NMTCB 2018 Technologist Salary Survey Results

INTRODUCTION

The Nuclear Medicine Technology Certification Board (NMTCB) conducted a salary survey during the fall of 2018. All of the 23,918 NMTCB certificants were invited to participate in this 20-minute online survey via their email address on file. The survey itself was delivered online using Open Source LimeSurvey software (http://www.limesurvey.org/). A total of 5,626 responses were received, equating to an overall response rate of 23.5%. Statistical analyses of returned survey results were conducted using SAS 9.4 (SAS Institute, Inc., Cary, NC). Each entry in the database was evaluated for errors and completeness. Miscodes were eliminated from the file. Individual records containing blank cells were not used in any analysis that required the missing data. Observations with missing salaries were excluded from the data. Some observations were missing hourly rate, but were still included in the analyses. Thus, median hourly rates should be interpreted with caution. Additionally, salaries and hourly rates entered as 0 or other obvious errors were removed from the data. Salaries were calculated for observations with hourly rates, but missing salaries using the calculation (hourly rate*40 hours*52 weeks=annual salary). The survey reporting template and comparisons to 2013 outcomes were drawn from the NMTCB *2013 Salary Survey Results* publication by Angela Foster, CNMT, NCT. Conclusions extrapolated from this data should be done considering the appropriateness of the sample sizes for each assessment's grouping.

DESCRIPTION OF THE SURVEY RESPONDENTS

Technologists identifying themselves as staff technologists, which included PET and NCT, accounted for 68% of all responding technologists. Of those, 9% of technologists identified themselves as PET technologists, and 20% identified themselves as nuclear cardiology technologists. Another 22% classified themselves as being in non-technologist positions, such as administrators, educators, and applications/sales. About 1% work in another modality in radiology, describing themselves as working in general radiography, MRI, physics, and pharmacy, and 1% did not complete the question. Most staff nuclear medicine technologists reported working with 4 other technologists. 18.4% reported working with student nuclear medicine technologists, however only 1.4% claimed to receive compensation for this effort. Seventy-nine percent (79%) of staff technologists identified themselves as full-time employees, 14% were part-time, and 6% worked as needed (PRN). <1% of all respondents identified themselves as currently unemployed, which is less than the 3% unemployment noted in the 2013 survey.

Collectively, 62% of the nuclear medicine technologist workforce reported as female, with 36% reporting as male, and the balance (2%) not reporting as either. When considering full-time staff technologists, the same general proportions found in the collective workforce were reported, 61% were female (increased from 57% in 2013), 37% were male, with the balance (2%) not reporting as either. However, 80% of the part-time technologists were female, compared to 18% male. It is unclear if this distribution is due to life-style choices or some gender selectivity attributed to the employers.

The average length of employment for all technologists with the current employer is 9.6 years, the median length is 7 years. About 5% of respondents changed jobs in the last 12 months in order to achieve an increase in salary. A total of 37% of the respondents credentialed as certified nuclear medicine technologist (CNMT) by the NMTCB are also registered as nuclear medicine technologists by the American Registry of Radiologic Technologists (ARRT) and credentialed as RT(N). 20% of responding CNMTs are also registered by the ARRT as radiographers RT(R). About 28% of technologists hold specialty certifications. This includes 18% of CNMTs who report holding a dual certification in nuclear medicine technology (NMT) and CT. 4% of respondents report having the nuclear cardiology technologist (NCT) specialty credential. A slightly higher percentage of NMTs (6%) report having the PET specialty credential. The remainder includes radiation safety (RS), NMAA, MRI, interventional radiography, radiation therapy, DEXA, and Canadian credentialed technologists.

SALARY BY JOB DESCRIPTION

The median, mean (SD), and range of the annual full-time base salaries for the nuclear medicine–related job descriptions sorted in terms of highest to lowest median salaries are described in Table 1. An hourly equivalent of the medial salaries is also included. The current median salary for general nuclear medicine technology skills is $71,254 or $36 per hour, using the hospital-based general imaging technologist as the standard for NMT salary comparisons. This is about a $5,000 increase in annual salary from the 2013 salary survey. The range of salary for technologists in these positions is wide, ranging from $26,784 to $180,000 per year.

