

EFOMP Staffing Questionnaire and Census of Medical Physics in Europe

The European Federation of Organisations for Medical Physics
A Company Limited by Guarantee in England and Wales,
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Explanatory Note

This survey is a census which is intended to inform the medical physics community, EFOMP and the Commission of the European Union of the current situation (including staffing levels) of the medical physics profession in Europe. The success of this survey depends completely on your willingness to complete it. We would be grateful if you could do so, it will take approximately 30-45 minutes.

At points in the questionnaire you will be asked questions regarding departmental workloads, equipment levels, number of procedures etc. In order to answer these questions conveniently, it may be useful to firstly print the questionnaire out and note the answers down. Please also note that it is NOT possible to partially save the form with answers. This is an unfortunate by-product of using a free to use system such as Google Docs. We are asking your forbearance for this.

Any questions regarding this survey can be directed to myself at wil.vanderputten@hse.ie

On behalf of the survey team :
Wil van der Putten, Chair Professional Committee, EFOMP



This Survey can be completed at www.tinyurl.com/efomp-staffing

General Introduction

GI 1. Name of Contact Person *

(Individual who completed questionnaire)

GI 1b. Please specify your role in Department *

(Individual who completed questionnaire)

GI 2. Institution Name *

GI 3. Street Address *

of Institution

GI 4. City *

of Institution

GI 5. Contact telephone *

(In case of queries with respect to replies)

GI 6. Contact email *

(In case of queries with respect to replies)

GI 7. Please state your country *

(select from drop down list)

GI 8. Please specify whether your employer is *

(select from drop down list)

GI 9. Please provide any particular information which you believe is essential and that is not covered by the questions above.

Departmental/Individual Workload

The following section is looking for information on the extent of the clinical services which could be supported by medical physics. Even if your department does not support a particular clinical activity, please provide answers.

Nuclear Medicine

NM 1. Number of Gamma cameras (Planar)
(planar, no SPECT)

0 ▼

NM 2. Number of Gamma cameras (SPECT)
(SPECT)

0 ▼

NM 3. Number of Gamma cameras (SPECT/CT)
(SPECT/CT)

0 ▼

NM 4. Number of PET systems (PET)
(PET Only)

0 ▼

NM 5. Number of PET systems (PET/CT)
(PET/CT Only)

0 ▼

NM 6. Number of Cyclotron Units
PET Isotope production

0 ▼

NM 7. Diagnostic Nuclear Medicine STATIC Imaging
number of procedures/year

NM 8. Diagnostic Nuclear Medicine SPECT Imaging
number of procedures/year

NM 9. Intraoperative sentinel node procedures

number of procedures/year

NM 10. In-Vitro Diagnostic Tests

number of procedures/year

NM 11. Outpatient therapeutic radioisotope procedures

number of procedures/year

NM 12. Inpatient therapeutic radioisotope procedures

number of procedures/year

NM 13. Maintenance of Nuclear Medicine Equipment

Is your Department involved in equipment maintenance

NM 14. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only information which is specific to Nuclear Medicine physics)

Radiotherapy

RT 1. Number of Accelerators (Single Energy, no electrons)

Only those accelerators which are Single Energy, No Electrons

0

RT 2. Number of Accelerators (Dual Energy, no electrons)

Dual Energy, No Electrons

0

RT 3. Number of Accelerators (Dual Energy, electrons)

Dual Energy, Multiple Electron Energies

0

RT 4. Total Number of Linear Accelerator Systems with Multi Leaf Collimator

Multi-leaf Collimator

0

RT 5. Number of Linear Accelerator Systems with EPID

Electronic Portal Imaging Device

0

RT 6. Number of Linear Accelerator Systems with IGRT

Image Guidance (either external or onboard)

0

RT 7. Number of Alternative Treatment Units

	0	1	2	3	4
Tomotherapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyberknife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proton therapy facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heavy Ion Irradiation facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neutron Irradiation Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

RT 8. Treatment Planning Computer Systems

0

RT 9. Record and Verify Network Systems

0 

RT 10. Orthovoltage Treatment (X-ray) Units
(up to 300 kVp)

0 

RT 11. Treatment Simulators (conventional)
(conventional gantry)

0 

RT 12. Treatment Simulators (CT)
(Computed Tomography)

0 

RT 13. Treatment Simulators (MRI)
(Magnetic Resonance Imaging System dedicated to Radiotherapy only)

0 

Procedures

The following section will ask you about the number of procedures your department undertakes per year.

