The NMTCB undertook a fairly comprehensive survey of nuclear medicine technologists during the summer of 2012. The survey was delivered online using open-source LimeSurvey software. It was divided into 3 primary categories seeking information on demographics, education and training, and job status and salary. Invitations to participate in this survey were sent via e-mail to the 21,383 active certificants for whom the NMTCB has a valid e-mail address. Of those, 4,469 completed all or part of the online survey for a response rate of 20.8%.

DATA ANALYSIS

All surveys were subjected to the simple analysis provided by the LimeSurvey software. The output data were also converted to a Microsoft Excel 2010 workbook, and the data were analyzed using Excel data analysis functions. Blank response entries were maintained, but individual records containing blank data were not used in any analysis that required the missing data. As a result, any cross-tabulated statistics reported here do not use any information provided by those respondents who did not complete the appropriate items needed to make that analysis. Their record may, however, have been used in the analysis of other questions for which the responses were deemed sufficiently appropriate. It should be recognized that since the records used in any one specific analysis may differ from those used in another analysis, output values for the same statistic may vary somewhat from one table to another. Salary data cross-referenced with different demographic variables may produce differing median or mean salaries for any given group of nuclear medicine technologists.

DEMOGRAPHICS

Of all respondents, 56.74% identified themselves as female. However, of the 2,673 (59.8%) respondents who claimed to be used full-time (>35 h/wk), 53.27% identified themselves as female, whereas 295 of 433 (68.13%) of those working part-time (20–35 h/wk) are female and 67.16% of those working per diem (>20 h/wk) are female. As is shown in Figure 1, the age range is spread rather evenly through all age groups except those at the extreme ends of the range options.

As shown in Figure 2, more than 75% of all respondents listed their ethnic origin as being "White, Not of Hispanic Origin," and nearly 4% did not answer the question. Of the remaining 15%, their numbers were almost exactly evenly divided between African-American, Asian or Pacific Islander, and Latino or Hispanic.

Participants were also asked how the population base of the area where they are employed can best be described. Of the respondents, 36.25% claimed to work in an urban area, whereas 30.19% work in a suburban area and 8.08% work in a rural area.

Just under half (49.25%) of all who answered the survey belong to SNMMI-TS, whereas 16.63% belong to the American Society of Radiologic Technologists and 5.37% belong to the American Society of Nuclear Cardiology. Less than 1% belong to any of the other professional organizations, with the exception of the American Healthcare Radiology Administrators, to which 1.54% belong.

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EDUCATION AND TRAINING

When asked "What is the highest level of formal education you have completed as of this date?" 48.67% claimed to hold a baccalaureate degree and another 30.08% claimed to hold an associate's degree. Another 9.41% have a master's degree, and 9.2% hold a certificate of completion or program diploma as their highest level of formal education. Just less than 1% have completed doctoral or postdoctoral education. These data are displayed graphically in Figure 3. When participants were asked whether they are currently in pursuit, or are planning to pursue, an additional degree, 23.54% said yes, whereas 42.52% said no and 23.11% were not sure.

Technologists were also invited to describe the type of nuclear medicine education they received, to which 30.99% claimed a degree from a 4-y college or university. An additional 26.12% went to a community or junior college, and 13.02% went to a hospital or medical center–based program. Training on the job remains the initial source of nuclear medicine technology training for 9.84% of respondents, whereas 2.56% received their training in the military and 13.84% attended a program at a teaching hospital associated with a university. When asked whether the nuclear medicine technology program that they attended was programmatically accredited, 64.92% stated that their program was programmatically accredited at the time of graduation. Participants were also asked what year they graduated from their nuclear medicine technology education program. Figure 4 graphically demonstrates the year in which respondents graduated from their nuclear medicine program.

When asked "If you graduated from a nuclear medicine technology education program, what did you receive on completion of that program?" the responses were evenly distributed, with 26.4% receiving a baccalaureate degree (with or without a certificate of completion), 29.08% receiving an associate's degree (with or without a certificate of completion), and 30.56% receiving a certificate of completion/diploma only.