The results of a Kruskal–Wallis test determined that statistically significant differences existed in salaries among the job descriptions ($P < 0.0001$). The following job descriptions were statistically significantly higher than several of the others: 1) Sales/Marketing Professional, 2) Radiology Specialty Administrator: responsible for a single non–nuclear medicine

TABLE 1
Annual Base Salaries by Position

Primary Job Description	N	Median	Mean (SD)	Max	Min	Median $/hr*
Radiology Specialty Administrator: responsible for a single non–nuclear medicine area of radiology	4	$125,000	$122,250 ($17,519)	$140,000	$99,000	**$55.00**
Nuclear Medicine Technologist: private manufacturer	3	$120,000	$109,667 ($31,786)	$135,000	$74,000	**$36.50**
Nuclear Medicine Technologist: self-employed	7	$120,000	$113,286 ($40,913)	$160,000	$50,000	**$50.00**
Physician – Nuclear Medicine	1	$110,000	-	-	-	**$53.00**
Clinical Supervisor – Administrator: no longer actively involved in performing routine clinical procedures	55	$108,000	$106,923 ($21,938)	$175,000	$60,000	**$52.86**
Sales/Marketing Professional	16	$106,050	$123,069 ($55,075)	$280,000	$66,000	**$57.90**
Radiology Administrator: responsible for all areas of radiology	66	$104,500	$109,209 ($26,424)	$185,000	$70,000	**$48.20**
Administrative Professional	22	$97,620	$101,123 ($17,087)	$140,000	$79,000	**$46.75**
Systems Analyst/Programmer	11	$95,600	$117,055 ($60,749)	$250,000	$61,000	**$44.51**
Applications Specialist	25	$94,500	$95,174 ($19,393)	$150,000	$55,000	**$46.39**
Medical/Health Physicist	19	$90,000	$92,089 ($20,661)	$133,000	$61,000	**$40.00**
Pharmacist/Nuclear Pharmacist	2	$90,000	$90,000 ($42,426)	$120,000	$60,000	**$46.00**
Specialty Supervisor: supervising routine clinical procedures in a specific area of nuclear medicine (cardiac, SPECT, PET, etc.)	81	$89,440	$90,378 ($20,026)	$139,000	$31,968	**$44.48**
Educator: Nuclear Medicine Other	6	$87,750	$105,500 ($47,149)	$192,000	$62,000	**$43.60**
Clinical Supervisor – Chief Tech: still actively involved in performing routine clinical procedures as well as having significant administrative duties	396	$86,736	$88,963 ($21,942)	$180,000	$42,000	**$42.35**
Educator: Nuclear Medicine Classroom Instructor/Adjunct Lecturer (hired specifically to instruct students in the classroom)	4	$82,000	$81,250 ($20,288)	$104,000	$57,000	**$34.63**
Nuclear Medicine–Related Position in the Private Sector: Other	13	$82,000	$82,096 ($17,750)	$115,430	$45,324	**$40.48**
Other	35	$82,000	$87,790 ($22,350)	$175,000	$40,000	**$42.35**
Staff Nuclear Medicine Technologist: PET only – clinic/private office	88	$80,500	$82,162 ($19,084)	$177,000	$50,000	**$39.63**
Educator: Nuclear Medicine Program Director	49	$80,000	$85,293 ($14,351)	$122,934	$60,000	**$41.00**
Staff Nuclear Medicine Technologist: PET only – hospital base	78	$79,450	$80,985 ($14,996)	$134,000	$55,000	**$39.03**
Staff Nuclear Medicine Technologist: mobile PET – hospital/clinic base	15	$79,000	$77,371	$110,000	$48,241	**$38.38**
Employed – but no longer working in a nuclear medicine or radiology-related field	5	$78,000	$80,200 ($32,553)	$125,000	$35,000	**$36.67**
Staff Nuclear Medicine Technologist: research (NM or PET) – hospital/clinic/educational institution base	31	$78,000	$81,277 ($22,860)	$160,000	$52,790	**$37.51**
Staff Nuclear Medicine Technologist: mobile NM – hospital/clinic base	19	$77,000	$74,992 ($16,883)	$100,000	$47,500	**$40.00**
Staff Radiologic Technologist – MRI	10	$76,400	$75,368 ($21,989)	$105,000	$38,400	**$37.83**
Pharmacy/Nuclear Pharmacy Tech	7	$75,000	$69,999 ($19,487)	$99,000	$38,000	**$31.00**
Staff Nuclear Medicine Technologist: cardiac only – hospital base	117	$75,000	$76,826 ($16,529)	$146,000	$49,920	**$38.50**
Staff Nuclear Medicine Technologist: research (NM or PET) – private research laboratory	5	$75,000	$81,840 ($27,021)	$125,000	$54,000	**$34.25**
Staff Nuclear Medicine Technologist: cardiac only – cardiac clinic/private office	309	$72,000	$72,568 ($16,783)	$130,416	$26,000	**$36.54**
Staff Nuclear Medicine Technologist: general imaging (may include some Cardiac and/or PET) – hospital base	1356	$71,254	$74,420 ($19,634)	$180,000	$26,784	**$36.00**
Educator: Nuclear Medicine Clinical Instructor (hired specifically to instruct students in the clinical setting)	5	$71,000	$75,247 ($14,920)	$98,000	$60,736	**$42.05**
Staff Nuclear Medicine Technologist: general imaging – clinic/private office	136	$69,500	$70,613 ($17,946)	$130,000	$23,011	**$34.50**
Staff Nuclear Medicine Technologist: mobile PET – private mobile imaging service	32	$68,320	$70,339 ($15,080)	$104,000	$35,500	**$34.69**
Staff Nuclear Medicine Technologist: mobile NM – private mobile imaging service	25	$68,000	$76,014 ($21,554)	$120,000	$50,000	**$37.00**
Private Sector position in another radiologic discipline (sonography, MRI, CT, radiation oncology, etc.)	3	$65,000	$78,333 ($27,538)	$110,000	$60,000	**$31.20**
Staff Radiologic Technologist – Computed Tomography	7	$60,000	$58,343 ($13,844)	$75,000	$40,000	**$32.20**
Staff Radiologic Technologist – General Radiography	4	$49,620	$49,310 ($11,493)	$62,000	$36,000	**$26.58**
Staff Technologist (in another radiologic discipline not listed above)	1	$48,000	-	$48,000	$48,000	**$21.00**
Nuclear Medicine Technologist: temporary staffing service	1	$35,000	-	$35,000	$35,000	**$33.00**