RT 14. Palliative External Beam Therapy
(number of procedures/year)

RT 15. 2D conventional External Beam Therapy
(number of procedures/year)

RT 16. 3D conformal External Beam Therapy
(number of procedures/year)

RT 17. IMRT External Beam Therapy
(number of procedures/year)

RT 18. IGRT External Beam Therapy

(number of procedures/year)

RT 19. LDR/PDR Brachytherapy (excluding seeds)

(number of procedures/year)

RT 20. Brachytherapy seed implantation

(number of procedures/year)

RT 21. High Dose Rate Brachytherapy

(number of procedures/year)

RT 22. Total Body Irradiation

(number of procedures/year)

RT 23. Total Skin Electron irradiation

(number of procedures/year)

RT 24. Stereotactic Radiosurgery (intra cranial - brain)

(number of procedures/year)

RT 25. Stereotactic Radiosurgery (extracranial - body)

(number of procedures/year)

RT 26. Intra-Operative Radiotherapy

(number of procedures/year)

RT 27. Maintenance of Radiotherapy Equipment

Is your Department involved in equipment maintenance

RT 28. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only issues which are specific to Radiotherapy Physics)

Diagnostic Radiology

Magnetic Resonance

MR 1. Number of Extremity MR systems
(small dedicated extremity imagers)

MR 2. Number of conventional MR systems (low field < 1.5 T)
(conventional MR imager below 1.5 Tesla magnetic field)



MR 3. Number of conventional MR systems (1.5 Tesla Field strength)
(conventional MR imager with magnetic field = 1.5 T)

MR 3. Number of High Field MR systems (Field strength larger than 1.5 T)
(conventional MR imager with magnetic field > 1.5 T)

MR 4. Conventional anatomical MR imaging procedures
(number of patients/year)

MR 5. Functional imaging
fMRI, BOLD, Spectroscopy, DTI (number of procedures/year)

MR 6. Interventional MR imaging
(number of procedures/year)

MR 7. Please provide any particular information which you believe is essential and that is not covered by the questions above.
(Only issues which are specific to Magnetic Resonance Imaging Physics)

X-Ray Imaging

This section requests the number of X-ray systems for which you or your department carry responsibility, either as radiation protection advisor (Qualified expert in Radiation Protection) or as Medical Physics expert. Alternatively, your department may be involved in equipment maintenance.

XR 1. Conventional General X-Ray systems (excluding mammography)
(Includes mobile xray units - Number of Systems)

XR 2. Film Processors
(Number of Systems, including dedicated mammography)



XR 3. Digital General X-Ray systems
(Number of Systems)

XR 4. Computed Radiography Readers
(Number of Systems)

XR 5. Mammography (film based)
(Number of X-Ray Systems)

XR 6. Mammography (digital)
(Number of X-Ray Systems)

XR 7. Dedicated Bone Densitometry (DXA) systems
(Number of Systems)

XR 8. Dental Radiography systems
(Intra-oral and Pantomographs - Number of Systems)

XR 9. Fluoroscopy systems (conventional)
(Barium and mobile Carms - Number of Systems)

XR 10. Fluoroscopy systems (interventional)
(radiology and cardiology - Number of Systems)

XR 11. Computed Tomography (Single slice)
(Number of Systems)

XR 12. Computed Tomography (MSCT < 16 slices)
(Multislice < 16 slices - Number of Systems)