Survey participants were asked "Approximately how many years of college had you completed BEFORE you started

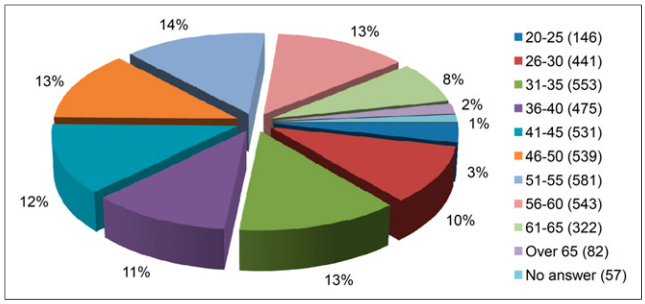

FIGURE 1. Age of respondents.

your formal nuclear medicine technology education (choose the closest option)?" Figure 5 shows the amount of college attended by participants before starting nuclear medicine technology education.

CERTIFICATION/REGISTRY

It is natural to expect that most survey participants would be NMTCB-certified (CNMT), and indeed, 91.25% of respondents said that they are. In addition, 5.24% of respondents are nuclear cardiology technologist (NCT)–certified, 4.68% are certified in PET, and 0.11% are Nuclear Medicine Advanced Associate (NMAA)–certified. Those certified in nuclear medicine by the American Registry of Radiologic Technologists (ARRT) comprised 35.65% of the respondents, suggesting that as many as about a third of nuclear medicine technologists hold NMT certification/registry with both the NMTCB and the ARRT. Certification as a registered radiographer made up 22.98% of respondents, as compared with (24.37%) of all respondents that were registered radiographers (RT(R)) before starting nuclear medicine training, suggesting that almost all (94.3%) nuclear medicine technologists who started as radiographers have retained that registry. Three hundred twenty-one respondents (7.18%) are also registered in CT. This suggests an increase over the approximately 200 nationally that were registered in CT a decade ago. Interestingly, 85 nuclear medicine technologists (1.9%) are also registered with the ARRT in MR. Other certification/registries listed include radiation therapy (0.13%), cardiovascular interventional radiography (0.25%), mammography (1.61%), diagnostic medical sonography (1.19%), diagnostic cardiac sonography (0.31%), vascular sonography (0.43%), and MR with ARMRIT (0.11%). In addition, 48 nuclear medicine technologists registered with CAMRT responded to the survey, comprising 0.29%. We also had a small number of responses from those registered with CAMRT in radiography, MR, and radiation therapy.

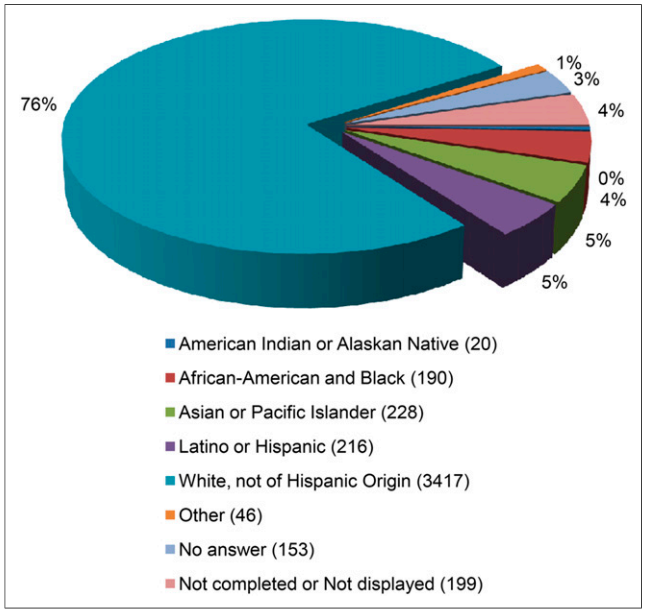

FIGURE 2. Ethnicity of respondents.

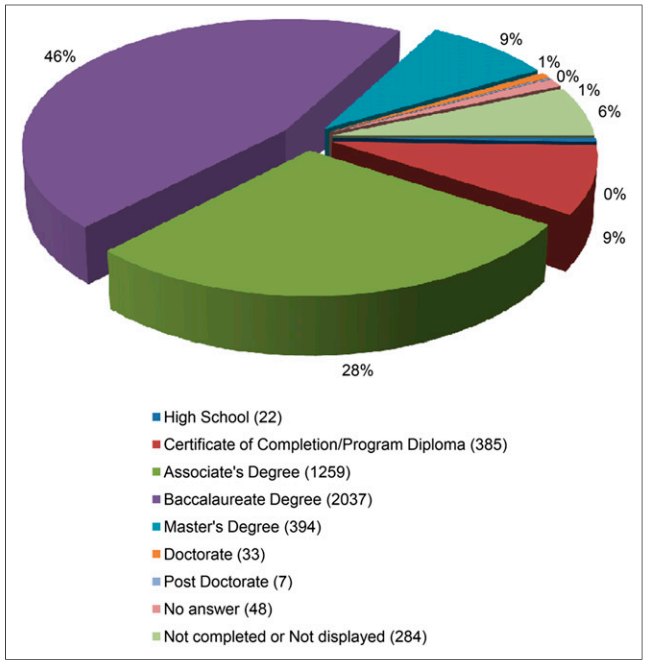

FIGURE 3. Highest level of education.

