4th St. Gallen Radiation Oncology Informatics Meeting

St. Gallen, 25th of March 2022

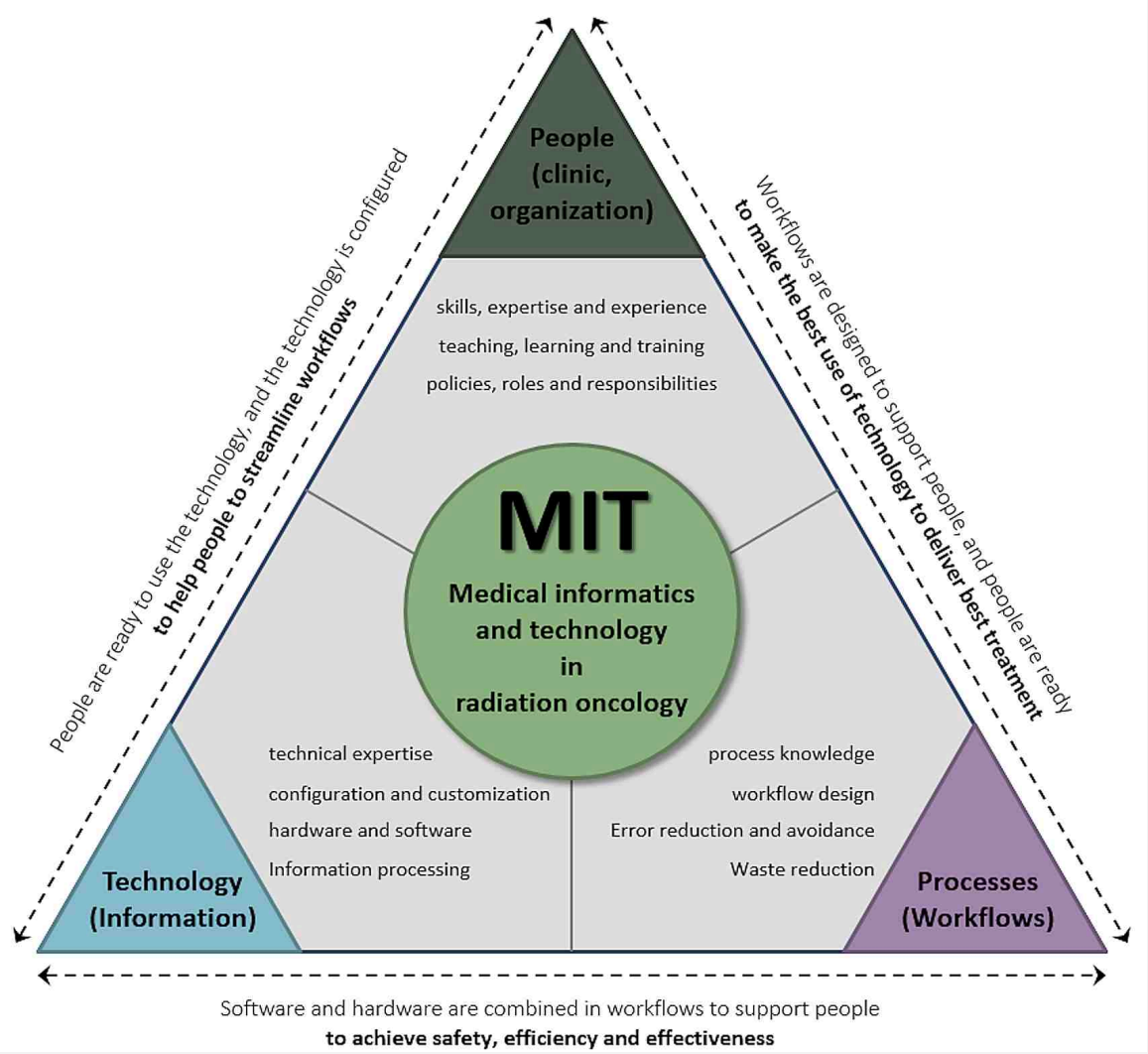
During a time of covid-related uncertainties, we were all the more happy that on March 25, 2022 we could finally execute the 4th St.Gallen Radiation Oncology Informatics Meeting as an on-site event!

Inspired by the KAI-DEGRO workshops in Freiburg, Germany organized by Dr. Felix Heinemann, the first Swiss meeting took place in 2015 with a small group of people interested in exchanging ideas about the use of radiation oncology information systems and workflows. The 2nd and 3rd meetings, with growing participation and a broader range of topics were held in 2017 and 2019.

