

Demographic Study of Graduates from a CAHEA-Approved NMT Training Program

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We conducted a 5-year follow-up study of 204 graduates from a school of nuclear medicine technology. Data concerning students' prior backgrounds, performance in the program, and employment status after graduation were investigated and correlated. Data suggest that previous educational background and grade point achievement in didactic instruction are in some ways an indication for success in nuclear medicine technology. Students who maintained A or B averages in the didactic program achieved 100% or 87% registry passing rates accordingly. Furthermore, students who entered the program with a 4-year degree or better exhibited a 90% registry passing rate.

We undertook a demographic investigation of graduates of the John F. Kennedy Medical Center School of Nuclear Medicine Technology and their successful participation in the field of nuclear medicine technology. Our study was limited to graduates from a 5-year period—July 1973 through March 1978. Our purpose was to provide follow-up information on graduates and to test the following hypothesis:

That previous educational experience and grade point achievement in the didactic instruction of nuclear medicine technology are in some ways an indicator for success in the nuclear medicine community. The measure of this success is two-fold:

- Attainment of “registered” technologist status; and
- Employment in the medical community as staff technologist or in a related position at a higher level.

The Kennedy Construct

As background information, the John F. Kennedy Medical Center School of Nuclear Medicine Technology was established in 1973. It is a 1-year, hospital-based program affiliated with 12 other sponsoring hospitals (clinical

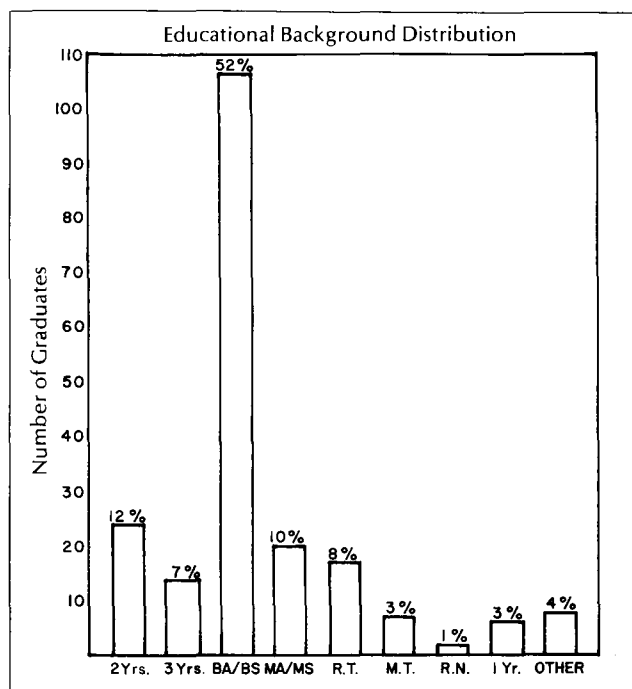


FIG. 1. Educational background distribution of graduates from school of nuclear medicine technology (note: 1 yr, 2 yrs, and 3 yrs indicate the number of years of full-time college education).

training sites) throughout New Jersey, New York City, and Philadelphia. Incoming students must have a minimum of two years (60 credits) of college education—or be an RN, MT, or RT. However, during the school's first year, a few students were admitted with only one year of college education. The program is an accelerated course, which lasts 12 full months.

Structurally, the course is divided into two parts: “didactic” instruction and “clinical” experience. The didactic phase takes place during the first three months of enrollment and involves 320 hours of classroom instruction and laboratory “hands-on” experience. The clinical format is “in-hospital” practical experience. This runs 40

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hours a week for the remaining nine months. A new didactic phase is begun every three months providing four classes per year; the average student enrollment is 12 students per class.

School Population

This study was based upon 244 students who were enrolled during 16 classes, from the years 1973 to 1978. From this group, 204 students graduated. The mean age of these graduates was 25.04 years during the period of enrollment. These students entered the program with various educational backgrounds (Fig. 1). The largest group had a background in the sciences. Eighteen percent had prior paramedical training; 10% had a background in behavioral sciences. For our study, the background of the remaining 25% has been classified as "other." These 244 students achieved a mean grade of 2.60 (B-) \pm 0.86 in the program's didactic phase. Geographically, as might be expected, the majority of the student population distribution was from a tri-state area (New York, New Jersey, and Pennsylvania). This equals 87% of all students with 7% from the other 50 states. The remaining 6% of the students originated from outside the United States.

The Questionnaire

These questions were established as a baseline for demographic statistics:

1. Are you registered?
2. Your current salary or salary range?
3. Have you gone on to further your education?
4. Major?
5. Number of beds in your hospital?
6. Name, address, and phone number of your hospital.
7. Your position in your department.