*All hourly rates were not provided by participants.

area of radiology, 3) Systems Analyst/Programmer, 4) Nuclear Medicine Technologist: self-employed, 5) Radiology Administrator: responsible for all areas of radiology, 6) Clinical Supervisor - Administrator: no longer actively involved in performing routine clinical procedures, 7) Educator-Nuclear-Medicine-Other, 8) Administrative Professional, 9) Applications Specialist, 10) Medical/Health Physicist, and 11) Specialty Supervisor: supervising routine clinical procedures in a specific area of nuclear medicine (cardiac, SPECT, PET, etc.).

Those hospital-based staff technologists who work in specialty areas are compensated with an additional $8,000 per year for PET (Supplemental Table 1; supplemental materials are available at http://jnm.snmjournals.org) and $4,000 per year for nuclear cardiology (Supplemental Table 2). This difference in salary is slightly more than what was reported on the 2013 salary survey, which was $7,000 for PET and $2,000 for nuclear cardiology at that time.

The results of comparative tests determined that statistically significant differences did not exist for salaries within the PET, nor within the cardiology job descriptions. However, the results of a Kruskal-Wallis test comparing Cardiac Combined and PET Combined determined that statistically significant differences did exist in salaries between these two groups ($P < 0.0001$). The PET Combined group (median salary=$78,811) had a statistically significantly higher salary than the Cardiac Combined group (median salary=$72,000). Further, comparison of the mean salaries for staff technologists in hospital based general NM, PET, and nuclear cardiology working environments indicated that there was a statistically significant difference between general NM and PET salaries ($P = 0.0037$), but not between general NM and nuclear cardiology salaries.

Educator's salaries are similar to specialty technologists' salaries. Classroom instructors and clinical instructors reported average salaries of $75,000–$81,000 which fall between PET ($80,000) and nuclear cardiology technologist ($72,000). Program directors earn an average annual salary of $85,000.

Radiology Administrators reported the highest average annual salary at $122,000. The next highest paid positions are the Clinical Supervisors, who report an average salary of $107,000; Nuclear Medicine Technologists (self-employed), who bring in an average $113,000; Nuclear Medicine Technologists (Private manufacturer), who report an average salary of $110,000. This is followed by administrative roles such as Chief Techs and Specialty Supervisors, who average $89,000 and $90,000, respectively.