JOB STATUS

The third section of the 2012 certificant survey sought to answer some questions about the employment and job

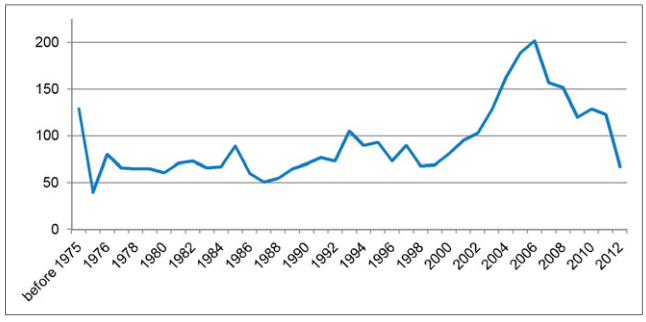

FIGURE 4. Year of graduation from a nuclear medicine technology education program.

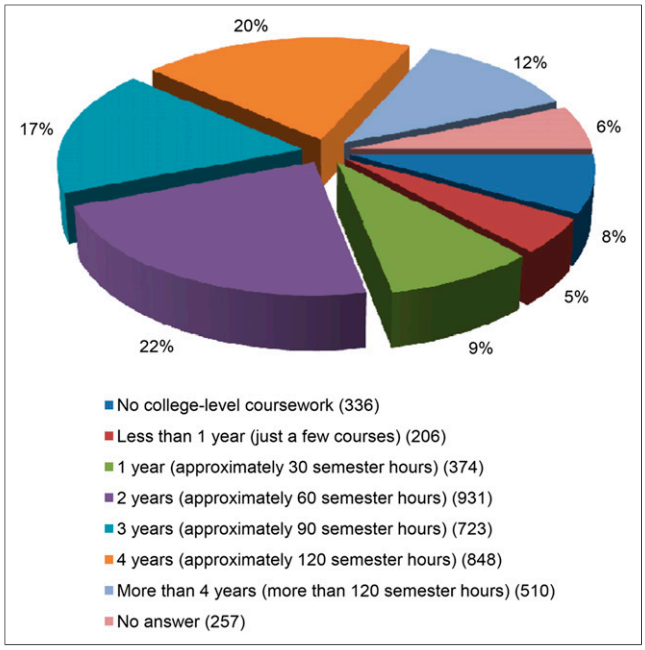

FIGURE 5. Years of college completed before starting nuclear medicine training.

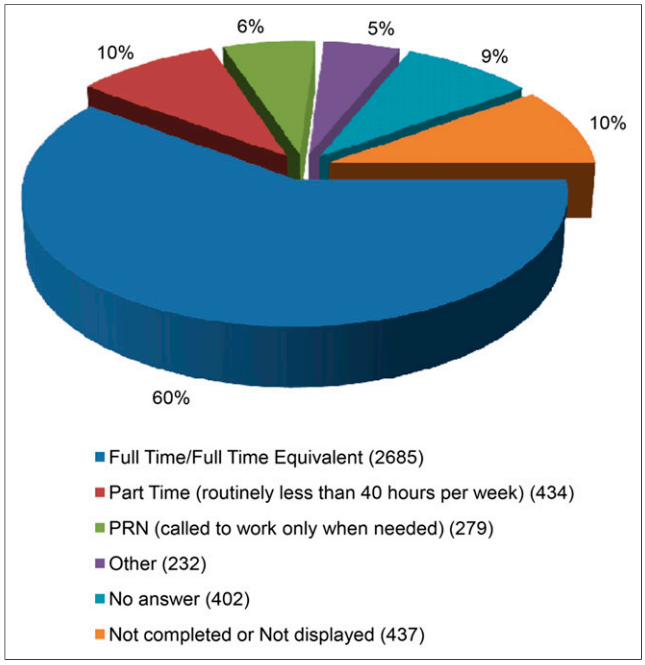

FIGURE 6. Current employment status.

status of nuclear medicine technologists. When asked "Which of the following categories BEST describes your current employment status in a field related to nuclear medicine technology?" 60.08% responded that they were considered full-time or full-time equivalent. Part-timers (routinely <40 h/wk) made up 9.71% of respondents, whereas PRN (called to work only when needed) made up 6.24% of respondents. It may be important to note that 9.0% of survey respondents chose "No Answer" to this question and an additional 9.78% did not respond to this question at all. During the survey, participants were given the option to end the survey after the certificant/registry section if they were not employed in a field related to nuclear medicine technology.