There were 116 complete responses to each of the questions.

Eighty-seven percent of the graduates with a mean experience value of 2.53 years were employed in nuclear medicine departments distributed geographically throughout 16 states. As of April 1978 the technologists were earning a mean salary of \$12,845 \pm \$1,810 (Fig. 2). Eighty percent of the graduates were employed as staff technologists and 19% were in supervisory positions. The majority (70%) work in the metropolitan tri-state area. Of 191 graduates who provided registry status, the following percentages refer to the "registered" technologist status:

*Pass: 60%;
Fail: 13%; and
Pending: 27%.*

Hypothesis

To support the hypothesis that previous educational background and grade point achievement in didactic instruction of nuclear medicine technology are, in some

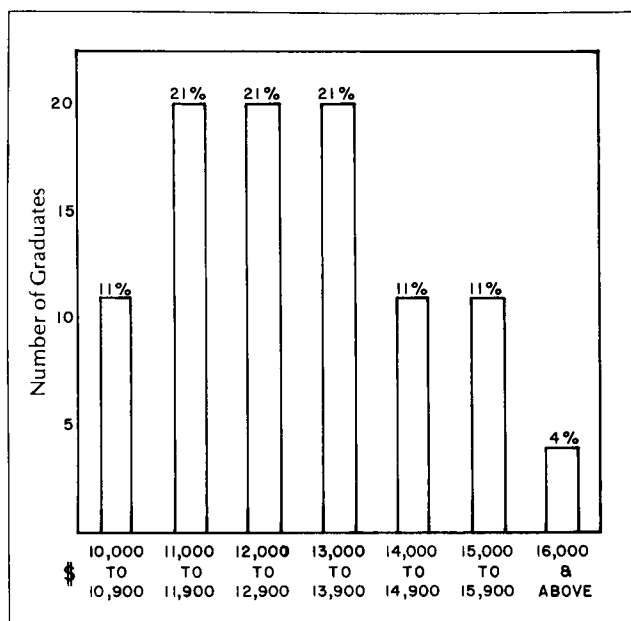


FIG. 2. Salary range of graduates, April 1978.

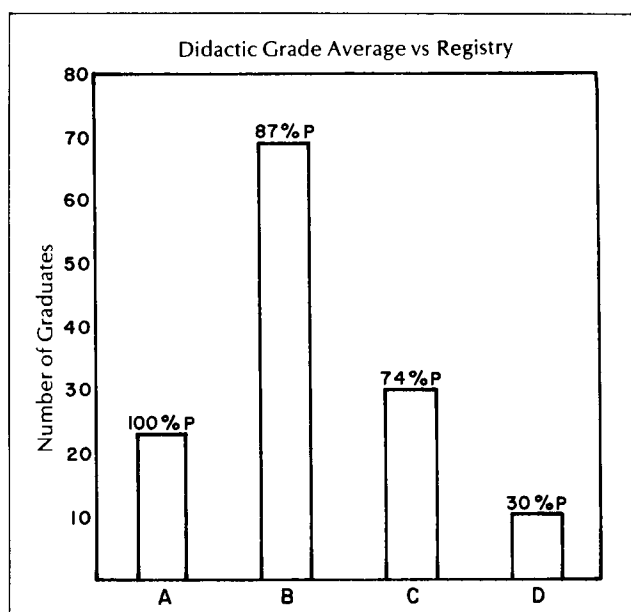


FIG. 3. Correlation between "grade point average" achieved and attainment of "registered" status (note: "P" indicates percent passing registry.)

ways, an indicator for success in the nuclear medicine community, we offer the following.

A major factor is the correlation between "didactic" grade achievement and registry status. For those students who achieved an A in didactic grade average there was a 100% passing rate. For the B average group the passing rate was 87%. Correspondingly for the C and D average graduates, the passing rates were 74% and 30% respectively (Fig. 3).

Another contributing factor to support this hypothesis is previous educational experience beyond high school. Summarily with respect to registry status, those graduates

