

IAEA NUMDAB: Taking the Pulse of Nuclear Medicine Worldwide

As radioisotope-based imaging and molecular-targeted therapies continue to spread to parts of the world previously isolated from these capabilities, the International Atomic Energy Agency (IAEA) Nuclear Medicine Section is expanding efforts to assess and address technology distribution and equitable access in its member states. The IAEA Nuclear Medicine Database (NUMDAB) has been launched to gather and maintain updated information on the status of nuclear medicine practice around the world.

Information in the database will be used to: (1) understand the current status of nuclear medicine infrastructure, technology, and educational resources for implementing practice, training, and research in member states; (2) assist in formulating and planning approaches to emerging needs; (3) assist in prioritizing educational and operational needs for establishing and/or strengthening nuclear medicine practice within the health care systems of member states, with an emphasis on developing countries; and (4) identify potential regional centers capable of delivering training for nuclear physicians, technologists, scientists, and other allied professionals. The database effort is focused on collecting data on individual nuclear medicine facilities, with detailed information on personnel and equipment, along with types of isotopes and radiopharmaceuticals employed. Relevant data, such as type and number of procedures performed and educational needs, will also be gathered. Instead of a conventional survey, which relies on sampling, NUMDAB will base its data collection on census methodologies that require information from all members of the study population. The result will be an aggregate of data with more broadly useful statistical information.

The IAEA plans to directly contact many persons, institutions, and organizations to encourage participation. In addition, the agency is calling for voluntary participation from interested individuals and institutions. Maurizio Dondi, MD, head of the IAEA Nuclear Medicine Section, noted that it is anticipated that much of the NUMDAB database will come from participants who respond to the survey through online completion of the questionnaire and associated forms.

Dondi noted that many participants will be motivated by this opportunity to collaborate with the leading organization providing aid to developing countries in the field of nuclear medicine and to assist in providing information on development and training needs. A number of advantages

accrue to participants, including: future access to information pertinent to specific countries and regions for project development and activity planning; access to contact persons worldwide for information exchange, consultation, and joint educational activities; the ability to identify potential individual and institutional candidates for partnership in multicenter research projects; and access to initial data organization (databases, statistics, and record keeping) that can be duplicated in the participant's home institution or department.

The NUMDAB questionnaire was designed and validated to be simple and clear. Online access and participation are through a secure environment that includes built-in features to protect data from unauthorized access. The questionnaire may be downloaded and completed in any of 6 languages. Once complete, most portions of the database, together with processed statistical data, will be available to those who registered and participated in the survey.

IAEA representatives urge wide participation in this effort. "This task is impossible to accomplish without the active collaboration of all members of the nuclear medicine community around the world," said Dondi. "This will represent very valuable material for use in project designs and planning of future actions regarding the development of the specialty, not only for the IAEA but also for professional associations, governmental bodies, and academic institutions worldwide."

The IAEA Section on Nuclear Medicine, within the Division for Human Health, currently includes 5 main project areas encompassing a number of specific activities within member states. The 5 project areas are: (1) nuclear medicine imaging in the management of noncommunicable diseases; (2) application of PET in molecular imaging; (3) radiopharmacology and application of new radiopharmaceuticals to the management of diseases; (4) *in vitro* nuclear medicine, molecular biology, and genomic studies applied to communicable diseases, cancer, and genetic disorders; and (5) therapeutic applications of unsealed radioactive sources in the management of cancer. More information on the program, its activities, and specific coordinated research projects is available at: www-naweb.iaea.org/nahu/nm/default.asp. Those interested in participating in NUMDAB can access instructions and forms at <http://nucmedicine.iaea.org/>.

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