Because of the broad salary ranges cited above, the salary differences between specialties was examined with a comparison of entry-level technologists' salaries (with entry level defined as technologists who graduated from an NMT program within the years of 2014–2018) as the basis for salary comparison. In order to have an adequate sample size, this analysis required grouping hospital-based staff technologists and clinic/private office staff, in addition to mobile PET staff, into one group. Supplemental Table 3 shows that entry-level technologists in general imaging and nuclear cardiology earn approximately $59,000/year, almost $6,000 less than those who have entered into the PET specialty. These salary differences are statistically different between PET and both nuclear cardiology ($P = 0.0010$) and general NM ($P = 0.0133$). This outcome for novice technologists' salaries, along with the outcome of the salary comparison between veteran hospital-based NM and PET technologists above, would imply that there are significant salary advantages when working in the PET environment.

POPULATION BASE AND GEOGRAPHIC LOCATION

Supplemental Table 4 describes the average annual base salaries for the hospital-based general imaging technologist category sorted by population base. Technologists employed in major cities earn on average about $5,000 more than those in suburban/small city settings. Major city salaries are greater than rural salaries by approximately $13,000. A comparison of urban based technologists and rural-based technologists shows that the $5,500 advantage the urban technologists receives is statistically significant ($P = 0.0008$). This pattern of salary differences is similar to the 2013 survey. Although major cities were not reported on the 2013 survey, the difference between urban and rural salaries was $8,250. In general, it can be said that technologists who practice in the rural setting earn significantly less than urban-based technologists.

Full-time, hospital-based, general imaging technologists' median salaries sorted alphabetically by each U.S. state are described in Supplemental Table 5. The highest median salaries were reported by those employed in California ($59/hr), Alaska ($53/hr), and Hawaii ($52/hr). The states with the lowest median salaries included South Carolina ($30/hr), Kentucky ($30/hr), Alabama ($30/hr), and Arkansas (~$30/hr). There is a statistically significant difference ($t=11.9457$; $P = 0.0001$) between the highest salary (California at $59/hr) and the lowest salary (Arkansas at just under $30/hr). The national median nuclear medicine technologists' annual salary is $71,254.

In addition to state-to-state salary differences, we find that there are significant regional differences as well. Supplemental Table 6 sorts the median and average salary data into geographic regions. Similar to the 2013 survey, technologists from the Pacific region report the highest full-time salaries with median value of about $105,000, which is $34,000 above the national median. The North-East region has the next highest at $78,000. The South region reports the lowest median annual salary of $64,000 which is $7,000 below the national median. The results of a Kruskal–Wallis test determined that statistically significant differences existed in median salaries among regions in Supplemental Table 6 ($P < 0.0001$). Median salaries in the Pacific, the North-East, and the Mountain regions were statistically significantly higher than the West Central and East Central Mid-West, Mid-Atlantic and Central South West regions. Additionally, all regions reported statistically significantly higher salaries than the South. These differences are visually depicted in Figure 1.

GENDER AND ETHNICITY

Supplemental Table 7 describes a profession that is approximately 61% female and 37% male (from reported

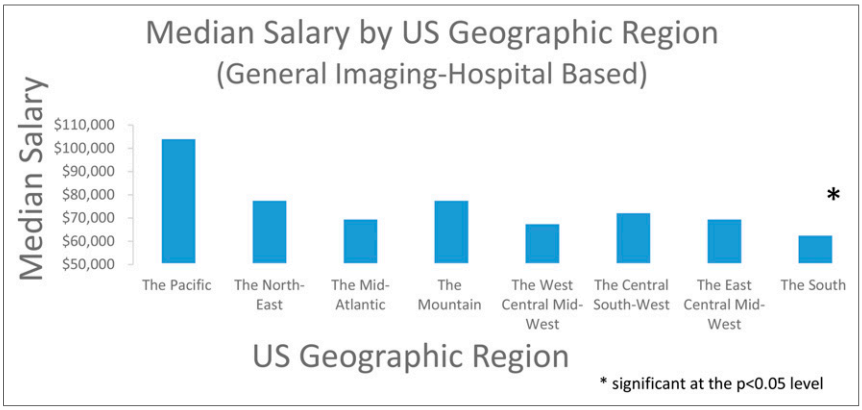

FIGURE 1. Median Hospital-Based General Imaging Salaries by U.S. Region

responses, with 2% not reporting). Using only full-time staff responses across all NMT job descriptions, a gender gap is evident when comparing median salaries across all positions, with approximately $7,000 in favor of males. This difference is median salaries among males and females is statistically significant ($P < 0.0001$). The top paying 5 jobs consist of 50% males vs 49% female (1% didn't answer). The gap is less when just looking at hospital-based general imaging salaries (Supplemental Table 8) where the difference is just over a $5,000. This difference in median salaries among males and females is statistically significant ($P < 0.0001$), and has almost doubled since 2013.

