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## Accelerate The Reporting Process With RIS



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### Highly Efficient Workflow Solution in the protestant Hospital Muelheim an der Ruhr, Germany

Velocity and high report and process quality at the same time, that is the aspiration of Professor Nolte-Ernsting, chief physician at the clinic for diagnostic and interventional radiology in the protestant Hospital Muelheim an der Ruhr. Only with the correct diagnosis can you create the basis for a successful therapy. This is why doctors and employees work closely together with other hospital departments and also with referring colleagues. Everything revolves around the person and his individual living situation. In the center of the daily work processes is the [medavis](#) Radiology Information System (RIS). It accompanies the team of Prof. Nolte-Ernsting at almost all daily tasks and also communicates closely with the Hospital Information System (HIS).

Few Clicks, easy Working Decisive for the choice to introduce medavis RIS was an increasing workload in the diagnostic and interventional radiology in the protestant Hospital Muelheim an der Ruhr. HIS could map the requirements of the general, patient-related processes well. For the radiologist however, the central functions, such as reporting, were missing. Chief physician Prof. Nolte-Ernsting, responsible for selecting the system, remembers: "We were searching for a high-performance RIS that fully supported our radiological processes. Our goal was to write reports much quicker in order to be able to manage the increasing workload." After the responsible people looked at several systems, medavis was quickly among the favorites. A similar installation, also with interface to HIS, and a diligent evaluation of the economic aspects led to a decision for the Karlsruhe-based company in the end. "As a sub system we are of course dependent on HIS, which we still use for our resource and appointment management. That is why it is very important that both systems communicate closely with each other and work smoothly together. The reference with similar constellation was therefore an important criterion for the decision process," Prof. Nolte-Ernsting explains. "As the scheduling and resource planning works in coordination with all other departments in the house, HIS has to be the leading system. The topic resource management is an important point for many hospitals, as the processes run parallelly for each patient or are interlocked. This is why we had to adapt to HIS on the radiological side with RIS." In addition to the technical requirements, there were also clear radiological requirements that had to be fulfilled with RIS. Faster reporting was the first item on the wish list of Prof. Nolte-Ernsting and his team, followed by quicker availability of the patient list and fewer clicks. "It is very important to have few clicks for the individual work steps. It is not sufficient that the system is fast, but the RIS workflow has to be designed logically and efficiently," the chief physician explains. "In order to become faster and simplify work, we have been working with Speech Recognition even before introducing medavis, but the system was by far not as comfortable as the solution we have now." RIS saves Time RIS introduced, challenge overcome: Professor Nolte-Ernsting expresses his satisfaction with medavis RIS clearly: "A RIS has to be user-friendly - and today we have such a software." He and his colleagues especially value that they can dictate the report directly into the reporting mask. In this way the doctors can see the report layout and how it would look if printed out. They correct errors in the mask instantly and are happy that the Speech Recognition works simply. "The system learns continuously, and they can release the report rapidly. It could not work better," Professor Nolte-Ernsting rejoices. "From system start on, nothing was sent to the dictation pool anymore. At the beginning we did not think that it would work this quickly, but it was great from the first moment on. That surprised us." He confirms that the medical employees feel a significant work facilitation since the introduction of medavis RIS. The technicians in his clinic also like to work with RIS, as they can see and feel the advantages in contrast to the previous situation. "The work steps are designed intelligently in medavis RIS and this led to a work facilitation and accelerated processes. We work with the patient list and have the image open at the same time, the reporting mask opens up and we dictate with Speech Recognition. This saves mouse clicks in between," he describes the work process of writing a report. As the Speech Recognition works very reliably, only few errors occur and the doctors can correct the report themselves quickly, release it instantly and send it as fax or print it out. "This is very comfortable. The work is always structured in clear lists and it is easy to orient oneself. In contrast to working with HIS, we reduced backlogs faster and the doctor on the ward receives the reports quicker." Professor Nolte-Ernsting could create a two-page default report for a complex vascular intervention in half the time, that was needed before medavis RIS was implemented. There are also many advantages when collaborating with the colleagues from the emergency room and the inpatient wards thanks to medavis RIS. Reports can be marked as preliminary. The doctor in the ward can view them and draw conclusions from the results. But he also knows that this is not the final report. "Due to the fact that the preliminary status is clearly stated on the report text, misunderstandings are avoided that were an error source before," explains Professor Nolte-Ernsting the positive effect of the document status. Therefore, not only report creation, but also diagnostic reliability has improved. The functions the chief physician especially values are the worklists, report creation, billing possibilities and the statistics. He explains: "For us it is important, which performance indicators we generate. With RIS, we can query them daily, weekly, or monthly, exactly how we need it. As RIS is almost inexhaustible concerning analysis, we decided to take an extra training. Our department-internal administrators can now analyze faster and more efficiently and display the performance of our clinic with the key performance indicators. In the Clinic for Diagnostic and Interventional Radiology, two employees have the task to take care of RIS administration and all topics concerning statistics. "The great thing is, that my employees enjoy it, as they can see, how one's own influence can improve and customize the system," rejoices Professor Nolte-Ernsting. His conclusion: "RIS is user-friendly to administer and really helpful everywhere. It is the management tool No.1 for a functional radiological clinic." Smooth Communication on all Levels The connection of medavis RIS to HIS was a central challenge in this project. Among other things, because the RIS has its own scheduler and x-rays examinations should

still be done in the HIS scheduler. This information is sent to the RIS scheduler via interface today. From there, the doctor and the technicians work in RIS. After the introduction, we had to correct some things, but today it works smoothly," pronounces Prof. Nolte-Ernsting. "In RIS we can also enter OPS codes and send this data to HIS via interface and use them for billing. The transfer of these codes from RIS to HIS is a very revenue-relevant process. And also, the aspect of material management - if something is stored in RIS, you only need to make some clicks to quantify the material expense in Euros. In order to take all aspects - also those concerning the interfaces - into account, the introduction of RIS was very systematic. There was a kick-off meeting, where we outlined the project and created a project plan. The next steps derived from this plan. Professor Nolte-Ernsting reports: "The conversion was a paradigm change and took some time getting used to. This was not always easy at the beginning. As we all saw the benefits quickly, the motivation was high. I was very happy that the collaboration with medavis and the IT department on site worked perfectly. During such a conversion, everything has to work together, and this was surely a very important point. The medavis project leader was always available. This engagement and his professional competence were also very important for the successful introduction. We would like to keep up this cooperation." The protestant Hospital Muelheim an der Ruhr certified its digitalization level according to the EMRAM level of HIMSS Europe and already attained level 6 of 7. "As our IT is a certified level 6 EMRAM, it happens that international delegations visit to see especially the HIS-RIS-PACS interaction. We as radiologists are part of the successful certification process. And I am very glad, that we can support this certificate with our RIS."

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