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GREGORY CANIVET
Computer Scientist, RIS/PACS/Cardio Application Manager,
CHU de Liège, Belgium

A Portal to the future

CHU de Liège launches innovative Portal project that leads to greater information sharing with external caregivers

AGFA HealthCare

A Portal to the future

Interview with GREGORY CANIVET, Computer Scientist, RIS/PACS/Cardio Application Manager, CHU de Liège, Belgium

Providing images and reports to referring physicians and patients is a massive endeavor for Centre Hospitalier Universitaire (CHU) de Liège. Until now, images have been distributed using CD-ROMs. When first available, these offered considerable benefits over hard copies: they were faster and safer, took less storage space, and were easy to use. But they were also expensive, inefficient and had to be transported physically from one site to another.

The university hospital decided to create a Portal for patients and referring physicians to provide easy, authorized access to images and reports. Combining Agfa HealthCare and internally developed IT technologies, this solution will ultimately make more and more information accessible, in a secure way, to caregivers outside the hospital.

Keeping the patient at the heart of the solution

Each day, about 1,000 radiology exams are carried out, and 200-300 related reports and CDs created at the multi-site university hospital CHU de Liège. The costs of making these CDs are high: from the investment, maintenance, ink and calibration required for the CD robot, to the staff time needed to burn the CDs, to the purchase of the CDs themselves.

With new security, visualization and sharing technologies mature and available, the radiology department and the IT department agreed that it was time to adopt a new approach – one that was in line with the hospital's high level, long term CAP 2020 strategy: "the patient is at the heart of strategic planning". And CHU de Liège turned to its long-term supplier Agfa HealthCare to help create this new approach.

"CD burning technology has become more outdated compared to other innovations in the digital age, and it no longer answers our needs or the needs of the referring physicians and patients we serve," explains Gregory Canivet, Computer Scientist and RIS/PACS/Cardio Application Manager. In addition to the costs, using CDs results in less secure workflows, while CD burning and report printing are very time-consuming. For the patient and referring physician, using CDs isn't very convenient, and they are easily lost. The referring physician has to store or dispose of the CDs: an additional time, space and cost burden. Finally, using CDs or DVDs is not very environmentally friendly.

Portal: easy, fast access to patient images

"We wanted to replace all CD-burning activity in the radiology department with a Patient & Referral Portal that would give easy, fast access to the patient's images using the most up-to-date technology," explains Gregory Canivet. "But it would need to be a solution that could scale up in the future to include more and more information."

"We knew that newer technologies were available that would help us to do more and maximize our existing RIS and PACS investments, such as the XERO zero-footprint viewing technology. We could also develop very secure authentication with e-IDs, which was a prerequisite for launching the Portal.

A single platform with PACS and XERO Viewer

"We have a very positive relationship with Agfa HealthCare and their team worked in close collaboration with our own team on this project," continues Gregory Canivet. "They were able to offer us a unique technology concept: putting the PACS backend and the XERO Viewer* on the same platform. This means we don't need an extra cache, saving us storage and hardware costs. With a single cache there is no risk of error due to synchronization, while a second cache is also slower. So this unique platform set-up is more effective and faster."

The XERO technology converts images and content for display in the browser without requiring any client software installation. Very intuitive to use, it includes advanced clinical tools for the referring physician and is based on up-to-date web technology. Importantly, the single platform and direct connection also allow access to the patient's complete image history, from all five of the hospital's sites.

The project team and Agfa HealthCare worked closely with the University of Liège's IT department to develop and implement the e-ID based security system, which offers very secure authentication without making login too complicated for users. To access their images, patients need a standard e-card reader, a Belgian electronic ID card and their PIN for the ID card. For referring physicians, their unique identifier (INAMI code) was mapped to their national ID number, so they are automatically identified as such when they connect.

"We did add some restrictions to the system, as our Agfa HealthCare PACS contains a lot of non-radiology images (such as cardiology) which are not currently in the scope of phase 1," comments Gregory Canivet.