TABLE 1
Average Number of Hours per Week for Part-Time and PRN NMT Employees

Answer	Count	Percentage
0–5 h/wk	91	2.04%
6–10 h/wk	89	1.99%
11–15 h/wk	70	1.57%
16–20 h/wk	105	2.35%
21–25 h/wk	137	3.07%
26–30 h/wk	93	2.08%
31–35 h/wk	92	2.06%
36–39 h/wk	48	1.07%

TABLE 2
Current Position with Current Employer

Answer	Count	Percentage
<1 y	330	7.38%
1–3 y	490	10.96%
3–5 y	598	13.38%
6–10 y	1,023	22.89%
11–15 y	496	11.10%
16–20 y	188	4.21%
21–30 y	281	6.29%
>30 y	117	2.62%

TABLE 3
Any Radiology Position with Current Employer

Answer	Count	Percentage
<1 y	242	5.42%
1–3 y	367	8.21%
3–5 y	529	11.84%
6–10 y	952	21.30%
11–15 y	521	11.66%
16–20 y	214	4.79%
21–30 y	320	7.16%
>30 y	179	4.01%

TABLE 4
Any Radiology Position with Any Employer

Answer	Count	Percentage
<1 y	113	2.53%
1–3 y	196	4.39%
3–5 y	333	7.45%
6–10 y	725	16.22%
11–15 y	470	10.52%
16–20 y	428	9.58%
21–30 y	679	15.19%
>30 y	634	14.19%

TABLE 5
How Many NMTs Used by Your Institution?

Answer	Count	Percentage
1	429	9.60%
2	451	10.09%
3	422	9.44%
4	381	8.53%
5	287	6.42%
6	224	5.01%
7	200	4.48%
8	160	3.58%
9	100	2.24%
10	160	3.58%
11	56	1.25%
12	72	1.61%
13	23	0.51%
14	35	0.78%
15	44	0.98%
16–20	118	2.64%
21–25	56	1.25%
26–30	30	0.67%
31–40	19	0.43%
41–50	14	0.31%
>50	37	0.83%

TABLE 6
How Many Open Full-Time Positions at Your Institution?

Answer	Count	Percentage
0 (none)	3,007	67.29%
1	146	3.27%
2	76	1.70%
3	37	0.83%
4	27	0.60%
5	16	0.36%
>5	46	1.03%
Don't know	76	1.70%

TABLE 7
How Many Open Part-Time Positions at Your Institution?

Answer	Count	Percentage
0 (none)	3,129	70.02%
1	125	2.80%
2	43	0.96%
3	12	0.27%
4	7	0.16%
5	2	0.04%
>5	12	0.27%
Don't know	88	1.97%

Also, 5.19% of respondents chose "Other." Although a few of those listed health-care–related jobs such as MR imaging, PACS, electronic records, medical physics, and even an owner of an NM-related business, the overwhelming majority of those who chose "Other" stated that they cannot find work in a nuclear medicine technology–related field. These data are shown in Figure 6.

We then asked "If you responded 'Part Time' or 'PRN' to the previous question, what is the average number of hours

TABLE 8
How Many Open PRN Positions at Your Institution?

Answer	Count	Percentage
0 (none)	2,874	64.31%
1	301	6.74%
2	68	1.52%
3	17	0.38%
4	8	0.18%
5	2	0.04%
>5	8	0.18%
Don't know	120	2.69%

TABLE 9
"Beeper Pay"

Answer	Count	Percentage
$0 (nothing for carrying the beeper)	55	1.23%
$1.00/h	63	1.41%
$2.00/h	528	11.81%
$3.00/h	440	9.85%
$4.00/h	150	3.36%
$5.00/h	133	2.98%
$6.00/h	39	0.87%
$7.00/h	22	0.49%
$8.00/h	26	0.58%
$9.00/h	9	0.20%
$10.00/h	10	0.22%
$11.00/h	2	0.04%
$12.00/h	8	0.18%
$13.00/h	0	0.00%
$14.00/h	2	0.04%
$15.00/h	5	0.11%
>$15.00/h	39	0.87%