Supplemental Table 9 tells us that 84% of respondents working in general nuclear medicine imaging identified their ethnic background as White. The next largest group (5.5%) were technologists of Latino descent, followed by technologists of Asian descent (4%). African American technologists made up 3.5% of the total, the mixed ethnic group reported 2%, and the remaining 0.5% were Native Americans. Results of a Kruskal–Wallis test indicate that statistically significant differences existed in median salary by ethnicity ($P = 0.0277$), favoring Asian or Pacific Islanders by $7,000 more than the other reported ethnicities. However, due to the low numbers of individuals in each non-white category, caution is advised when interpreting any discrepancies in the ethnicity salary statistics.

Supplemental Table 10 would also support differences in median salaries based on regional differences as opposed to racial differences. Note that in the South, African American median salary exceeds that of all other ethnic categories. To this end we found no statistically significant results in annual salary by ethnicity after adjusting for region ($P = 0.0858$).

SALARIES BASED ON YEARS OF EXPERIENCE AND AGE

Supplemental Table 11 indicates that a recent NMT graduate or entry-level nuclear medicine technologist in a hospital-based general imaging position will earn a median salary of $60,000 per year (approximately $29/hr). This is an increase of $5,000 annually (or $2.42/hr) compared to the entry level salaries reported in the 2013 survey.

Figure 2 describes median and average salaries for hospital-based technologists compared to their years of experience. The median salary range from entry level to 40 years or more of experience is reported to be about $19,000, which is down from the $23,000 difference reported in 2013. However, this distribution is not linear. The greatest increases in compensation for years of experience are seen by technologists during the first 25 years of employment. Technologists with at least 5 years of experience reportedly earn about $6,000 more than an entry-level technologist. Reported salary increases during the 10-, 15-, and 20-year intervals are approximately $6,000, $3,000, and $5,000, respectively. Salary increases fall off significantly as the technologist moves past the 25, 30, 35, and 40 year work anniversaries.

The median age of nuclear medicine technologists across all job descriptions is 45 years old, the same as in 2013. For technologists working in hospital-based general imaging, the median age is 42 years, one year younger than 2013. PET technologists reported a median age of 41 years. Technologists working in the nuclear cardiology specialty reported a median age of 47 years. Both median age values are different than the values reported in 2013 (46 years for cardiac techs, 49 years for PET techs). The youngest respondents were 21 years old. The oldest respondents were 73 years old. The oldest technologist responses came from the self-employed (median age of 61 years) and nuclear medicine educators-other (median age 58 years) descriptive descriptions. The salaries reported by all groups increase with age. The salary increases for age parallel the increases seen in years of experience (Figure 2), up to age 50, which is equivalent to 25–30 years of experience. After age 50, there is more variation in salaries (Figure 3). However, it appears that the rate of salary change in the later years of one's professional life is less than the rate of salary change seen earlier in one's career, indicating a gently sloping salary plateau.

EDUCATION BACKGROUND AND SALARIES

An analysis of certificant responses about their education from all NMT job descriptions (Supplemental Table 12) shows that 28% have associate's degrees, 54% have bachelor's degrees, 10% have master's degrees, less than 1% have a doctorate, with the balance consisting of certificate and high school program graduates. The educational backgrounds in the hospital-based general imaging job description (Supplemental Table 13) similarly show a distribution where 30% have associate's degrees, 58% have bachelor's degrees, 6% have master's degrees, less than 1% have doctoral degrees, with the balance consisting of certificate and high school program graduates. According to the statistics in Supplemental Table 12 (all NMT job descriptions) the market value