First phase: cost-efficient, safe image access

On 1 June 2015, the first phase of the Patient & Referral Portal was put into production, replacing the CD burning activities in the radiology department with web-based image access. "To begin phase one, we first had to inventory the existing and future workflows," Gregory Canivet explains. "With CDs, the radiology department secretary has to match each hardcopy report to the CD with the correct X-ray images, and put them together into a single envelope for the referring physician.

“This has been an excellent start to a project that will result in significant changes in how we make information available to caregivers and patients outside the hospital... We have taken the first step in a long-term journey towards our ambitious patient care goals.”

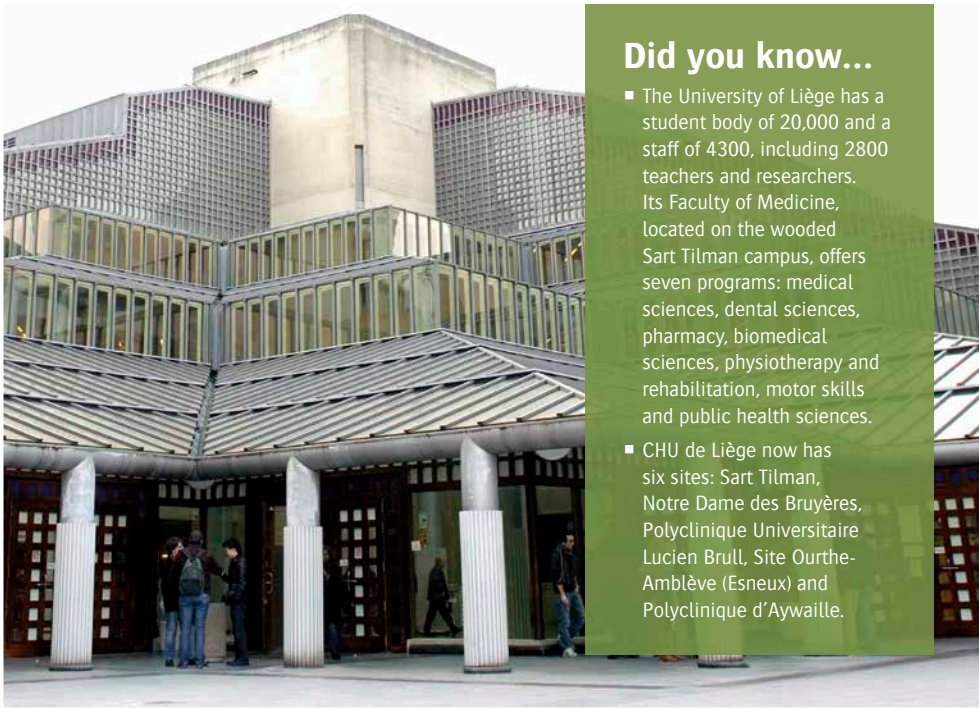
GREGORY CANIVET

The Patient & Referral Portal solution at CHU de Liège comprises the following components

- Agfa HealthCare XERO Viewer*, directly connected to the hospital's existing Agfa HealthCare PACS
- Agfa HealthCare Portal solution
- Agfa HealthCare RIS
- Secure authentication by e-ID
- Portal web page, integrated in the hospital's website for easy accessibility

Agfa HealthCare's Contribution

- Agfa HealthCare proposed a unique technology solution that puts the PACS backend and the XERO Viewer* on the same platform, so the external viewing system does not require an extra cache. This saves on storage and hardware, and reduces the risk of synchronization errors. It also provides access to the complete image history, from all the CHU de Liège sites.
- The XERO installation was carried out by Agfa HealthCare's global professional services team, based in Canada.
- The global professional services team, based in Mortsel, installed and configured the Agfa HealthCare Portal, which generates the access codes and manages image access.
- Agfa HealthCare also worked directly with the University of Liège's IT department on the development of the e-ID secure authentication required by CHU de Liège.