XR 13. Computed Tomography (MSCT \geq 16 slices)
(Multislice \geq 16 slices - Number of Systems)

XR 14. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only issues which are specific to X-Ray Imaging Physics)

Ultrasound

US 1. US imaging scanner "low end"
(Basic specification model, B-mode only - Number of Systems)

US 2. US imaging scanner "medium specification"
(Mid range specification model, B-mode, Doppler - Number of systems)



US 3. US imaging scanner "High End Specification"
(High End specification model, Harmonic, broadband imaging - Number of systems)

US 4. High Intensity Focussed Ultrasound treatment Units
(Lithotripsy, HIFU, Physiotherapy Units)

US 5. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only issues which are specific to Ultrasound Physics)

EQ 1. Maintenance of Radiology Equipment
Is your Department involved in equipment maintenance

Radiation Protection

RP 1. Are you, or any members of your Department appointed as Qualified Experts in Radioprotection
Definition as per EU/90/641/Euratom

- YES
 NO

RP 2. How many Qualified Experts in Radioprotection are in your department
Definition as per EU/90/641/Euratom

RP 3. If answer to question RP 2. is 0, do you procure the service from an external provider ?
In other words, do you buy in radiation protection services ?

- YES
 NO

RP 4. Does your department provide a radiation dosimetry service ?
(Radiation badges)

- YES
 NO

RP 5. Are you, or your department, responsible for shielding design ?

- YES
 NO

RP 6. What is the number of occupationally exposed persons in your organisation
(Specify number)

RP 7. Are you or your department, responsible for advice on patient and worker safety related to use
of Non-ionizing Radiation ?

This includes Lasers, Ultra-violet Systems and Magnetic Resonance Safety

	YES	NO
Laser Systems	<input type="radio"/>	<input type="radio"/>
Ultra-Violet systems (PUVA, TL01)	<input type="radio"/>	<input type="radio"/>
MRI safety	<input type="radio"/>	<input type="radio"/>

RP 8. If you answered YES to the Laser part of question RP 7, specify how many Laser systems you provide safety advice and support for ?

Class IV lasers only

RP 9. If you answered YES to the UV part of question RP 7, specify how many UV systems you provide safety advice and support for ?

PUVA and TL01 treatment units and cabinets

RP 10. If you answered YES to the MR part of question RP 7, specify how many MR systems you provide safety advice and support for ?

All MRI scanners

RP 11. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only issues which are specific to Radiation Protection)

Clinical Instrumentation and Informatics

This section inquires whether your department is responsible for medical equipment and/or clinical information systems in your organisation.

CI 1. Are you or your Department responsible for medical equipment ?

Responsibility may include purchase advice, user support and repair

- Yes
 No

CI 2. If answer to question CI 1. is YES, please state number of acute hospital beds

Include number of beds assigned to day surgery

CI 2b. If answer to question CI 1. is YES, please state what this includes

All equipment including imaging and radiotherapy

CI 3. If answer to question CI 1. is YES, please state number of total hospital beds

(This includes acute hospital beds and long stay (nursing home) beds)

CI 4. If answer to question CI 1 is NO, please state who is responsible for the maintenance of medical equipment

Internal Clinical Engineering Department

CI 5. Are you or your Department responsible for physiological measurement ?

Responsibility may include data validation, quality assurance and clinical measurements

- Yes
 No

CI 6. If answer to question CI 5. is YES, please state number of acute hospital beds

Include in this number of beds also those assigned to ambulatory or day surgery

CI 7. Is the management of RIS/PACS systems assigned to the Medical Physics Department

- YES
 NO

Ci 8. Is the management of Oncology systems assigned to the Medical Physics Department
This includes Record and Verify Systems

- YES
 NO

Ci 9. State whether any other systems are managed by the Medical Physics Department
(for instance Cardiology, Intensive Care, Anaesthetics etc.)

