

CHU de Liège, Liege, Belgium

No room for error:

CHU de Liège's blood bank

How the hospital's transfusion unit uses GLIMS CyberTrack to create a window to the patient's room, increasing patient safety

INTERVIEWEES » **Christiane Gerard**, Pharmacist, Clinical Biologist, Head of the CHU de Liège blood bank; **Gianni Maggipinto**, Responsible for the GLIMS settings in the blood bank and HLA Department

“The blood bank and the immuno-haematology laboratory used to be like isolated islands in the hospital,” comments Christiane Gerard, head of the blood bank at the University Hospital of Liege’s Sart Tilman site, as she walks through the bustling halls of the lab. “Now, we feel that we are an integral part not only of the hospital itself, but also of its ongoing commitment to being a world class healthcare organisation.” Much of this change is due, according to both herself and Gianni Maggipinto, to the implementation of MIPS’ GLIMS, a central laboratory information system (LIS), which connects the different sectors and makes sharing of patient data much easier.



CENTRALISED SYSTEM: A 'RATIONAL' DECISION

When the decision to rationalize its laboratory IT infrastructure with a central system was taken by CHU de Liège, the clinical biology departments – including the blood bank and immuno-haematology lab – certainly felt the benefits. “Before, each lab had a different, independent lab system. The department authorities decided to restructure with a single system for all the labs,” explains Gianni Maggipinto. “MIPS’ GLIMS could bring together all of the different activities, including the biology results and transfusion curricula for the patient.”

The goal of CHU de Liège, he explains, is to put the patient at the centre of everything that is done – but also to maintain an ergonomics and compatibility of processes and systems. The implementation of GLIMS is part of this

GLIMS CyberTrack

- Full traceability of the entire transfusion process, from ordering the blood bag to registering the transfusion.
- Consultation of blood bag details and patient data from the LIS by scanning the blood bag or patient identification, as well as information on recent, current and scheduled transfusions.
- Web-based application allows the registration of the start and end of a blood transfusion process from outside the laboratory.



“Before CyberTrack, we met with some serious incidents ... Since CyberTrack, we have had no major incidents.”

Christiane Gerard

strategy. This is particularly critical for the blood bank and transfusion sector, he believes. “To start with, GLIMS supports our tracking needs, including our legal obligations regarding traceability.”

“VERIFY, VERIFY, VERIFY”

“There are two kinds of blood banks in Belgium,” explains Christiane Gerard. “Those that only distribute blood, and those that also analyse blood samples. We do both, with a staff of 15, including two clinical biologists, technicians, interns and administrative staff. We distribute 30-35,000 blood bags each year.” The donor blood is provided by a Red Cross donation station in the hospital itself, adjacent to the blood bank. The blood bank then provides blood to all of the CHU de Liège sites, and to five other hospitals.

The blood bank is responsible for ensuring the compatibility of the donor blood with the patient’s blood. Christiane Gerard explains the process: “The nurse brings us the blood sample from the patient. We use a machine to determine if there are antibodies, etc. in the blood. If the tests are negative, ABO/D compatible blood can be delivered. But if the tests are positive, we need to find out why, in our lab. This is still ‘intellectual’ work: it can’t be automated. Once we have identified the antibodies, we find the product best adapted to the patient. Then we have to re-verify that ‘the right blood is given for the right patient’: always verify, verify, verify!”

CYBERTRACK: A WINDOW FROM THE PATIENT’S BEDSIDE TO THE BLOOD BANK

An important tool for this verification process is the CyberTrack module of GLIMS. “The three key steps in the transfusion process are when the nurse takes the blood sample from the patient, when we analyse the sample, and when the selected blood is transfused into the patient.



Benefits of GLIMS and CyberTrack

- Improves patient safety, by decreasing risk of human error in transfusion.
- Enhances communication and sharing of patient data between hospital units.
- Supports the transfusion unit and blood bank in meeting legal requirements for traceability of blood.
- Simplifies administration: all data is entered only once into the system.



And these are the most vulnerable moments; if there is an error, that is where it happens.” CyberTrack provides a direct window between the patient’s room and the blood bank. Once the blood bank has selected a blood bag for the patient, the data is entered into GLIMS. When the nurse is ready to transfuse the blood into the patient, he or she first scans the bar codes on the bag and the patient’s hospital bracelet using a PDA (Personal Digital Assistant). If there is any problem – such as the wrong patient or blood bag, an overlong delay between removing the blood bag from the blood bank and the transfusion, etc. – the PDA screen turns red. If everything is correct for the transfusion, the screen is green.

A TOOL FOR PROACTIVELY AVOIDING ERROR

The PDA functionality of CyberTrack was developed by MIPS and CHU de Liège working in collaboration. “GLIMS already supplied CyberTrack running on PCs,” says Gianni Maggipinto. “But the hospital wanted the nursing staff to use PDAs, which can be conveniently used for a broad range of functionalities right at the patient’s bedside. So we worked with MIPS to add the PDA functionality. We started working on it in 2007, and it was being used regularly by 2010.”

“We have been tracking incidents since 2005,” comments Christiane Gerard. “Before CyberTrack, we met with some serious incidents; happily none fatal. Since CyberTrack, we have had no major incidents, but a few ‘near misses’ – some nurses have reported that they have received red screen warnings on CyberTrack, helping avoid an error. And when we reviewed the pre-CyberTrack incidents, they were all types of errors that could have been avoided if CyberTrack had already been in use. CyberTrack doesn’t replace the human’s job; it’s a tool that lets us improve patient safety. And that’s always a step in the right direction!” •