

# SNMITS Program Director Survey

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**T**he Data Analysis Task Force (DATF) was created by the SNMITS leadership to collect data that would be useful to both the organization and the profession of nuclear medicine technology (NMT) as a whole. A need was identified to collect timely data that could be used to provide benchmarks, establish trends, and recognize significant changes in our industry. The objectives and goals of this task force were identified and established at the SNMITS's Gateway V meeting held in October 2003. The goal of the DATF was to design and implement a system to collect, analyze, and disseminate data to support planning, modeling, and forecasting functions. Several methods of data collection will be used, including ongoing surveys. The DATF was given the following charges:

1. Establish a dynamic warehouse of information;
2. Create a data dictionary to define elements in the warehouse;
3. Establish rules for disseminating and using data;
4. Provide data that will be used to design and implement policy; and
5. Establish a schedule of analytic procedures and reports to be used in forecasting.

## METHODS

The DATF recently conducted an online survey of all nuclear medicine technology program directors (PDs) designed to assess the entry-level education of their students and the status of their nuclear medicine technology programs (NMTPs). A link to the survey was sent electronically by e-mail in December of 2004 to all of the NMTPs listed by the Nuclear Medicine Technology Certification Board. Directors had approximately 4 weeks in which to complete the survey. The survey consisted of items designed to gather information on the current status of NMTPs, including information on program directors, applicants, recent NMT graduates, and curriculum content. Responses were analyzed and item statistics were generated. Year-specific data is from the 2003–2004 academic year.

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## RESULTS

### Survey Respondents

A total of 123 nuclear medicine technology program directors were sent a link to the survey. This group included 117 programs based in the United States (including Puerto Rico) and 6 programs from Canada. Fifty-four of the surveyed program directors submitted responses providing a high response rate of 44%. Thirty-nine of 54 respondents represented programs accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. Participants were from a variety of sponsoring institutions (Fig. 1).

Nuclear medicine technology programs traditionally offer several different types of awards at the completion of the educational training: 35 of the 54 programs responding to the survey have certificate-of-completion terminal awards; 21 award a bachelor's degree (or at least offer that option to qualified candidates); and 14 offer associate's degree awards (Table 1).

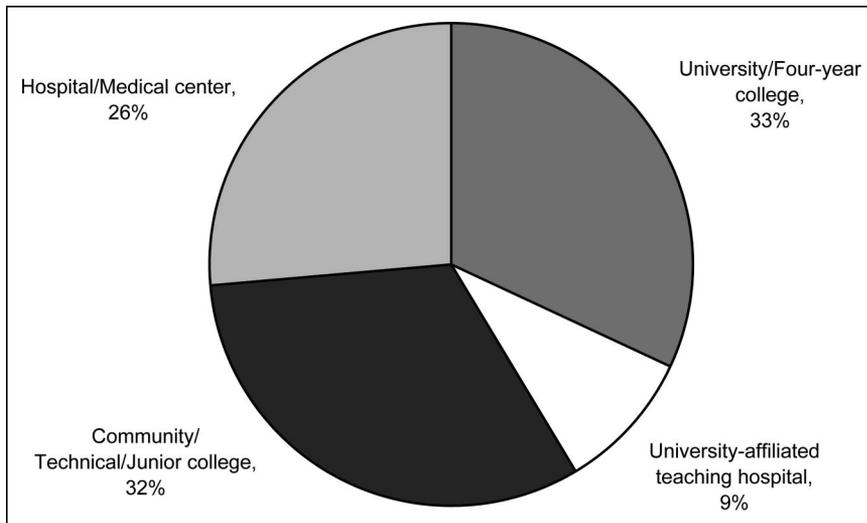
The majority (85%) of the programs have only 1 class graduating per year. The other 15% have multiple graduating classes per year (Table 2). The length of the professional component varied across programs, but the majority, 48%, reported a program length of 12 months (Table 3). May and August are the most common graduation months with 37% of the programs graduating students in August and 26% graduating students in May (Fig. 2). Employers may want to consider this pattern when looking to fill technologist positions.

### Faculty

Table 4 displays data describing the human resources currently being used to operate a NMT program. It may come as no surprise that adjunct clinical faculty represent the largest group of educators in most NMT programs. Based on the data collected, most programs have a very limited number of full-time didactic faculty members.

