



International Atomic Energy Agency
Survey of the current status of Nuclear Medicine

SPECIFIC INFORMATION FROM NUCLEAR MEDICINE CENTER

A. INFORMATION ON INDIVIDUAL NUCLEAR MEDICINE CENTER

A.1 Please provide contact information of your hospital and department.

A1.1 Name of institution*		
A1.2 Type of institution*	University based hospital Non-university based hospital Private practice Other	
A1.3 Address	A1.3.1 Street	
	A1.3.2 PO Box	
	A1.3.3 City*	
	A1.3.4 ZIP	
	A1.3.5 County/State	
	A1.3.6 Country*	
A1.4 Name of nuclear medicine center		
A1.5 Name of contact person		
A1.6 Position of contact person		
A1.7 Telephone (inc. country and area codes)		
A1.8 Fax (inc. country and area codes)		
A1.9 e-mail		

A.2 Is your nuclear medicine department operating independently? Yes No

A.3 If No, which department is your center affiliated to?

- Radiology
- Internal Medicine
- Clinical Laboratory
- Radiation Oncology (Radiotherapy)
- Other

Status of Nuclear Medicine Center: Operational Non operational

Comments:

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B. NUCLEAR MEDICINE DEPARTMENT STAFF**B.1 Number of nuclear medicine staff**

B1.1 Nuclear medicine physicians	
B1.2 Physicians in-training in NM	
B1.3 Medical physicists	
B1.4 Nurses	
B1.5 Radiopharmacists	
B1.6 Technologists	
B1.7 Other scientific staff	

C. EQUIPMENTS AND FACILITIES

Please provide information about equipments now operating in your department.

C.1 Planar-only gamma cameras.

C1.0 Total number	
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C1.1 Planar gamma camera 1	C1.1.1 Year of installation	
C1.2 Planar gamma camera 2	C1.2.1 Year of installation	
C1.3 Planar gamma camera 3	C1.3.1 Year of installation	

C.2 SPECT gamma cameras.

C2.0 Total number	
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C2.1 SPECT Gamma camera 1	C2.1.1 Year of installation	
	C2.1.2 Number of heads (1=single, 2=dual, 3=triple)	
C2.2 SPECT Gamma camera 2	C2.2.1 Year of installation	
	C2.2.2 Number of heads (1=single, 2=dual, 3=triple)	
C2.3 SPECT Gamma camera 3	C2.3.1 Year of installation	
	C2.3.2 Number of heads (1=single, 2=dual, 3=triple)	
C2.4 SPECT Gamma camera 4	C2.4.1 Year of installation	
	C2.4.2 Number of heads (1=single, 2=dual, 3=triple)	
C2.5 SPECT Gamma camera 5	C2.5.1 Year of installation	
	C2.5.2 Number of heads (1=single, 2=dual, 3=triple)	

C.3 SPECT-CT gamma cameras.

C3.0 Total number	
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C3.1 SPECT-CT Gamma camera 1	C3.1.1 Year of installation	
	C3.1.2 Number of slices of CT (if diagnostic)	
C3.2 SPECT-CT Gamma camera 2	C3.2.1 Year of installation	
	C3.2.2 Number of slices of CT (if diagnostic)	



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C.4 PET scanners.

C4.0 Total number	
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C4.1 PET scanner 1	C4.1.1 Year of installation	
C4.2 PET scanner 2	C4.2.1 Year of installation	

C.5 PET-CT scanners.

C5.0 Total number	
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C5.1 PET-CT scanner 1	C5.1.1 Year of installation	
	C5.1.2 Number of slices of CT	
C5.2 PET-CT scanner 2	C5.2.1 Year of installation	
	C5.2.2 Number of slices of CT	

C.5.3 If you do not have a PET scanner, do you have plans to install one in the near future (within 3 years)?	Yes	No
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C.6 Cyclotron.

C6.0 Total number	
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C6.1 Cyclotron 1	C6.1.1 Year of installation	
	C6.1.2 Maximum energy (MeV)	
C6.2 Cyclotron 2	C6.2.1 Year of installation	
	C6.2.2 Maximum energy (MeV)	

C.6.3 If you do not have a cyclotron, do you have plans to install one in the near future (within 3 years)?	Yes	No
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C.7 Total number of intraoperative gamma probe(s)

C.8 Total number of bone densitometer(s)

C.9 Total number of thyroid uptake system(s)

C.10 Total number of dose calibrator(s)

C.11 Please add comments, if necessary:



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D. RADIOISOTOPES AND RADIOPHARMACEUTICALS

D.1. What is the main source of your radiopharmaceutical preparations?

- In-house compounding
- Centralized radiopharmacy
- Both

D.2. Please indicate radioisotope generators now using in your department.

D2.1 Mo-Tc generator

D2.2 Other (please specify)

D.3. Please indicate the isotopes and radiopharmaceuticals that your department is now using:

D3.1 In vivo imaging

D3.1.1 Tc-99m

D3.1.2 I-131

D3.1.3 I-123

D3.1.4 In-111

D3.1.5 Tl-201

D3.1.6 Ga-67

D3.1.7 Other (please specify)

D3.2 Therapy

D3.2.1 I-131

D3.2.2 Re-188

D3.2.3 Ho-166

D3.2.4 Sr-89

D3.2.5 Y-90

D3.2.6 Sm-153

D3.2.7 P-32

D3.2.8 Other (please specify)

D3.3 In vitro

D3.3.1 I-125



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D3.4 Reagents for Tc-99m labelling

- D3.4.1 DTPA
- D3.4.2 DMSA
- D3.4.3 MDP
- D3.4.4 DISIDA/HIDA
- D3.4.5 Colloids (any kind)
- D3.4.6 MAA (macroaggregates)
- D3.4.7 Human serum albumin
- D3.4.8 Sestamibi
- D3.4.9 Tetrofosmin
- D3.4.10 ECD
- D3.4.11 HMPAO
- D3.4.12 MAG3
- D3.4.13 Other (please specify)

D3.5 Non-Tc-99m Radiopharmaceuticals

- D3.5.1 In111 Octreotide
- D3.5.2 I123 / I131 MIBG
- D3.5.3 Other (please specify)

D3.6 PET Radiopharmaceuticals

- D3.6.1 F-18 FDG
- D3.6.2 F-18 (other)
- D3.6.3 C-11
- D3.6.4 N-13
- D3.6.5 Generators (Rb-82, Ga-68, etc.)
- D3.6.6 Other (please specify)

E. RADIONUCLIDE THERAPY

E.1. Do you have a radionuclide therapy ward in your hospital?