Ci 10. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only issues which are specific to Clinical Instrumentation)

STAFFING NUMBERS

The following section will ask you questions on the number and education levels of the staff in your department

ST 1. Number of Full time Equivalent (FTE) employed on 31st December 2010

This number should include both physics, engineering and technical support staff

ST 2. Number of Full time Equivalent (FTE) Physicists employed on 31st December 2010

Medical Physics Expert as per EFOMP definition (Radiotherapy only)

ST 3. Number of Full time Equivalent (FTE) Physicists employed on 31st December 2010

Medical Physics Expert as per EFOMP definition (Diagnostic Imaging only)

ST 4. Number of Full time Equivalent (FTE) Physicists employed on 31st December 2010

Medical Physics Expert as per EFOMP definition (Nuclear Medicine only)

ST 5. Number of Full time Equivalent (FTE) Physicists employed on 31st December 2010

Medical Physics Expert as per EFOMP definition (Other only)

ST 6. Number of Full time Equivalent (FTE) trainees employed on 31st December 2010

(individuals who are engaged in a full-time structured training program)

ST 7. Number of Full time Equivalent (FTE) Specialist Medical Physicist / Radiation Protection Experts employed on 31st December 2010

SMP/RPA as per EFOMP/EU definition



Education of Physicists and Engineers

This section inquires about the education and training of physicists/engineers in your department

ST 8. Undergraduate Education (Bologna Level 8)

Number of individuals with Primary degree in Physics or Electrical/Electronic Engineering

ST 9. Postgraduate Education (Bologna Level 9)

Number of individuals with MSc degree in Medical/Radiation Physics

ST 10. Postgraduate Education (Bologna Level 10)

Number of individuals with PhD degree in Medical/Radiation Physics

Education of Technical Staff

This section inquires about the education and training of technical staff / technicians in your department

ST 11. Diploma Level Education (Bologna level 7)

Number of individuals with Diploma education

ST 12. Undergraduate Education

Number of individuals with Primary undergraduate degree (any Discipline)

ST 13. Undergraduate Education

Number of individuals with MSc postgraduate degree (any Discipline)

ST 14. Undergraduate Education

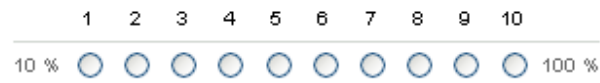
Number of individuals with PhD postgraduate degree (any Discipline)

ST 15. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only issues which are specific to Staffing numbers)

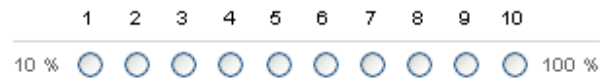
WD 8. Departmental Workload (Health Informatics)

Percentage of time spend (leave blank if none)



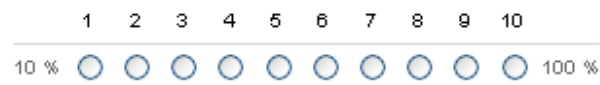
WD 9. Departmental Workload (Clinical Instrumentation and Measurement)

Percentage of time spend (leave blank if none)



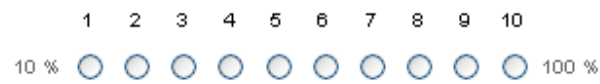
WD 10. Departmental Workload (Education and Training)

Percentage of time spend teaching and educating other staff in organisation (leave blank if none)



WD 11. Departmental Workload (Professional Development - CPD)

Percentage of time spend on own training and maintenance of competence (leave blank if none)



WD 12. Please check that your total answers to WD 1 - WD 11 add up to 100 % *

Only if your department has significant overtime can workload be > 100 %

- yes
- no, due to overtime

WD 13. Please provide any particular information which you believe is essential and that is not covered by the questions above.

(Only issues which are specific to workload estimation)

Congratulations !

You have reached the end of the Survey. On behalf of EFOMP we would like to thank you for your help in filling out this questionnaire.