

CE Medical Physics Departments

WELCOME

An Fremout – Section Head ‘Health Protection’

An Dedulle - Inspector-expert dosimetry

Karen Haest - Themecoordinator Radiotherapy

Marleen Vandecapelle – Themecoordinator Nuclear Medicine

Katrien Van Slambrouck – Themecoordinator Medical X-ray applications

Welcome & introduction

- FANC mission: to protect
- FANC activities: inform, regulate, anticipate & control
- In collaboration with stakeholders
- 2nd event on medical physics departments
- 80 registrants:
 - ✓ heads of medical physics departments
 - ✓ medical physics experts
 - ✓ physicians
 - ✓ (head-)nurses or technologists
 - ✓ heads of health physics departments
- PPTs: FANC-website in pdf-version

Program

14.00	Medical Physics Department: legal framework
14.30	Experience feedback from the field : <ul style="list-style-type: none">- Damien Dumont (Saint-Luc/Saint-Jean/Saint-Pierre)- Vincent Houttemane & Briec Dumont (CHWAPI)- Nadine Linthout (AZORG & CHiMPS)
15.30	Coffee break & networking
16.00	Hospital financing <ul style="list-style-type: none">- Dr. Herwig Van Dijck (FRZV/CFEH)- Stephanie Devisscher (advisor financing GH, Zorgnet-Icuro)
16.30	Periodical Patient Dose Surveys & Diagnostic Reference Levels
16.45	Feedback Optimization Projects
17.00	Closure

Medical Physics Departments

Legal framework

Overview

1. Department of medical physics: aim and objectives
2. Department of medical physics: legal framework
3. Questions

Aim and objectives

What is medical physics?

BSS directive 2013/59/EURATOM:

To act or give advice on matters relating to radiation physics applied to medical exposure

What is a medical exposure?

Exposure incurred by

- patients/asymptomatic individuals (screening) as part of their own medical diagnosis or treatment and intended to benefit their health or quality of life
- their carers and comforters
- the unborn child in case of a known pregnancy of the above individuals
- volunteers in experiments on the human being



Aim and objectives

What is a medical physics expert?

BSS directive 2013/59/EURATOM:

An expert who takes responsibility for dosimetry, including physical measurements for evaluation of the dose delivered to the patient and other individuals subject to medical exposure

Why a medical physics department?

- The medical physics expert must be able to act independently within his competence and this calls for a clear and vertical hierarchical structure at hospital level
- Increased awareness of the management of the hospital of its responsibilities in the field of medical physics
- Enforce role, coordination and visibility of medical physics at the hospital level
- A multidisciplinary and integrated approach of (new) medical technologies and projects
- Deploying medical physics experts where obligatory and/or needed, also in medical departments with little experience in medical physics such as surgery departments, pain clinic, ...