Yes No

If "Yes" how many beds?



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F. VOLUME OF NUCLEAR MEDICINE PROCEDURES

F.1. Please indicate the Studies/Procedures performed in your department during the last year

Study / Procedure	Number of procedures
F1.1 Cardiovascular <i>Myocardial Perfusion Imaging, Radionuclide Ventriculography (MUGA)</i>	
F1.2 Endocrine <i>Thyroid Tc-99m scan, Thyroid I-123 or I-131 uptake and scan, Parathyroid, Adrenal scan</i>	
F1.3 Gastrointestinal <i>Esophageal transit, Gastro-Esophageal reflux, Gastric Emptying, Hepatobiliary, Hepatic Hemangioma, GI Bleed, Meckel's Diverticulum, Schilling's Test, C-14 Urea breath test for H. pylori</i>	
F1.4 Genitourinary <i>Renal scan (Renogram), Renogram with Captopril, Renogram with Furosemide, Renal Cortical study (DMSA), Nuclear Cystogram, Genital system scans</i>	
F1.5 Oncology <i>Gallium scan, In-111 Octreotide scan, (I-131 or I-123) MIBG scan, Sestamibi/Tl-201 Scan, I-131 scan</i>	
F1.6 Nervous System <i>Brain Perfusion (HMPAO or ECD), Brain Receptors scan (DAT-Scan/IBZM), Cisternogram (including V-P shunt evaluation)</i>	
F1.7 Pulmonary <i>Lung Perfusion, Lung Ventilation</i>	
F1.8 Skeletal <i>Bone scan, Bone Marrow scan</i>	
F1.9 Miscellaneous <i>Salivary glands, Lymphoscintigraphy (peripheral), Lymphoscintigraphy for sentinel node, Gallium scan for infections, In-111 or Tc-99m Leukocyte study (Infection or IBD)</i>	
Subtotal of F1.1 to F1.9	
F1.10 Therapeutic	
F1.10.1 1-131 Therapy, Hyperthyroidism	
F1.10.2 1-131 Therapy, Thyroid Ablation/Metastases	
F1.10.3 Palliation of pain from bone metastases	
F1.10.4 Therapy with I-131 MIBG	
F1.10.5 Radiosynovectomy	
F1.10.6 Other (please specify)	
Subtotal of F1.10	
F1.11 PET & PET/CT procedures	
F1.12 In vitro techniques <i>RIA, Molecular biology</i>	
F1.13 Radioguided surgery <i>Sentinel node & other</i>	
Full total	



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G. PERSPECTIVES OF NUCLEAR MEDICINE AND TRAINING NEEDS

G.1. Does your department perform effectively to your hospital's needs?

Very much Much Not as much

G.2. If you responded to question G.1. as 'Not as much', what do you think is the main reason for not performing effectively? (Select up to 3 most relevant.)

- G2.1 Insufficient manpower
- G2.2 Insufficient equipments
- G2.3 Insufficient radioisotope or radiopharmaceuticals supply
- G2.4 Insufficient education and training
- G2.5 No adequate reimbursement for nuclear medicine procedures
- G2.6 Too much regulation upon using radioisotopes
- G2.7 Other (please explain)

G.3. Training Needs

Your input in the section below will allow us to better understand the priority areas regarding your training needs in order to prepare the work plan of activities, including regional training courses and workshops.

G3.1 Staff training needs.

Please indicate staff training needs in your department.

Personnel	Very much	Much	Not as much
G3.1.1 Nuclear Medicine Physicians.			
G3.1.2 Nuclear Medicine Technologists			
G3.1.3 Radiochemists / Radiopharmacists			
G3.1.4 Medical Physicists			
G3.1.5 Nurses			

G3.2 Does your staff participate in any continuous education activities? Yes No



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G3.3 Clinical training needs.

Please indicate the clinical areas in which training is needed.

Subject	Very much	Much	Not as much
G3.3.1 Thyroid disorders			
G3.3.2 Cardiology			
G3.3.3 Paediatrics			
G3.3.4 Nephro-urology			
G3.3.5 Clinical applications of SPECT			
G3.3.6 Clinical applications of PET			
G3.3.7 Infection & inflammation			
G3.3.8 Neuropsychiatry			
G3.3.9 Receptor imaging			
G3.3.10 Therapeutic nuclear medicine			
G3.3.11 Instrumentation / Quality Control			

G.4. Please provide below any additional information relevant to your training needs and/or cooperation with the IAEA:

G.5. National Programs & other Bilateral Assistance:

Please provide information on any ongoing national programs or strategies addressing the topic of nuclear medicine, cardiology and/or cancer management (in general) in your country. Please also include any other assistance being received from international sources (i.e. WHO, NGO's, bilateral donors).

We welcome your feedback and thank you for your time in completing this survey!

*If you have any questions and comments please feel free to contact
Dr. Diana Paez, Head, Section of Nuclear Medicine (D.Paez@iaea.org)*