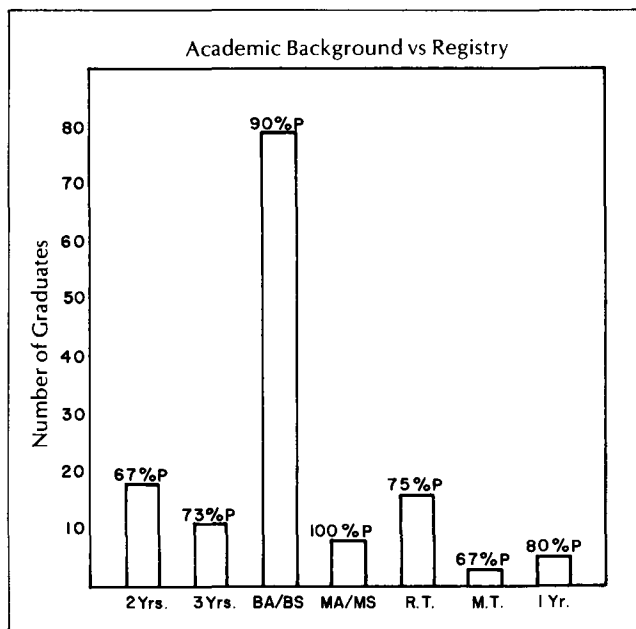


FIG. 4. Correlation between previous educational experience and attainment of "registered" status (note: 1 yr, 2 yrs, and 3 yrs indicate number of years of full time college education; "P" indicates percent passing registry).

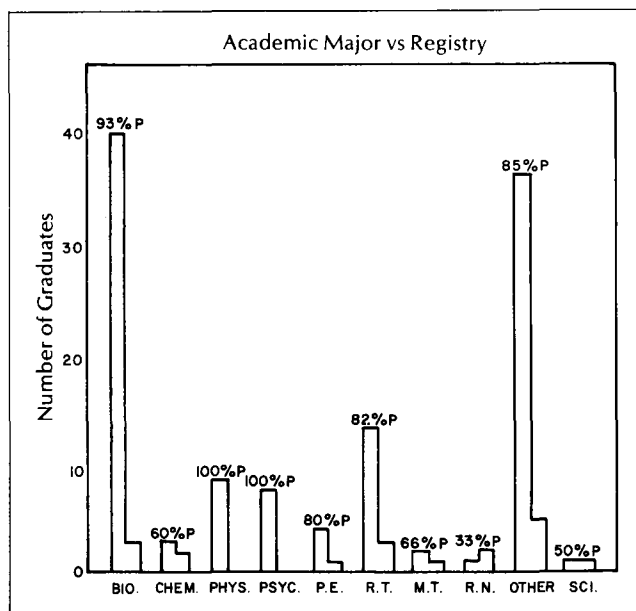


FIG. 5. Correlation between previous academic major and attainment of "registered" (note: "PHYS" indicates physics major, "P.E." indicates physical education major, and "SCI" indicates science major).

who entered the program with an academic background of a 4-year degree or higher exhibited a 90% registry passing rate. Those with one-to-three years' previous academic experience achieved a 73.3% success rate on the registry. Students whose background was in the allied health area achieved a passing rate of 71% (Fig. 4).

With respect to academic major, the highest compe-

tency was achieved by the BS degree, biology major (Fig. 5). It must be noted that the largest number of students enrolled in the program at that time entered with this educational background.

Another group for whom statistics indicate a high success rate was the registered radiologic technologist. Traditionally one of the most common backgrounds for students in nuclear medicine technology programs, the students from this group demonstrated a passing rate of 82% on registry examinations. In regard to correlating other academic majors or specialties to registry status, results are quite varied. The numbers generally are not high enough to warrant good statistical correlation.

Conclusion

Follow-up studies on NMT graduates have in the past rarely been performed by individual programs because of the difficulties encountered in data collection (i.e., low response rate to mailed questionnaires). Furthermore, the large majority of AMA-approved programs have not had statistically significant numbers of past graduates from which to draw conclusions based on the data collected.

We feel that studies of this kind are important for our program. First, they help assess the degree to which our program is meeting its goals—as well as the employment needs of the region we serve. Second, while no program should be designed solely to prepare a student to pass a registry examination, success on such examinations is important in determining whether graduates of a program will succeed in finding acceptable employment. The registry results compared with didactic grades confirmed in some rough measure the appropriateness of our didactic material and relative grading values. Third, data collected from a follow-up study may assist those individuals involved in initial recruitment and acceptance processes with regard to the specific backgrounds most likely to succeed, both in the program and later on in the field.

Furthermore, such information as salary ranges, employment location, and percentage of graduates employed in higher level positions (i.e., chief technologist or supervisor) is of great value to the prospective applicant and could be incorporated into recruitment literature. Much of our data has been incorporated into a new edition of the school's catalog, where it provides interested individuals with information they need to make decisions regarding their careers in general and the JFK program in particular. Our study further confirms the high level of success attained by individuals with Bachelors' degrees in science. To that end, we have begun targeting our recruitment efforts towards them.

Finally, both the didactic instructors and clinical staff at our training sites have derived satisfaction in knowing that their former students are now practicing staff and chief technologists in large and small departments all over the United States.