



Process optimization in Regionalspital Emmental

Data floods: turning chaos into order

Swiss healthcare facilities have three more years to introduce the electronic patient record which integrates patient medical data and makes them available across facilities. Regionalspital Emmental, though, is far ahead of the official schedule: with the imminent introduction of VISUS Medical Archive the two sites of the district hospital comply with all requirements in terms of data structuring and standardization. But that is not the only advantage the Swiss healthcare institution expects JiveX Medical Archive to deliver.

The hospital management was particularly keen to clearly separate administrative and medical data. “Previously we worked with a so-called universal archive which was designed to consolidate all data. But we had to realize that this approach is not useful because the systems that are currently available are either made for clinical content, which means they are much too big for admin processes, or the focus is on workflows geared towards management of finan-

cial processes which means they cannot deal with clinical processes,” says Stefan Beyeler, Chief Information Officer at Spital Emmental in Burgdorf. At the end of the day, he says, it’s the users who bear the brunt when IT compromises complicated rather than simplify their work.

Clinical data: a room of their own

In view of this experience there was only one way to go for the management at the

Emmental hospital: in the future all clinical data pertaining to a patient are to be archived in a medical archive while admin data are managed separately. Looking for a suitable solution that can bundle the different types of clinical information and formats, Stefan Beyeler and his team came across VISUS JiveX Medical Archive: “The primary user group of the medical archive are obviously physicians and to some extent nursing staff. They are familiar with systems that work

more or less like a PACS that is systems that display all data for a given patient on a single viewer and that offer certain post-processing capabilities. This is an important consideration in favor of JiveX Medical Archive. And indeed the staff immediately took to the systems during the pilot phase since handling JiveX is intuitive and does not require extensive training.”

Another advantage of JiveX Medical Archives is its suitability as a long-term archiving and backup solution for radiology images. Upon acquisition all images are immediately sent to the PACS and to JiveX. After a user-defined period data are automatically removed from the PACS and deposited in a compliant manner in the VISUS long-term medical archive. In the legacy system loading archived data, for example in order to view previous exams, often took several hours. An untenable situation. Already in the test phase JiveX proved that calling up data from a long-term archive can be a matter of seconds, a precondition for an efficient radiology workflow.

Data are available where they are needed

With VISUS Medical Archive physicians and nursing staff can access all relevant treatment documents of a patient right from the HIS since JiveX will be the home of all image, functional, diagnostic, lab and various document data. They can be called up and processed by case or patient on the JiveX Viewer. Data integration is achieved via an Enterprise Service Bus (ESB) as central interface. “The high degree of standardization on the VISUS end makes such an architecture extremely simple because the system accepts, processes and displays all standard formats such as DICOM, PDF, PDF/A or JPG. With all non-DICOM data the required meta-data are transported via HL7 – that’s all,” the CIO explains.

This simple communication via HL7 enables the Emmental hospital to digitalize previously analogue processes and to feed paper documents into JiveX. When a patient presents at one of the two Emmental sites, his or her data are either downloaded from the HIS or a new record is created in the HIS. Then the documents the patient produces, such as the referral, are identified and referenced using a detailed catalogue, and in a final step a barcode is created. Then



Stefan Beyeler
Chief Information Officer at Spital
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the paper document is scanned and sent to the JiveX Medical Archive via ESB as an HL7 MDM file. “The entire process is standardized and decentralized. We installed scanners at the relevant points in order for the scanning to be performed right from the admissions work station. This is very important in terms of process optimization because it ensures that all patient documents and data are available in JiveX the moment the first physician looks at the patient,” Stefan Beyeler reports.

Excellently prepared for the electronic patient record

The Emmental IT experts meticulously categorized all potential documents that might crop up – from the referral to the lab report. As Stefan Beyeler points out the catalogue already “encompass-

es approximately 200 different types of documents. Thus our structure is much more fine-grained than that of the mandated electronic patient record.” In all aspects JiveX complies with the prescribed structure to link with a network since it is based on IHE standards – just like the EPR architecture. This immensely facilitates using external data. “From a technological point of view the implementation of JiveX Medical Archive enables us to start transferring data from and into the electronic patient record at short notice. Thus the new system was clearly purchased with a view towards future requirements. We are well positioned and as far as we are concerned the actual launch of the electronic patient record in the year 2020 will be a piece of cake,” a very relaxed Stefan Beyeler says.