# Perception of the Role of Nuclear Medicine in Clinical Practice in Nigeria

*From the Newsline editor: Across the globe, the practice of nuclear medicine depends on the sometimes difficult-to-achieve confluence of skilled practitioners, specialized equipment, and readily available supplies of short-lived radionuclides. As a result of variations in each of these crucial elements, the practice of nuclear medicine can be quite different from one region of the world to another and even across very narrow geographic and political divides. Newsline welcomes international reports on nuclear medicine and molecular imaging. This month we are privileged to include insights from colleagues in Nigeria on clinicians' perceptions of the utility of radioisotope-based techniques when these were introduced into the country in 2006.*

Most developing countries do not have reliable access to nuclear medicine facilities. When these facilities are available, the scope of administration and application is limited for many reasons, including challenges in procuring required radiopharmaceuticals. Nigeria is the most populous black nation in the world, with an estimated population of 140 million individuals. Health care is provided through 53 tertiary health institutions; numerous secondary, primary, and private health care entities; and many private clinics and hospitals. It was not until April 2006, however, that Nigeria acquired its first single-head gamma camera. Through the assistance of the International Atomic Energy Agency, this camera was installed to complement the in vitro laboratory at the University College Hospital, Ibadan. University College Hospital is the premier teaching hospital in Nigeria.

## Surveying Perceptions of Nuclear Medicine

Before beginning routine imaging procedures with the gamma camera, the authors wanted to know what the consultant staff, resident doctors, and medical students perceived to be the role of nuclear medicine in clinical practice. We devised a self-administered questionnaire that was provided to the consultant staff (attendings), resident doctors, and students at the College of Medicine at the University of Ibadan and the University College Hospital, Ibadan.

The total number of participants completing the survey was 293, including 47 (16%) consultants and 82 (28%) residents from various specialties and 164 (56%) medical students. More than 94% of the medical students were already in their clinical rotations. These numbers represented two-thirds or more of each group, a number consistent with statistical significance for the survey. In addition to demographic data, areas of specialization (for consultants and residents), and level of study (for medical students), the research instrument asked for: the source(s) of respondents' information on the subject of nuclear medicine, the department within which respondents believed nuclear medicine should be located (in order of priority), respondents' perceptions of the role of nuclear medicine in clinical practice (mainly therapeutic, mainly diagnostic, or both therapeutic and diagnostic), and whether nuclear medicine should be taught at the undergraduate and/or postgraduate levels. Results from the collated questionnaires were analyzed using an SPSS survey software package.

Sources of information about nuclear medicine reported by respondents are presented in Table 1. The most frequently cited source was textbooks (an average of 34.8% of all respondents in the 3 groups). However, teaching/presentation by consultants (32.4%), collegial discussions (31.4%), and the Internet (30.7%) were also cited with frequency.

Figure 1 shows the distribution of the specialties in which participants believed nuclear medicine had direct relevance to routine practice. Figure 2 shows the percentage distribu-

**TABLE 1**
Reported Sources of Information on Nuclear Medicine

| Source | Consultants | Residents | Medical student | Average |
|---|---|---|---|---|
| Textbook | 51.1 | 50.0 | 22.6 | 34.8 |
| Consultant/teaching/presentation | 38.3 | 25.6 | 34.1 | 32.4 |
| Sr. resident/teaching/presentation | 46.8 | 23.2 | 7.3 | 18.1 |
| Journals | 53.2 | 29.3 | 10.4 | 22.5 |
| Discussion with colleagues | 53.2 | 29.3 | 26.2 | 31.4 |
| Internet | 42.6 | 34.1 | 25.6 | 30.7 |
| Newspaper | 19.1 | 18.3 | 25.6 | 22.5 |
| Novel | 10.6 | 13.4 | 15.2 | 14.0 |
| Films | 14.9 | 20.7 | 38.4 | 29.7 |

