 2003 option 1 would have been true;
Q.F.2. Unsure but seems like bias is toward experience;
Q.F.2. Not sure
Q.F.2. Will hire the person that works for the least money, even if not certified
Q.F.2. Prefer to hire cheapest help.
Q.F.3.Yes- I was laid off because I didn't know PET/CT
Q.F.3a. NMTs are sharing work/responsibilities with radiologic technologists (RTs)-clarification- PET/CT
Q.F.4. Some-mainly CT Tech
Q.F.7. Not working in NM
Q.F.8a.accept others as part of job
Q.G.1. Limited
Q.G.1. Yes-Once in a while
Q.G.1.Yes-but not the time!
Q.G.1. Yes (Partial)
Q.G.1. No, But they used to
Q.G.1. Yes-to some degree
Q.G.1. Yes, now. Past jobs- rarely.
Q.G.3. Self study programs (Oakstone)
Q.G.3. Syncor-online
Q.G.4. Not totally
Q.G.4. Not sure
Q.G.4. "?"
Q.G.4. Don't know
Q.G.4. Unknown
Q.G.4. Not sure
Q.G.4. Not sure
Q.G.4. Don't Know
Q.G.4. Not Sure
Q.G.4. No-Unsure
Q.G.4. Do not know.
Q.G.4. Don't know
Q.G.4a. Not sure