### Program Capacity

Data collected to better understand the demographics of applicants and their respective qualifications show a large variance in the capacity of programs, ranging from a low of 2 students to a high of 70 (Table 5). Program directors felt that there was a larger and better-qualified pool of applicants this past year when compared with the previous aca-



**FIGURE 1.** Survey respondents by sponsoring institution types.

demographic year. Sixty-six percent of the programs were at capacity (Fig. 3), and 57% reported an increase in the number of qualified applicants (Fig. 4). This is generally seen as a positive trend considering the recent workforce shortages. The mean number of unfilled positions was 3 per program. The mean overall attrition rate (the percentage of students who started the program but did not complete graduation requirements) was 5%. Forty percent of programs saw one or more students drop from their program.

#### Age, Gender, and Diversity Demographics

Program directors reported that 60% of their graduates last year were female. The mean age for NMT graduates is 29. The youngest graduate was reported to be 19 and the oldest was 56. The mean age for males was 4 years higher than for females (Table 6). Seventy-eight percent of the graduates were white. African-American graduates made up

the next largest group at 9%. This information, shown in Table 7, provides support for a continued interest and investment in increasing minority enrollment into NMTPs.

#### Graduate Employment and Wages

Last year was an excellent year for graduate employment opportunities. The survey's employment and wage findings are based on the job placement statistic of 598 program graduates. Seventy-four percent of them had committed to a job before their graduation; 15% had found NMT employment within 1 month after their graduation date; and 7% had found employment after 1 month, but within 3 months postgraduation. A small number (3%) of graduates did not secure NMT positions for a variety of reasons. Some reportedly went on to medical school, graduate school, or stayed to complete an undergraduate degree. Others decided to work in another radiology or health care discipline.

It appears that the greatest opportunity for entry-level employment is still in the hospital setting. Seventy-one percent of the graduates accepted jobs in hospitals; 13% accepted jobs in stand-alone clinics; and 2% accepted jobs with mobile imaging services. Only 1% accepted jobs in temporary agencies. A few graduates went directly into specialized positions in nuclear cardiology (9%) and PET or

**TABLE 1**  
Programs Offering Various Completion Awards

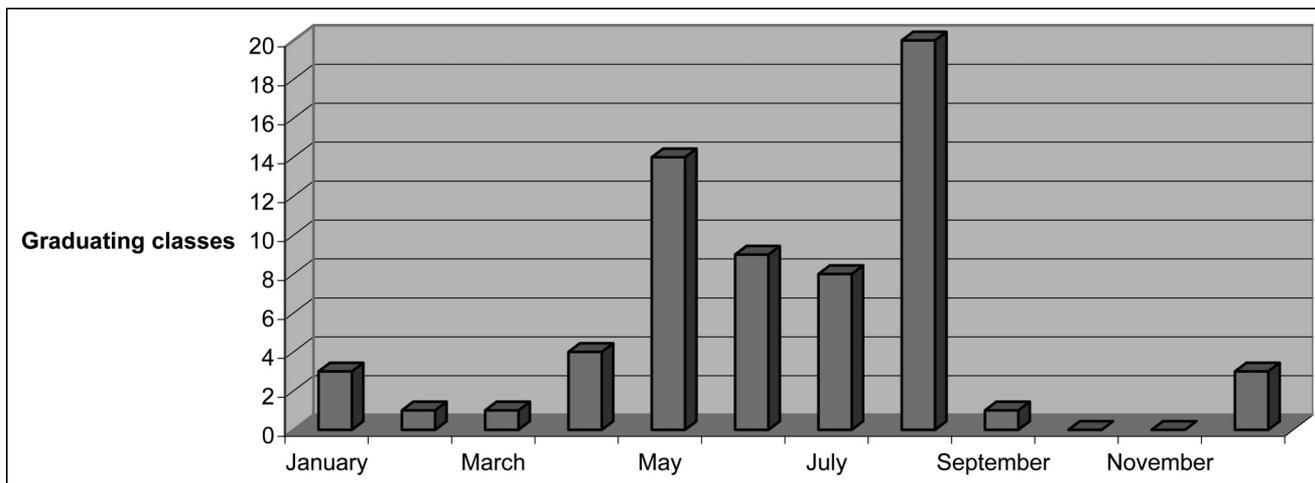
Award	Number of programs	Percentage
Certificate	20	37
Associate's	7	13
Bachelor's	12	22
Associate's and/or certificate	6	11
Bachelor's and/or certificate	8	15
Bachelor's, associate's, and/or certificate	1	2