TABLE 10
Compensation for Emergency Procedures

Answer	Count	Percentage
Straight time	171	3.83%
Time and one half	1,168	26.14%
Double time	36	0.81%
A fixed rate per hour not directly associated with your annual base salary	34	0.76%
A fixed rate per study (rather than per hour)	29	0.65%
Other	76	1.70%

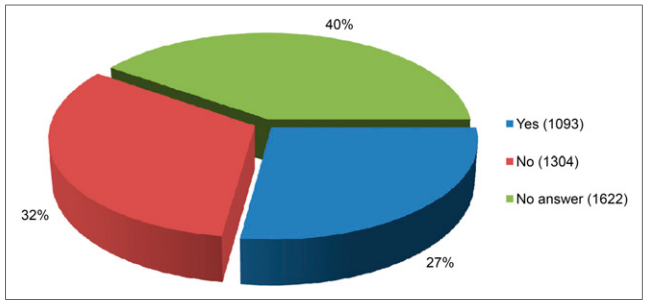

FIGURE 7. Paid shift differential in addition to hourly wage.

TABLE 11
Annual Base Salary

Answer	Count	Percentage
0-$9,999	58	1.30%
$10,000–$19,999	54	1.21%
$20,000–$29,999	78	1.75%
$30,000–$39,999	120	2.69%
$40,000–$49,999	244	5.46%
$50,000–$54,999	232	5.19%
$55,000–$59,999	256	5.73%
$60,000–$64,999	392	8.77%
$65,000–$69,999	358	8.01%
$70,000–$74,999	358	8.01%
$75,000–$79,999	259	5.80%
$80,000–$84,999	242	5.42%
$85,000–$89,999	187	4.18%
$90,000–$99,999	212	4.74%
$100,000 or more	261	5.84%
No answer	721	16.13%
Not completed or not displayed	437	9.78%

TABLE 12
Median Salary Range by State

State	Median salary range	*N* =
Alaska	$90,000–$99,999	2
Alabama	$60,000–$64,999	50
Arkansas	$65,000–$69,999	27
Arizona	$70,000–$74,999	45
California	≥$100,000	122
Colorado	$75,000–$79,999	39
Connecticut	$80,000–$84,999	36
District of Columbia	$85,000–$89,999	4
Delaware	$70,000–$74,999	6
Florida	$70,000–$74,999	160
Georgia	$70,000–$74,999	62
Hawaii	$80,000–$84,999	7
Iowa	$70,000–$74,999	44
Idaho	$60,000–$64,999	12
Illinois	$65,000–$69,999	96
Indiana	$65,000–$69,999	71
Kansas	$60,000–$64,999	29
Kentucky	$60,000–$64,999	67
Louisiana	$60,000–$64,999	27
Massachusetts	$75,000–$79,999	51
Maryland	$75,000–$79,999	51
Maine	$70,000–$74,999	18
Michigan	$65,000–$69,999	115
Minnesota	$75,000–$79,999	57
Missouri	$70,000–$74,999	66
Mississippi	$75,000–$79,999	22
Montana	$60,000–$64,999	8
North Carolina	$65,000–$69,999	85
North Dakota	$75,000–$79,000	4
Nebraska	$55,000–$54,999	19
New Hampshire	$75,000–$79,999	10
New Jersey	$80,000–$84,999	63
New Mexico	$70,000–$74,999	15
Nevada	$80,000–$84,999	13
New York	$70,000–$74,999	124
Ohio	$65,000–$69,999	115
Oklahoma	$60,000–$64,999	28
Oregon	$75,000–$79,999	29
Pennsylvania	$65,000–$69,999	145
Puerto Rico	$40,000–$49,999	17
Rhode Island	$80,000–$84,999	4
South Carolina	$70,000–$74,999	29
South Dakota	$60,000–$64,999	14
Tennessee	$60,000–$64,999	64
Texas	$65,000–$69,999	196
Utah	$70,000–$74,999	18
Virginia	$70,000–$74,999	73
Vermont	$60,000–$64,999	3
Washington	$85,000–$89,999	54
Wisconsin	$70,000–$74,999	70
West Virginia	$60,000–$64,999	26
All States	$70,000–$74,499	2,515

per week that you work in a field associated with nuclear medicine technology?" The responses are broken down and displayed in Table 1.