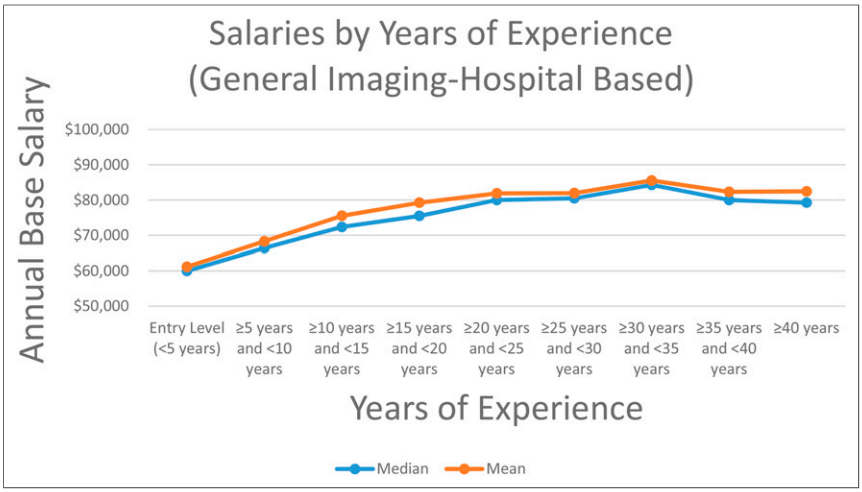

FIGURE 2. Average Salaries for Hospital-based Technologists Based on Their Years of Experience

of a technologist with a bachelor's degree is approximately $2,000 higher than one with a two-year degree ($P = 0.0145$). In further comparing all job descriptions, technologists who have earned their master's and doctoral degrees can expect to earn between $11,000 and $21,000 more, respectively, than those with a bachelor's degree ($P < 0.0001$).

The median earnings difference is smaller, only $1,600, and not statistically significant, when comparing associate to bachelor degrees for technologists working in the general-imaging category (Supplemental Table 13). However, earning a master's degree reportedly benefits the general imaging technologist by ~$6500 to $8000 ($p<0.01$). Recognizing that most technologists earn their master's degree later in their careers, then comparing these values to median salaries based on age from Figure 3, a NMT with a master's degree or higher will earn about $8,000–$10,000 more than someone who has not earned their master's from the same median age group.

Salaries of recent graduates from different types of NMT programs were compared in Supplemental Table 14. This comparison of the median average salary shows that technologists who graduated from a hospital or medical center based program have about a $1,000 higher median income than a technologist graduating from any of the other programs. University-associated teaching hospital graduates have a lower median income than those that graduate from a community college or four year college or university. However, results of a Kruskal–Wallis test showed that there were no statistically significant differences in median salaries among the types of NMT educational programs ($P = 0.1272$).

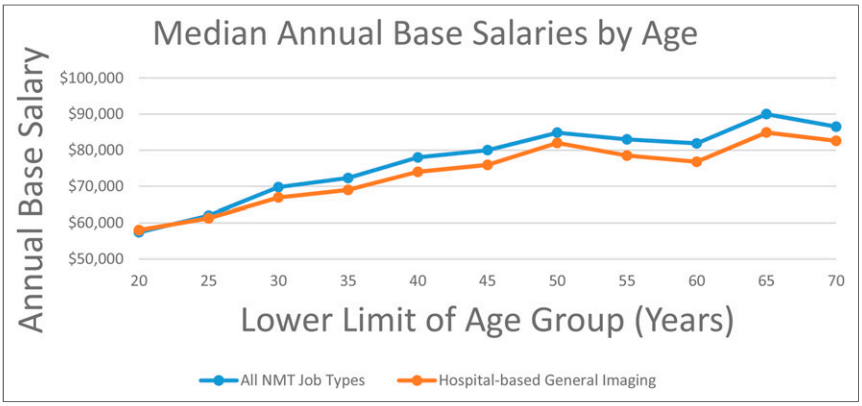

FIGURE 3. Median Base Salary by Age

DUAL CERTIFICATION CHARACTERISTICS FOR NMTS AND HYBRID IMAGING LICENSURE

A total of 37% of the respondents credentialed as CNMT by the NMTCB are also registered as nuclear medicine technologists by the ARRT and credentialed as RT(N). 23% of responding CNMTs are also registered by CAMRT and the ARRT as radiographers RT(R). 12% of CNMTs report holding a dual certification in NMT and CT with the ARRTs RT(CT), and 6% report CT certification with the NMTCB(CT) credential, meaning that 18% of NMTs are dual certified with CT as the second credential. 4% of respondents report having the NCT specialty credential. A slightly higher percentage of NMTs (6%) report having the PET specialty credential. 48% of those PET-certified technologists are additionally certified with either the ARRT's RT(CT), NMTCB(CT), or both. However, unlike the monetary advantage one gains when obtaining the PET credential ($6,000–$8,000), the median salary increase for NMTs with the additional CT was $737.