Did you know...

- The University of Liège has a student body of 20,000 and a staff of 4300, including 2800 teachers and researchers. Its Faculty of Medicine, located on the wooded Sart Tilman campus, offers seven programs: medical sciences, dental sciences, pharmacy, biomedical sciences, physiotherapy and rehabilitation, motor skills and public health sciences.
- CHU de Liège now has six sites: Sart Tilman, Notre Dame des Bruyères, Polyclinique Universitaire Lucien Brull, Site Ourthe-Amblève (Esneux) and Polyclinique d'Aywaille.

The new workflow is much smoother and faster for the secretary and the patient. When a patient who has been referred to us checks in at the reception, the secretary indicates in the system whether a Portal access code must be generated on the report. She also prints out a unique access code for the patient. The validated report automatically includes the access code, and it is printed on a centralized printer. These reports are then sent to the referring physician either by post or by Mexi, a secure messaging system for the GPs. Additional specialists or GPs who need to receive the report and access the images can be easily included in the email."

Patients and referring physicians receive a link for each request, and they can connect any time they wish to the Portal webpage, which is integrated directly into the hospital's website. The referring physician can see images and reports, while the patient can see images only; this enables patients to get a proper explanation of images and results from their own doctor.

Gregory Canivet continues: "Before launching the Portal, our radiology and IT teams carried out in-depth internal testing. Communication and training for staff ensured a smooth 'go-live' at all the CHU de Liège sites simultaneously. From day one, the administrative staff has been able to efficiently use the new system and workflow: the learning curve was very quick."

"The patients have been very positive about the Portal: being able to access, download and share their images makes them feel part of a more transparent process. In the first week, between 10 and 20 patients logged in each day. By week four, that number had reached 100 per day!

"The referring physicians are also quickly adopting the Portal: in the first four weeks following the launch, 96 had already connected. And even our internal clinicians appreciate the DICOM export functionality, which allows them to use the images for other purposes, such as conference calls, case studies and more."

Know your FAQs!

With such a large potential target group of patients and referring physicians, it was key to provide them with the information and support they need, without being overwhelmed with phone calls. The project team worked out a series of Frequently Asked Questions (FAQ) available directly on the website. They include technical questions, for example if the page won't load, while others are about the service: how to access another person's images, such as a spouse. This system has worked well: only five or six phone calls for assistance were received in the first week, and none in week four.

Next steps: all exams and mobile access

"We have been very pleased with the success of this first phase of the Patient & Referral Portal, and we have quite a few plans for the next phases," Gregory Canivet continues. "For example, currently the patient's access code is linked to a single request and a single report. But we might broaden this in the future, to allow patients to see more of their exams from the hospital: e.g., all their X-rays from the past three years. Authorized referring physicians will also eventually have access to the patient's EMR, including all the images. And image sharing with other hospitals and even with doctors outside of Belgium will be possible. We are also putting in place a service allowing the patients to view all their exams without access codes, using only their electronic ID card."

The hospital also wants to extend the image viewing to mobile devices, and to extend the functionality to allow patients and referring physicians to book their own appointments – for radiology and other departments. There are still some limitations to solve first, including access for people who don't have a Belgian electronic ID card, such as children under age 12.

Gregory Canivet concludes: "This has been an excellent start to a project that will result in significant changes in how we make information available to caregivers and patients outside the hospital. It thus fits in well with our long-term CAP 2020 plan, which aims to keep the patient firmly at the center of our strategy. This plan runs from enhancing patient care, to creating greater transparency, to providing more patient parking.

The Portal is also complementary to the 'Réseau de Santé Wallon', which allows sharing of digitalized images and other patient information across the region of Wallonia.

So, not only have we succeeded in our objectives for phase one, but we have taken the first step in a long-term journey towards our ambitious patient care goals."

* XERO Viewer is not available in Canada.

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