**TABLE 2**  
Number of Graduating Classes per Year

Number of classes	Number of programs	Percentage
1	46	85
2-3	5	9
>3	3	6

**TABLE 3**  
Length of Professional Component

Length	Number of programs	Percentage
48 months	5	9
33 months	1	2
24 months	7	13
22 months	5	9
21 months	1	2
20 months	1	2
18 months	2	4
15 months	5	9
13 months	1	2
12 months	26	48



**FIGURE 2.** The majority of programs graduated classes in May and August, although graduates are available throughout the year.

PET/CT (4%). Only 3% of last year's graduates took part-time positions.

Wages continue to stay competitive. The highest reported starting wage was \$36.00 per hour. The lowest was \$16.00 per hour. The mean was \$23.75 per hour while the median was \$24.00, and the mode was \$25.00 per hour. Program directors were asked to report whether or not their graduates received a sign-on bonus. Sixty-three percent of those who answered that item reported that their students did receive sign-on bonuses. The highest sign-on bonus was \$8,000, and the lowest was \$2,000. Sign-on bonuses had a mean value of \$4,361, a median of \$5,000, and a mode of \$5,000 (Table 8).

In order to gain a better understanding of the state of the current job market, program directors were asked about

their subjective feeling on the subject. Ninety percent felt the employment outlook for new graduates was good to outstanding. Only 4% reported it to be very poor or abysmal. However, they also felt that the number of job opportunities available might be leveling off somewhat. While 52% reported that they thought the job outlook was about the same as the prior year, no one felt it was better. Thirty-three percent considered it somewhat worse, and 10% considered the market to be significantly worse.

#### Program Director Demographics and Opinions

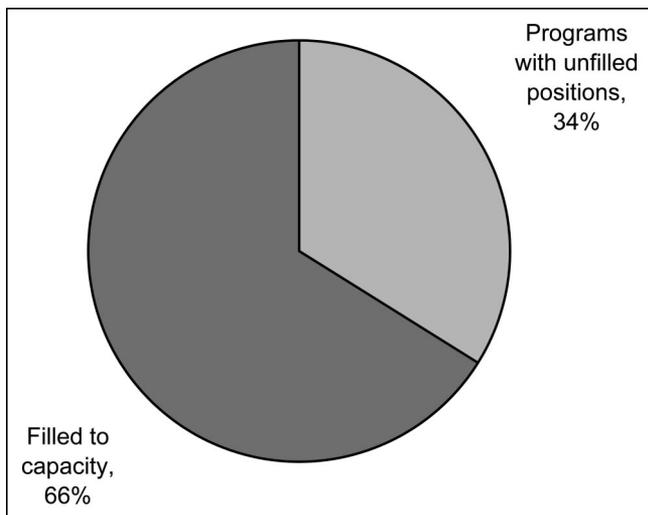
Fifty-four percent of the program directors responding to the survey were female and 46% were male. The highest reported age was 61 and the lowest was 28. The mean age reported was 47 (median = 48, mode = 50). A majority of

**TABLE 4**  
Number of Faculty Members

Faculty	Mean	Median	Mode	High	Low
<b>Didactic</b>					
Full-time (salary totally paid by NMT program)	1	1	1	7	0
Shared faculty (salary partially paid by program)	2	1	0	24	0
Adjunct faculty (no portion of salary paid by program)	3	1	0	12	0
<b>Clinical</b>					
Full-time (salary totally paid by NMT program)	1	0	0	15	0
Shared faculty (salary partially paid by program)	1	0	0	12	0
Adjunct faculty (no portion of salary paid by program)	14	10	0	95	0

**TABLE 5**  
Capacity and Attrition

	Mean	Median	Mode	High	Low
Maximum student capacity per academic year	15	11	8	70	2
Number of available student positions	14	10	7	70	2
Number of un-filled positions (if not at capacity)	3	2	1	12	1
Number of qualified applicants	41	32	12	185	4
Attrition rate	5%	0%	0%	50%	0%

