

Need for IT-Specialists in RO- Departments

Ziele der Arbeitsgruppe

- 1. Positionspapier im Namen der ISROI – bis Ende 2023 (Oktober)
 - Inhaltlich:
 - Grundsatzfrage: warum «IT-Spezialisten» in der RO?
 - Was ist eine «IT-Spezialist»?
 - Aufgabenspektrum
 - Minimale Anforderungen an Können und Ausbildung
 - Anforderung an Personaldecke (Stellenprozente) und weitere Ressourcen
 - Organisatorisches (Teamzugehörigkeit)
 - Zusammenarbeit und Arbeitsteilung RO-Intern, RO-Extern (z.B. mit Spital-IT), Abgrenzungen
 - Einreihung bezüglich Lohn, Vergleiche mit andern Berufsgruppen in der RO, Spital-IT etc.
- 2. Mögliche zweite Phase: Detailausarbeitung an Anforderungsprofil für z.B. Fachinformatiker, Ausbildung, Weiterbildung für fachfremde Personen etc.

Mitglieder

The Need for IT specialists in Radiation Oncology

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Aktueller Stand

- Paper durch Arbeitsgruppe und internes Review abgeschlossen
- Paper bei verschiedenen Fachgesellschaften zum Review eingereicht
 - Erste Rücksendungen sehr positiv
- Anfrage für offizielles ESTRO Endorsement

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3.2 Catalogue of tasks and services

Tasks that a MIS can perform within RO are listed below. The list is based on a questionnaire conducted by the working group (see Appendix 2), and therefore it is not exhaustive nor complete, but represents a possible range of activities:

- Administration of the radiation oncology information system (ROIS) and treatment planning systems (TPS)
- Interoperability/interfaces, especially within RO and to the HIS
- Workflow and process management
- Process digitalisation and automation
- Management of IT infrastructure
- IT system administration
- Validation of new IT systems
- Software management
- Scripting and software development
- IT security
- Initiating and promoting innovation
- Project management
- Patient safety
- Data protection
- Communication and coordination with multiple areas involved (central hospital IT, medical physics, RO, medical informatics, ...)
- Contract management (for IT systems)
- Data analysis and statistics
- Billing and activity capturing
- Quality management
- Risk management
- User support and staff training
- Research work

The skills required of a MIS in RO can be categorised as follows: **1 Core skills, 2 Supplementary knowledge, 3 Optional competence**

4.1 Core skills

Profound knowledge and expertise are needed. The MIS in RO is the main point of contact for following topics.

- IT service management: structure, operation, and management of the ICT architecture according to ITIL, service and support management, change management, incident management, problem management
- Computer science basics: hardware structure, operating systems, software/applications/services, network and communication, digital technology, basic services (DNS, AD, server architecture, mail, web, etc.), life cycle models and services
- Project management in IT: planning, conception, realisation of ICT projects
- Comprehensive knowledge of the general processes in a RO department (patient care pathway, patient journey)
- Process management: analysis and optimisation of clinical-administrative processes, lean management
- Interoperability, data transmission and interfaces: DICOM, DICOM-RT, HL7, FHIR, CDA, PACS, HIS, RIS, ROIS, web services (http, REST)
- Data protection and data security: data backup, data protection, identity access management, encryption, certificates, firewalls, hashes, security infrastructure
- Cybersecurity, security aspects of distributed MI systems (cloud), business continuity management

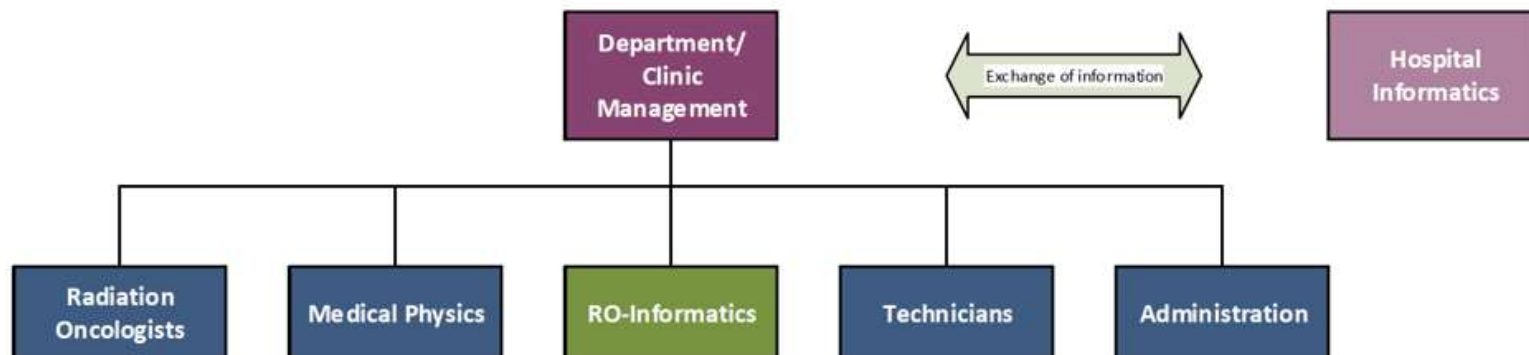
For the sake of simplicity, a key for full-time equivalents (FTE) is proposed here that relates to the number of patients treated per year. In addition, for the smooth operation of a modern RT centre, it is recommended to consider substitutes for absences and leaves. This should be at least a 30% FTE, but up to 50% for large facilities.

Patient/year	Number of MIS FTEs	Total MIS FTE incl. substitutions
Baseline	1.0	1.3
up to 500	At least 1.3 - 1.5	1.6 - 1.8
500 to 1000	At least 1.5 - 2.0	1.8 - 2.3
1000 to 2000	At least 3.0	3.5
Over 2000	At least 4.0	4.5

6.1 ROI division within the Clinic for Radiation Oncology

Within the clinic or department of RO, there should be an independent division for ROI. In organisational and hierarchical terms, it is on the same level as, for example, the medical physics team, the radiation oncologists or the clinic administration and therefore reports directly to the clinic management (Fig. 2)

This scenario is primarily recommended as it gives MI employees the necessary leverage required by the range of tasks they will encounter and enables them to hold discussions on an equal standing with other decision-makers within the clinic.



	Medical physics	Medical informatics
ROIS: Record and Verify	Commissioning and operation	Support with installation, network integration
ROIS: patient management and workflows; incl. QA and system documentation	Co-determination and Conception	Commissioning and operation
Treatment planning systems	Commissioning and operation	Support with installation, network integration
Clinical approval processes, data storage, ensuring data quality	Joint conception, approval	Joint conception
Radiotherapy documentation	Joint conception, approval	Joint conception
Data collection and nomenclature standards	Joint conception	Joint conception
Devices (linacs, CT, brachy, etc.)	Commissioning and operation	Support with installation, network integration
Dosimetric QA systems	Commissioning and operation	Support with installation, network integration
Development and introduction of new modules related to irradiation (e.g. AI, scripts, etc.)	Joint conception, approval	Joint conception

Wie weiter

- Rückmeldungen der Fachgesellschaften
- Einreichung beim ESTRO Guidelines Committee
- Publikation in diesem Jahr

- Ev. Folgeprojekt zu Anforderungsprofil eines MIE