Hospital-based general imaging is the primary job classification of 38.46% of respondents, whereas 10.72% work in an office-based cardiac-only setting. The remainder of survey participants who chose to answer this question (>30% did not) are spread across a variety of job settings. Of the 1,014 (22.69%) respondents who consider themselves employed in an administrator role, 71.8% said they are actively involved in performing routine clinical procedures as well as having significant administrative duties, whereas 13% are not actively involved in performing routine clinical procedures. Although 22.35% of all respondents stated that the clinical instruction/training of nuclear medicine technology is an official part of their job duties, 151 respondents (0.03%) claim their primary responsibility is in the role of an educator. Of those, 37% are program directors, 23.8% are clinical coordinators, 15.8% are classroom instructors, and 23.1% were hired specifically to instruct students both in the clinical setting and in the classroom. There were 183 (0.04%) respondents who work as nuclear medicine technologists in the private sector. Of these, 8.7% work as sales/marketing professionals, 20.7% as applications specialists, 26.7% as administrative professionals, 1.6% as systems analysts or programmers, and 42% in a variety of other roles such as accreditation specialist, technical consultant/speaker, radiation safety officer, imaging scientist, regulatory compliance worker, field service engineer, state regulator, quality assurance auditor, and independent technologist.

To the question "How long have you held your CURRENT position with your CURRENT employer?" the responses peaked at 6–10 y as shown in Table 2.

To the question "How long have you held ANY nuclear medicine or radiology-related position with your CURRENT employer?" the responses also peaked at 6–10 y as shown in Table 3.

Lastly, respondents were asked "How long have you held ANY nuclear medicine or radiology-related position with ALL (past and current) employers?" Although the responses again peaked at 6–10 y, there were also many responses of more than 20 y, as shown in Table 4.

TABLE 13
Median Salary Range by Experience

Years of experience	Median salary range	*N* =
<3y	$50,000–$54,999	35
3–5 y	$55,000–$59,999	210
6–10 y	$65,000–$69,999	533
11–15 y	$70,000–$74,999	356
16–20 y	$75,000–$79,999	309
21–30 y	$75,000–$79,999	502
>30 y	$75,000–$79,999	464

EMPLOYMENT AND COMPENSATION

Department sizes seem to vary, as shown by Table 5, which displays the results to the question "How many total nuclear medicine technologists are currently used by your institution? You may include administrators, educators and contract (agency) nuclear medicine technologists who maintain their (NMTCB or ARRT) certification."

As would be expected given the current fiscal environment, there were not many unfilled nuclear medicine technologist jobs at the time the survey was conducted, as described in Table 6, which shows responses to the question "How many vacant FULL TIME nuclear medicine technologist positions does your institution currently have (that they plan to fill)?"

Likewise, it seems there were not many open part-time or PRN positions in 2012 either, as shown in Tables 7 and 8, respectively.

Approximately one third (32.94%) of survey participants stated that they take call, and most are paid $2.00–$3.00 per hour for "carrying the beeper," as shown in Table 9.

When responding to an emergency request for a nuclear medicine procedure, most respondents get straight overtime (1.5 times the regular hourly rate) as described in Table 10. Among those that answered "Other," the majority had a minimum number of hours (usually 3 or 4) associated with each time they were called in.

Participants were asked if they were paid a "shift differential" in addition to hourly wages. Figure 7 displays the results.

SALARY

The last section of the survey was about salaries. All participants were asked for their current annual base salary. The mean annual salary range among those claiming to work full-time in a field related to nuclear medicine certification was $70,000–$74,999. The distribution of annual salaries among all participants, including part-time and PRN technologists, was also tabulated. The results are shown in Table 11.

SPECIALTY CERTIFICATION

Although we asked only for ranges of salary and not more specific salary information, the data do suggest that those full-time technologists with NCT certification earn 3.7% more than those without NCT certification and that those with PET certification earn 9.9% more than those without PET certification. Table 12 shows the median salary range for full-time nuclear medicine technologists in each state.

In Table 13, we describe median salary range by years of experience.

We hope you agree that this survey has provided a wealth of important information about the state of nuclear medicine technology as of 2012. It does not, however, provide some of the more specific salary information that appeared in the 2006 NMTCB salary survey. The NMTCB has plans to conduct a much more specific salary survey this spring and publish the results in the fall of 2013.

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Nuclear Medicine Technology Certification Board