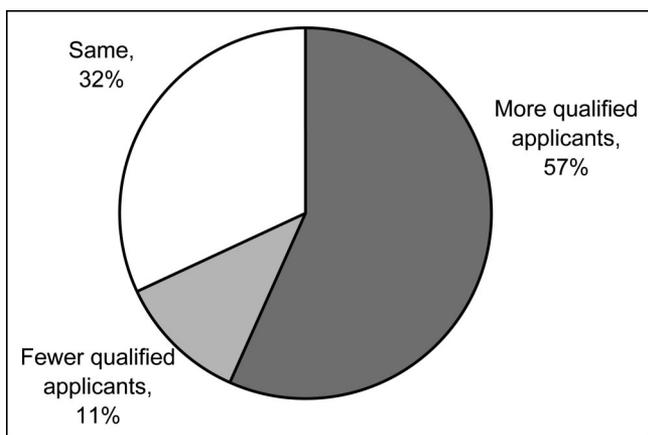


**FIGURE 3.** Two-thirds of respondents reported that their program was filled to capacity.

the respondents were above 40 and held a master's degree (Tables 9 and 10). Sixty-one percent said they have 12-month appointments while 10% have 9-month appointments. Twenty-one percent of the PDs reported that they hold part-time faculty appointments (<40 h/wk).

The survey also examined the level of experience of current PDs. The mean number of years respondents said they were employed as program directors at their current institution was 11 (median = 11). The longest number of years reported in the position was 35 and the shortest was 1. The mean number of years employed as a staff nuclear medicine technologist before taking a PD position was 9 (median = 7).

Annual salary statistics for PDs can be found in Table 11. The mean salary was \$64,951, with a median of \$63,000 and a mode of \$60,000. The highest reported salary was \$90,000, and the lowest was \$49,824. Program directors with master's degree earned, on average, \$4,000 more per year than those with only a baccalaureate degree (means of



**FIGURE 4.** Program directors were asked to compare the number of qualified applicants they received for the most recent academic year vs. the previous academic year.

**TABLE 6**  
Age of Graduates (in years)

Gender	Mean	Median	Oldest age reported	Youngest age reported
Males	31	30	56	19
Females	27	26	52	19
Both	29	27	56	19

\$65,894 and \$62,033 respectively). Only 2 program directors reported having doctorate degrees and neither salary was above the average for those with master's degrees. Male program directors reported salaries approximately \$1,500 per year higher than female directors (means of \$64,919 and \$63,496 respectively). Annual salary figures categorized by number of years employed in current position are shown in Table 12. Those directors who have been in their positions for 11–15 years are earning, on average, the highest salaries (mean = \$69,571).

### SNM Membership

The majority of PDs responding are members of the SNM (92%, or 48 individuals). Thirty-seven percent reported that they attend the SNM annual meeting each year; 19% reported that they attend more often than not; and 19% reported that they attended sometimes. Twenty-five percent stated that they rarely or never attend the SNM annual meeting. Seventeen percent of the program directors reported having students attend the national meeting nearly every year while 2% said "more often than not." Fifteen percent had students that attended sometimes. The majority (65%) reported students attending rarely or never. Ninety-

**TABLE 7**  
Gender and Racial/Ethnic Background of Graduates\*

Race	Number	Percentage
American Indian or Alaskan		
native	12	2
Males	5	1
Females	7	1
African-American and Black, not of Hispanic origin	49	9
Males	19	4
Females	30	6
Asian or Pacific Islander	23	4
Males	12	2
Females	11	2
Latino or Hispanic	37	7
Males	15	3
Females	22	4
White, not of Hispanic origin	415	77
Males	166	31
Females	249	47
Total number of graduates	536	100
Males	217	40
Females	319	60

\*Number of programs reporting = 47.

**TABLE 8**  
Graduate Starting Salary Statistics

Type of pay	Mean	Median	Mode	High	Low
Entry-level annual salaries*	\$49,400	\$49,920	\$52,000	\$74,880	\$33,280
Entry-level hourly wage rates	\$23.75	\$24.00	\$25.00	\$36.00	\$16.00
Sign-on bonuses (if received)	\$4,380	\$5,000	\$5,000	\$8,000	\$2,000

\*Based on 52 weeks, full-time, at hourly rate.

four percent of the program directors reported that their students take advantage of the free trial SNM/SNMTS student membership. The survey inquired whether the program directors recommended that their students join the SNM/SNMTS. All of the programs either recommended or required students to join the SNM. Fifteen percent required them to join; 85% recommended students join.