Overview

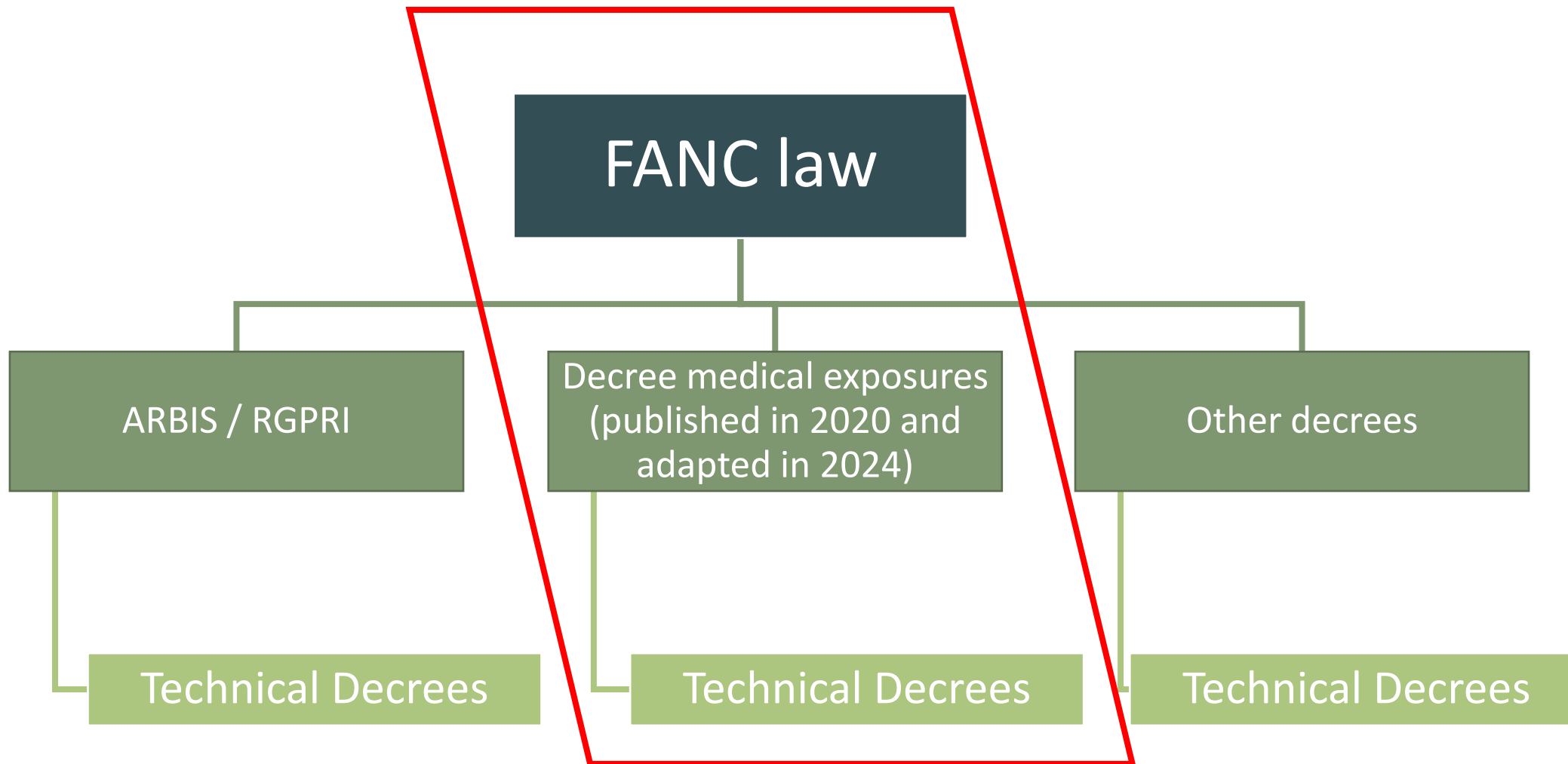
1. Department of medical physics: aim and objectives
2. Department of medical physics: legal framework
3. Questions

Legal framework

LAWS

**Royal
Decrees**

**FANC
decrees**



Legal framework

Terminology

EN	NL	FR
Licence holder	Exploitant <i>de persoon aan wie de exploitatievergunning werd verleend (elke natuurlijke of rechtspersoon die verantwoordelijk is voor de inrichting onderhevig aan de vergunnings- of aangifteplicht overeenkomstig de bepalingen die voortvloeien uit artikel 17 uit de FANC-wet)</i>	Exploitant <i>la personne à qui l'autorisation d'exploitation a été délivrée (toute personne physique ou morale qui assume la responsabilité de l'établissement devant faire l'objet d'une autorisation ou d'une déclaration conformément aux dispositions découlant de l'article 17 du loi AFCN)</i>
Establishment	Inrichting	Etablissement
Health physics	Fysische controle	Contrôle physique
Medical Physics Expert (MPE)	Erkende deskundige Medische Stralingsfysica	Expert agréé en Radiophysique médicale
Medical Physics Assistant (MPA)	Assistent Medische Stralingsfysica	Assistant Radiophysique médicale

Who is concerned?