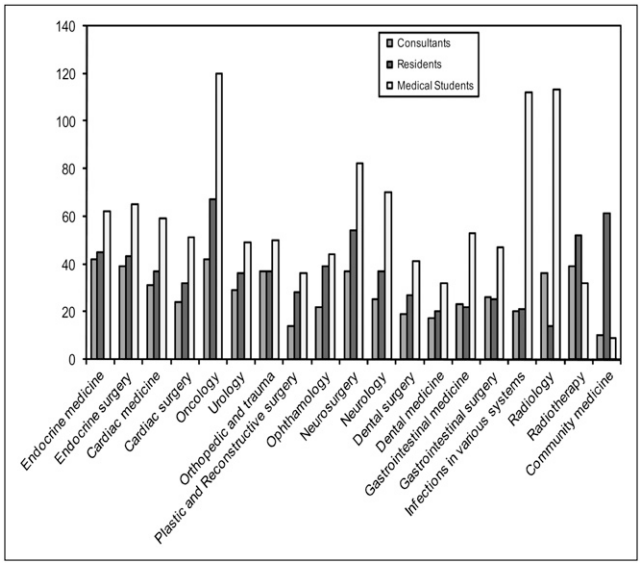


**FIGURE 1.** Specialties in which survey participants believed nuclear medicine to have relevance in clinical practice. Vertical axis represents numbers of respondents.

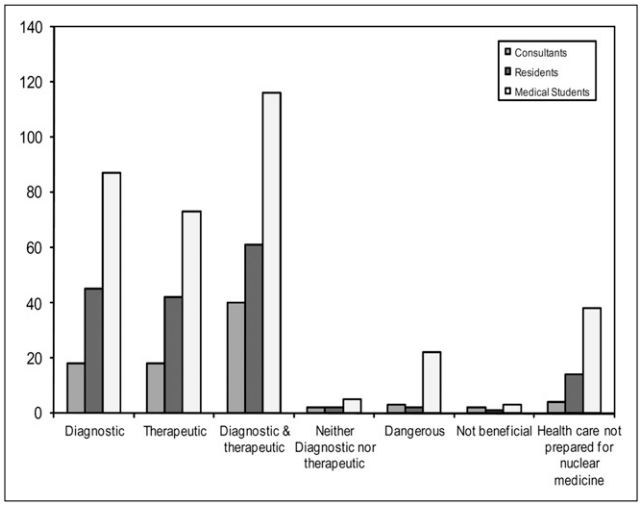


**FIGURE 2.** Survey participants' perceptions of appropriate roles/aspects of nuclear medicine in clinical practice. Vertical axis represents numbers of respondents.

tions of respondents' perceptions of the role of nuclear medicine in clinical practice. In all, 92.5% of respondents reported the belief that nuclear medicine was relevant in clinical practice (an opinion held by 97.9% of consultants compared with 91.0% of medical student respondents). An overall average of 51.7% perceived nuclear medicine as being a purely diagnostic tool. One interesting result was the high number of medical students who perceived nuclear medicine as a "dangerous" tool, a perception not reflected among consultants and residents. More than 19% of respondents reported their perception that health care systems in Nigeria are not adequately prepared for the widespread use of nuclear medicine techniques.

More than 89% of consultants believed that nuclear medicine should be taught through formal lectures to medical students (undergraduate), and 49% of these respondents believed that nuclear medicine should be taught at both preclinical and clinical levels. In all, a total of 74 (25.3%) respondents reported perceptions of nuclear medicine either as an interesting discipline or as good exposure to sound and complete medical practice.

## The Future

Before the advent of nuclear medical imaging and treatment in Nigeria, patients requiring these services were managed using other (sometimes inappropriate) modalities or (for individuals who could afford this alternative) were referred to facilities in other countries. Our new nuclear medicine facility will undoubtedly make a significant contribution to better treatment options for the average Nigerian patient. The results of our questionnaire on the perceived role of nuclear medicine, carried out in the hospital widely regarded as having the highest standard of patient care and medical education in the country, proved to be eye opening. It is hoped that with time, more nuclear medicine facilities will be available in other health institutions in this vast country and that more advanced camera systems will be procured for the University College Hospital, Ibadan. The expected outcomes will be enhanced treatment options, shortened imaging times (thereby allowing more patients to be treated), and, ultimately, improved perceptions and understanding of the value of nuclear medicine across the spectrum of medical practice and specialties.

*T.O. Alonge, MD*
*Department of Surgery*
*College of Medicine, University of Ibadan*
*University College Hospital*
*Ibadan, Nigeria*

*V.N. Okoje, BDS*
*Department of Oral Maxillofacial Surgery*
*College of Medicine, University of Ibadan*
*University College Hospital*
*Ibadan, Nigeria*