The survey also questioned the availability of financial support for attendance at the SNM annual meeting. Thirty-three percent of the directors reported that their institution paid all their expenses; 23% said a portion of their expenses were paid for by their institution; 23% stated that some funding was provided if available; and 21% said that no institutional funding was available for them to attend the national meeting. A large majority (83%) reported no finan-

cial support for sending students to the annual meeting. These findings suggest that, if it is desirable to have program directors and students attend the annual meeting each year, additional sources of funding should be considered.

## DISCUSSION

Those interested in studying NMT have several choices for obtaining their education. It appears that most programs still graduate one class per year. Entry-level nuclear medicine technologists enjoyed a healthy job market in 2004 and generally had little trouble finding employment. Hospitals are still the primary route of initial employment for most graduates, and it will be interesting to follow this trend as outpatient services continue to grow. Entry-level wages are competitive with other professions. The number of qualified applicants for future classes is also increasing and current attrition rates support this assumption. Student demographics demonstrated a need for improving minority enrollments. Interestingly, most health service industries struggle to recruit and retain male students. This is not the case in NMT, with 40% of the current graduates being male. Age is not a barrier for entry into the profession. Students ranged in age from 19 to 56 years and the mean age was older than what would be expected for the traditional college graduate. It appears that NMT is a viable offering for first time graduates and those seeking to change careers.

Information collected by the survey also provided us with insight on program directors. Survey participants generally hold at least a baccalaureate degree and, in most instances, a higher degree. There is also a substantial group of graying PDs. One may speculate that the profession will likely struggle with manpower issues in its education sector if qualified replacements cannot be found to fill positions vacated by retiring PDs. The fact that many of our more

**TABLE 9**  
Ages of Program Directors

Age	Number	Percentage
≥60	6	12
50-59	16	31
40-49	20	39
30-39	8	16
20-29	1	2

**TABLE 10**  
Highest Degree Earned by Program Directors

Highest degree earned	Number	Percentage
Doctorate	4	8
Masters	29	57
Baccalaureate	17	33
Certificate	1	2

**TABLE 11**  
Program Director Salaries by Institution Type

	Hospital/medical center	Community college	University/4-year college	University teaching hospital	Overall
n=	9	13	9	3	35
Mean	\$68,044	\$63,313	\$65,314	\$65,000	\$64,951
Median	\$67,100	\$60,000	\$62,000	\$65,000	\$63,000
Mode	NA	\$80,000	\$60,000	NA	\$60,000
High	\$86,000	\$80,000	\$90,000	\$74,000	\$90,000
Low	\$50,000	\$51,000	\$49,824	\$56,000	\$49,824

**TABLE 12**  
Salaries by Number of Years in Program Director  
Position at Current Institution

Years	1-5	6-10	11-15	>15
<i>n</i> =	16	3	7	8
Mean	\$62,963	\$59,257	\$69,571	\$65,640
Median	\$61,500	\$60,000	\$70,000	\$61,649
Mode	\$56,000	\$60,000	\$80,000	N/A
High	\$86,000	\$60,000	\$80,000	\$90,000
Low	\$50,000	\$57,770	\$55,000	\$49,824

experienced nuclear medicine technologists are already working in higher paying clinical positions doesn't help this situation. The pool of individuals actually willing to take a pay cut to move into education is probably a small one.

Another important survey finding was the clear success of the free trial SNM membership program for NMT students. The data shows strong support for continuing this policy.

Finding funding for students to attend the annual meeting is another issue. Unfortunately, very few programs have the ability to financially support student attendance and, thus, only a small percentage of programs have students at the convention each year.

Data from this survey will assist current and future leaders of the SNMTS and other stakeholder organizations to assess the status of our profession. It will provide information needed to set priorities and help identify resources needed to address those priorities. The members of DATF will strive to modify and improve the Annual Program Director Survey instrument and to increase the return response rate with each edition. The goal is to have all nuclear medicine technology program directors contribute to the survey so that conclusions drawn from this survey are influenced by the PD's unique perspectives.

The DATF and the rest of the SNMTS leadership would like to thank all the program directors who contributed to the success of this survey.