- Since 20/02/2023, each licence holder of an establishment with medical-radiological equipment must have a medical physics department up and running (FANC law)

*This department is in charge of the **organisation of the medical radiation physics** in the establishment, including the identification of resources, in order to meet all regulatory requirements as well as the objectives of the establishment in the field of medical radiation physics*

- Exception for establishments of class III without CT and/or without interventional radiology
- The organisation and resources of the medical physics department depend on several factors:
 - ✓ Areas of activity (radiation therapy, nuclear medicine, radiology, cathlab, dentistry, pain clinic, ...)
 - ✓ Number of equipment and their complexity
 - ✓ Number of treatments and examinations and their complexity
 - ✓ Patient safety, quality and risk management activities
 - ✓ Any teaching and research activities

The medical physics department

- Must be provided by the licence holder with all resources, information and documents necessary to carry out its mission:
 - ✓ Human resources : internal and/or external MPEs, MPAs in radiotherapy
 - ✓ Material resources: measuring equipment, software, ...
 - ✓ Access to the health physics documentation system, physical inventory included
- Must assure that the MPEs can act independently
- Does not change the close collaboration of MPEs with the medical doctors and other members of the medical team
- Has a department head

Remark: There should be only one department with one head

The head of the medical physics department

- A recognised medical physics expert, employee of the establishment
- If establishment has no MPE employed
 - employee with (minimal) training in radiation protection (basic modules & theoretical in-depth modules) related to the applications used in the establishment:
 - conventional radiology & mammography
 - CT & CBCT
 - interventional radiology
 - use of radioactive products in nuclear medicine (and if applicable, CT & CBCT)
 - old training requirements (50h + 10h NM): OK!
- Depends directly on the licence holder, which guarantees his/her independence
- Is protected from resignation based on tasks or decisions taken as head of the department

} new

The head of the medical physics department

- Coordinates and organises the proper execution of the tasks assigned to the medical physics department:
 - ✓ Implementation of a MPE on-call service where required (MN & RT)
 - ✓ Coordination of the various optimisation projects for CT and IR
 - ✓ Implementation of procedures for when & where MPEs should intervene
 - *Remark: Maximal interval between 2 full QC procedures : 14 months (38 months for simple dentistry equipment)*
 - ✓ ...

Remark: The individual MPEs remain responsible for their own tasks described in the RD medical exposures and associated technical decrees and they cannot pass these tasks on to the head of the department

The head of the medical physics department

- **Specific tasks:**
 - Guarantees for each medical-radiological equipment and process, that:
 - ✓ MPEs in each of the relevant areas of competence (RT, NM, RX) are involved
 - ✓ they have been formally released in writing by an MPE before the first clinical use, after completion of the acceptance and commissioning procedures, and that the head of the health physics department is informed thereof
 - ✓ the license holder, the concerned physician head and the head of the health physics department are notified in writing when their safe clinical use cannot be guaranteed
 - Consults regularly with
 - ✓ the physician heads of the departments where MPEs intervene
 - ✓ head physician of the establishment

The head of the medical physics department

- **Allocation of working time:**
 - No legal requirements, but should be in line with:
 - ✓ the size of the establishment
 - ✓ the number of establishment sites and their geographical distribution
 - ✓ the size of the medical physics department
 - ✓ the number of medical-radiological devices
 - Should be regularly evaluated
 - In general: 20% FTE - 50% FTE
 - If MPE: carries out, guides or supervises a minimum number of medical physics activities
 - at least 20% of a full-time working time, in each area of competence in case of 2 recognitions

The head of the medical physics department

- **Continual education:**

- ✓ If MPE:

- regular continual education as MPE (50h every year)
 - also, in areas of competence for which the head holds no recognition
 - of which 2h /3 years specific CE for heads, organized by FANC

- ✓ If non-MPE:

- 10h every year
 - Annual BHPA symposium
 - Observation of the MPE during his annual QC and discussion of the results and changes/improvements to be made (attestation of the MPE, including the number of hours attended)
 - Meetings of the CHiMPS (Clinical Heads in Medical Physics Services)
 - ...
 - additionally, 2h /3 years specific CE for heads, organized by FANC