Technologists who work with one or more hybrid PET/CT or SPECT/CT devices were asked to identify who performs the CT portion of the hybrid examinations. 65% percent responded that the nuclear medicine technologist performs the CT examinations. Interestingly, when CT hybrid operators were asked whether their state requires radiography or CT certification/licensure to operate the CT component of the imaging system, 24% stated that such licensure is required. Obtaining the CT credential, then, seems to be more a function of establishing professional qualifications to operate the hybrid scanners rather than as a means to increase salary.

And, whereas almost two thirds of NMTs who operate hybrid devices operate the CT imager on hybrid devices, only 5% of nuclear medicine technologists working with PET/MRI imaging systems claim to perform the MRI portion of the hybrid examination. Interestingly, 11% of the MRI hybrid operators identified their state as one which requires radiography or MRI certification/licensure to operate the MRI device.

ON-CALL ANALYSIS

48% of the full-time general imaging hospital staff NMT respondents who responded to the on-call survey items said they routinely take call as part of their job-related responsibilities, which is far below the 75% reported in 2013. 44% of technologists who perform cardiac imaging in a hospital setting report taking call, which is double the percentage of 2013. And, 43% of those who perform PET in the hospital setting take call, which also is up from 2013's 30%. Of the NMT respondents who reported taking call, 81% receive time-and-a-half call back pay for their hours worked. The next highest reported pay for hours worked on call was straight time at 9%. As in 2013, the median dollar pay for stand-by figured to be $3.00/hr, with the most common reported value increasing by $1.00 to $3.00/hr. Most technologists who take call (75%) report being paid a minimum of 2 hours when responding to a call. It would seem that the reported on-call distribution is influenced by the increasing impact of radiology, oncology, and cardiology physicians on nuclear medicine utilization.

EMPLOYMENT

This 2018 survey not only inquired about salary information, it also inquired about employment trends as well. 5% of respondents claimed that they had been laid off from a position related to their nuclear medicine certification within the last 5 years due to economic reasons. The response is down from the 10.5% reporting similar occurrence in 2013. About 23% of respondents reported that their hours per week have been reduced by an average of 8.7 hours due to economic reasons. This too is less than the 40% who had a similar experience in 2013. When asked about positions being eliminated or purposefully not filled within the last 5 years, more than 35% answered yes, with 75% of those stating that full-time positions had been eliminated. The percentage of respondents answering yes to position elimination is down from 2013 by 20%, but the number of full time positions eliminated has increased by 9%. In summary, it would appear that the discipline is more stable with fewer layoffs than it was 5 years ago, but a number of full-time positions seem to have been replaced by part-time positions, or eliminated altogether. The impact for nuclear medicine technologist would then be in concern for the employee benefit differential between part-time and full-time employment.

SUMMARY AND CONCLUSION

These survey results have helped to describe the current demographics and current salary ranges of certified nuclear medicine technologists and their related job descriptions. 68% of responding technologists identified themselves as staff technologists. 79% of staff technologists identified themselves as full-time employees, 14% were part-time, and 6% worked PRN. About 27% of technologists hold specialty certifications. This includes 18% of CNMTs who report holding a dual certification in NMT and CT. 4% of respondents report having the NCT specialty credential and 6% report having the PET specialty credential. 65% of technologists who work with hybrid PET/CT and/or SPECT/CT devices responded that the nuclear medicine technologist performs the CT examinations. 24% of hybrid operators reportedly work in states where CT certification is required by law.

The current median salary for hospital-based general imaging nuclear medicine technology skills is $71,254 or $36 per hour. This is about a $5,000 increase in annual salary from the 2013 salary survey. Those staff technologists who work in specialty areas are compensated somewhat more than the median salary: approximately $8,000 per year for PET and $4,000 per year for nuclear cardiology. Comparison of the mean salaries for staff technologists in hospital-based general NM, PET, and nuclear cardiology working environments indicated that there was a statistically significant difference between general NM and PET salaries ($P = 0.0037$), but not between general NM and nuclear cardiology salaries.