Based on discussions from the 2019 meeting, a society was founded in May 2020 in coordination with colleagues from Freiburg: the **International Society for Radiation Oncology Informatics** (ISROI). Its mission is "to improve patient care and outcomes by advancing radiation oncology informatics through multidisciplinary and international collaboration". An essential part of this is to accompany and advance the comprehensive digitization of radiation oncology, to create standards and to establish and ensure technical and semantic interoperability. Thus, for the first time, this year's meeting was officially held on behalf of ISROI. As personal exchange and discussions were the essence of these meetings, we decided to have it on-site only. Thus, this year's meeting started on Friday morning with almost 50 participants, mainly from German-speaking countries and also a few colleagues from the French-speaking part of Switzerland. Medical physicists, IT specialists, physicians, technicians, clinic managers and others were present demonstrating the multidisciplinary nature of the society and topic. It is not possible to reflect the content of all presentations and the sometimes very lively discussions in merely a few lines. Only a few key points will be mentioned here.

The meeting was introduced by an overview of what digital transformation actually means and its role in the hospital environment: it is not primarily about the application of new tools, techniques and the associated knowledge. The whole must be embedded in the overall understanding of the processes, the manners and the clinical culture as well as their change. In the subsequent discussions and presentations, this was often reiterated: the progressive digitalization of radiation oncology departments is about networked, cross-departmental and cross-clinical collaboration, in order to create a clear benefit for the patient based on useful clinical data!

The morning was dominated by more general topics, while the afternoon focused mainly on application-related solutions for everyday clinical practice. Thus, after the aforementioned overview of digitalization, the key role of



The role of IT-specialist in radiation oncology departments, taken from "Need for IT specialists in RO departments - The role of medical informatics and technology @ Radio-Onkologie-ZentrumKSA-KSB", Micheal Heuser, ISROI-Meeting, 2022, St.Gallen - with kind permission of the author.

IT security and data protection became very clear in two presentations. As it is well known, the number of cyber-attacks is constantly increasing and as applications increasingly offer cloud-based solutions, one is more exposed to these risks, including legal uncertainties. Still it became clear that it is possible to manage patient data in the cloud securely if the appropriate technical and regulatory measures are in place.

A more direct reference to radiation oncology was created by two very comprehensive presentations about semantics of oncological terminology and natural language processing (NLP). It seems clear that digitization is about generating good data that then can be put to good use. However, there are still many open questions in the standardization of oncological semantics, which in turn form a basis for the meaningful use of NLP. After all, we will only have truly complete patient data at our disposal if they can be recorded practically and, if possible, in a natural form. But we are still a long way from that!

The second part of the meeting was mainly characterized by the presentation of various practical solutions on how collaboration, workflows, data processing and software interfaces are applied in different departments.
So, by creating and using suitable interfaces, the existing databases and clinic systems can be extended to significantly simplify the processes in the clinic. However, two things

are necessary for this: the willingness of the software manufacturers to support such projects and the ability and knowledge within the clinic to create such extensions.

These insights then led seamlessly to the planed final open discussion: **whether and in what form IT specialists need to be active in radiation oncology departments.** There was a clear consensus that the comprehensive issues of information technology and digitization in radiation oncology can no longer be dealt with by medical physicists, physicians and technicians alone. Specialists are needed to deal with these issues. However, it was widely discussed what tasks these people should actually perform and where and how they could be integrated into the clinic.
Regardless of how the IT specialists are integrated into the clinic, it is essentially clear that such persons should do their work on-site and not somewhere remote. As for the job responsibilities, it is certainly not a matter of having someone on site to replace broken keyboards or plug in network cables. They have to be IT specialists, ideally with a training in medical informatics, who have a comprehensive understanding of the processes of a radiation oncology department. The tasks here include, on the one hand, dealing with the major issues of digitization in the strategic sense mentioned at the beginning of this review and, on the other hand, the more technical implementation, such as support of operationally necessary software and the development of interfaces, evaluation tools and data processing.

Traditionally, medical physicists often perform many of these tasks. With the introduction of IT specialists in the clinic, a cautious approach is necessary to convince the clinic management of the clear benefit of such employees with at the same time not giving medical physics the impression that something is being taken away from it.
In summary, the discussions suggest that IT specialists will increasingly play a central role in the advancement of the radiation oncology clinic.

Three main points can define the role of such persons or teams:

1) Technology: they provide the technological expertise for appropriate hardware and software;
2) Processes: they design and improve workflows and processes;
3) Clinic Organization: they provide the skills, education and training and define roles and responsibilities throughout the clinic.

(proposed by **Michael Hauser** from KSA, see image).

To reconcile all of these points is certainly not an easy task and might prove to be a major challenge, especially for those departments that do not yet have such specialists in the clinic. The discussion also showed that there is a need for detailed clarification of the position, tasks and responsibilities of IT specialists. Thus, it was finally decided that an interdisciplinary working group should be formed within ISROI to address these issues in depth with the aim of producing a corresponding position paper that can be made available to all interested as well as to those whom it concerns.

As it has become customary at the previous meetings, this time too, we met at a nearby restaurant for a pleasant meal and a beer or two after the presentations. The next meeting will take place in St.Gallen in approximately 2 years - there are many more topics that can and will be covered.

On behalf of the organizing committee and the society,
Samuel Peters and Paul Martin Putora
www.isroi.org