The head of the medical physics department

- **If an MPE:**
 - ✓ Possibility to delegate some tasks to one or more assistant-head(s)
 - Helpful in areas of competence for which the head holds no recognition
 - Ultimate responsibility for the proper functioning of the department remains with the head
 - Delegated tasks must be included in the description of the department

The assistant-head of the medical physics department

- An MPE or non-MPE, employees of the establishment
- A non-MPE: at all times, uninterrupted hierarchical line between the head and the MPEs in the department
- A non-MPE: radiation protection training requirements comparable to those of the head (basic modules & theoretical in-depth modules, related to the delegated tasks):
 - ✓ conventional radiology & mammography
 - ✓ CT & CBCT
 - ✓ interventional radiology
 - ✓ use of radioactive products in nuclear medicine
- Same continual education requirements as the heads

Common/joint medical physics departments → **Prior approval by FANC !**

- Head is always an MPE, employee of one of the concerned establishments
- Head has direct access to the licence holders of the concerned establishments
- Written agreement between the establishments:
 - Responsibilities & tasks of the head and MPEs
 - Time occupation of the head and MPEs
 - Their access to the medical-radiological equipment
- One or more advantages over individual departments:
 - not purely economic, but with a positive impact on patient radiation protection
 - ✓ an increased presence of MPEs in the establishments covered by the common department
 - ✓ availability of measuring instruments and software necessary for medical physics tasks
 - ✓ the implementation of common processes and procedures in the field of medical physics
 - ✓ ...

Implementation in practice

- By default, description of the medical physics department in the establishment's application for an operating licence:
 - ✓ Identification and contact details of the head
 - ✓ Organisation chart
 - ✓ Description of the tasks, responsibilities and working time of the involved MPEs
- Once the department is approved or evaluated, immediate notification to the FANC of any changes regarding:
 - ✓ Head the department
 - ✓ Organisation chart
 - Fusion of hospitals
 - Addition or reduction of establishment sites
 - Delegation of tasks to assistant-head(s)
 - ✓ medicalexposures@fanc.fgov.be

Control of the proper functioning of the medical physics department

- By the FANC, through inspections
- Most common findings and observations:
 - ✓ Assignment of heads who haven't followed (yet) the required training in radiation protection
 - ✓ No or little structured communication with the head physician of the establishment and the physician heads of the departments where MPEs intervene, in particular those of the departments with less medical physics tradition like cardiology, urology, the pain clinic, ...
 - ✓ Oral arrangements but no formal written procedure on who should be informed, when and how, of a breakdown, maintenance or modification of the medical-radiological equipment
 - ✓ No or little involvement of the head or of the MPE in purchase procedures of new equipment
 - ✓ No or little access to the health physics documentation system & physical inventory
 - ✓ No or little optimization projects for CT in NM and RT-departments (mandatory since 02/2023)

Control of the proper functioning of the medical physics department

- Most common findings and observations:
 - ✓ Good practices!
 - ✓ Increased awareness of the management of the hospital on the importance of medical physics & patient radiation protection
 - ✓ Challenges, in particular in the departments with less medical physics tradition like the surgery departments, the pain clinic, ...

- Quote (activity report of an external MPE in RX):

“I see the designation of a department head of medical physics as a positive development.

It has made communication more efficient and has ensured greater internal involvement.

Since the designation, my observations are followed up more strictly and replacements of machine components by suppliers are more quickly communicated to me as an external MPE. “

MERCI
BEDANKT
THANK YOU

Program

14.00	Medical Physics Department: legal framework
14.30	Experience feedback from the field : <ul style="list-style-type: none">- Damien Dumont (Saint-Luc/Saint-Jean/Saint-Pierre)- Vincent Houttemane & Briec Dumont (CHWAPI)- Nadine Linthout (AZORG & CHiMPS)
15.30	Coffee break & networking
16.00	Hospital financing <ul style="list-style-type: none">- Dr. Herwig Van Dijck (FRZV/CFEH)- Stephanie Devisscher (advisor financing GH, Zorgnet-Icuro)
16.30	Periodical Patient Dose Surveys & Diagnostic Reference Levels
16.45	Feedback Optimization Projects
17.00	Closure