Technologists who practice in the rural setting earn significantly less (about $5,000) than urban-based technologists. Major city salaries outweigh rural salaries by almost $13,000. This pattern of salary differences is similar to the 2013 survey. We found that there were statistically significant differences reported between state and regional salaries. The highest median salary was reported by California ($59/hr). The state with the lowest median salary was Arkansas (~$30/hr). Similar to the 2013 survey, technologists from the Pacific region report the highest full-time salaries with median value of about $105,000 and the South region reports the lowest median annual salary of $64,000. All regions reported significantly higher salaries than the South.

62% of the nuclear medicine technologist workforce reported as female, which is 5% more than reported in 2013. The survey suggests that a $5,000 gender gap favoring males was evident when comparing median salaries of hospital-based general imaging technologists. This difference in median salaries among males and females is statistically significant ($P < 0.0001$), and has almost doubled since 2013. 84% of respondents working in general nuclear medicine imaging identified their race/ethnic background as White. Asian or Pacific Islanders reported median salaries of $7,000 more than the other reported ethnicities. However, this report suggests these differences in median salaries are based on regional differences as opposed to racial differences. Note that in the South, African American technologists' median salary exceeds that of all other ethnic descriptions. To this end, we found no statistically significant results in annual salary by race after adjusting for region ($P = 0.0858$).

The median age of nuclear medicine technologists across all job descriptions is 45 years old. For technologists working in hospital-based general imaging, the median age is 42 years. Technologists working in the nuclear cardiology subspecialty reported a median age of 47 years. PET technologists reported a median age of 41 years. Technologists are compensated with the greatest increases in salary during the first 20 years of employment. Salary increases fall off significantly as the

technologist moves past the 25th year work anniversaries. The salary increases for age parallel the increases seen in years of experience, up to age 50, which is equivalent to 25-30 years of experience. It appears that the rate of salary change in the later years of one's professional life is less than the rate of salary change seen earlier in one's career.

28% of all NMTs have associate's degrees, 54% have bachelor's degrees, 10% have master's degrees, and less than 1% have a doctorate. The salary of a technologist with a bachelor's degree is approximately $2,000 higher than one with a two-year degree. Further comparing all job descriptions, technologists who have earned their master's and doctoral degrees can expect to earn between $11,000 and $21,000 more, respectively, than those with a bachelor's degree.

It would appear that the discipline is more stable, with 5% fewer layoffs than 5 years ago, but a number of full-time positions seem to have been replaced by part-time positions, or eliminated altogether. The impact for nuclear medicine technologist would then be in concern for the employee benefit differential between part-time and full-time employment. 48% of the full-time general imaging hospital staff NMT respondents routinely take call as part of their job-related responsibilities, which is far below the 75% reported in 2013. However, PET and cardiology call percentages are both increased since 2013. Of the NMT respondents who reported taking call, 81% receive time-and-a-half call back pay for their hours worked.

In conclusion, compared to 2013, technologists' salaries are higher, especially for those working in PET. Also, unemployment is comparatively lower, and more technologists are women. There does exist a salary gap based on gender, and geographic region and location, but not on ethnicity. The reader should not assume that the respondents to this survey represent a true random sample of the total population of nuclear medicine technologists. The length of the survey and personal motivation to respond and complete a lengthy survey probably had un-measureable reliability and/or validity influences on the outcomes. Additionally, the process of analysis and cross-tabulation can result in descriptors and comparisons of groups with small sample sizes where the output median, mean, and range values can be influenced by extreme or atypical data values. Therefore, as with any survey analysis, some caution should be used when interpreting and inferring from the reported statistics. However, the NMTCB believes this data is significant, and therefore is reporting this cross-sectional salary data so that it may serve as a valuable reference for educators, administrators, and technologists.

ACKNOWLEDGMENTS

Katie Neal, MS, NMTCB Executive Director
Elpida Crawford, MS, CNMT, NMTCB Associate Executive Director
Brittany Ange, EdD, MS, Biostatistics
Anthony Knight, MBA, CNMT, Biostatistics
Angela Foster, CNMT, NCT, *NMTCB 2013 Salary Survey Results*

Gregory Passmore, PhD, CNMT, NMTCB(RS)
NMTCB Publications Committee