CUSTOMER CASE

Isala Hospital, Zwolle, the Netherlands

Quality time: Dutch clinical chemistry lab uses CyberLab to support hospital's quality accreditation and commitment to patient care in daily practice

Electronic order entry system plays part in Isala Hospital's digital process to track and verify informed patient consent for blood transfusion

INTERVIEWEES: Kirstin de Bruijn, Operational manager of the blood transfusion unit, the apheresis unit and the stem cell laboratory
Raymond Ruiter, Application manager for the clinical chemistry laboratory and member of the project group for the CyberLab implementation

"Our clinical chemistry laboratory has always put quality in the forefront," states Kirstin de Bruijn, operational manager of the blood transfusion unit, the apheresis unit and the stem cell laboratory of the Isala Hospital in Zwolle, the Netherlands. While the lab itself received the Dutch CCKL quality accreditation in 2002, it has also played its role in supporting the 1116-bed hospital to achieve its goal of receiving the international JCI accreditation, in July 2016.

> "The user can start up CyberLab directly from the EPR, and the correct patient and ordering physician are thus automatically selected, so there's no risk of human error causing mix ups of patients or physicians." **Kirstin de Bruijn**

"JCI is about care for the patient in daily practice, about verifying that processes are embedded in daily practice and determining how they can be optimised," Kirstin continues. To fulfil the JCI conditions and successfully complete the audit, the hospital followed the "tracer" approach. The patient's entire hospital episode was traced, from arrival to discharge, to assure that each step corresponded with the quality requirements. Hospital "improvement teams" identified areas that needed further work for the accreditation, and suggested ways to achieve the improvement.

For the clinical chemistry laboratory, this focus on quality was already firmly in place. But with the CyberLab electronic order entry solution, they were able to take their efforts even further: fulfilling the JCI requirements for the ordering of blood transfusion products, and especially for tracking the informed consent of patients.

DIGITAL BENEFITS FOR QUALITY AND EFFICIENCY

Both the clinical chemistry laboratory and the microbiology labs were already long-time users of the GLIMS LIS when Isala Hospital decided to implement an electronic order entry system. "We knew that electronic ordering would support our ongoing efforts to enhance quality and efficiency and reduce risks," explains Kirstin. "It could eliminate illegible orders, standardise the ordering process for diagnostic tests, and reduce the use of paper and the tasks associated with handling paper documents and paper-based processes."

It would also enhance patient care, for example by eliminating possible duplicate tests. "Sometimes, when one doctor orders exams using paper forms, and another doctor also wants to order exams, it isn't obvious that a test has

Benefits

- CyberLab Order Entry supported the hospital's goal to achieve JCI accreditation, by enabling tracking of the entire blood bag ordering process, including the patient's informed consent for transfusion.
- Reducing paper ordering eliminates illegible orders, for a faster, more secure process, and reduces staff costs related to working with paper-based requests.
- Previous orders for tests can easily be seen by ordering physicians, reducing duplicate tests and unnecessary blood sampling.

already been done," Kirstin highlights. "With an electronic ordering system, the caregivers can see what has been ordered, so they don't double up. This is not only cost-effective, but also more convenient for the patient, as fewer blood samples need to be taken."

Raymond Ruiter, application manager for the clinical chemistry lab, adds, "When the board of directors took the decision, one important requirement was a system that could support exam ordering from different departments: not only laboratory analyses, but also radiology and nuclear medicine exams."

After comparing the various systems available, the hospital chose to implement the CyberLab order entry module. "Our hospital found that CyberLab offered the best decentralised ordering application available on the market and the best interface with the GLIMS LIS. And we appreciated that the parameters could be set up to meet our specific needs. Finally," explains Kirstin, "we knew that other hospitals had good experiences with CyberLab."

> "It was easy to execute this patient consent functionality in CyberLab. We were able to implement the workflow in only a few weeks, which was good as we were under a tight deadline for the JCI audit!"
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> **Raymond Ruiter**

Originally, the hospital planned to roll-out CyberLab first for ordering tests from the clinical chemistry lab. "But then we saw that CyberLab could play a key role in our JCI accreditation," says Kirstin.

REGISTERING INFORMED CONSENT

Specifically, the JCI accreditation required registration of informed patient consent for administration of blood bags. "The patient must be informed about possible side effects of blood transfusions, so they can give their informed consent," Kirstin continues. "When you order blood bags with a paper form or by telephone, you can't track the patient consent. But we could configure CyberLab to enable tracking of the entire ordering process for blood bags, including registering the informed consent. When the referring physician requests a blood bag, he must indicate in CyberLab that the patient has given the informed consent. We were able to make this mandatory by using rules."

The verification about consent is printed out on the paper form that accompanies the blood bag in transition. Thus, the nurse can quickly see whether the informed consent has been given before starting the blood transfusion. The data is also accessible in GLIMS and the electronic patient record (EPR).

"It was easy to execute this functionality in CyberLab," comments Raymond. "We were able to implement the workflow in only a few weeks, which was good as we were under a tight deadline for the JCI audit!"

CyberLab Order Entry

- Ensures transparent and secure exchange of laboratory information.
- Integrates with virtually any major LIS, including MIPS' own GLIMS LIS.
- Can be integrated in the EPR: the correct patient and referring physician are then automatically selected in CyberLab, reducing clerical work and potential errors.
- Flexible, to adapt to the hospital's specific needs and way of working.
- Can also be used for ordering of exams from other departments, such as radiology and nuclear medicine exams.

Isala Hospital and laboratories

- **Isala Hospital**, in the Dutch city of Zwolle has 1116 beds across three sites. With some 6250 staff, it delivers general care services, and offers a large oncology and haematology centre. It is a member of the 26-hospital Dutch Association of Collaborating Top Clinical Hospitals.
- The hospital's 260-staff **clinical chemistry lab** is divided into three sections: pre- and post-analysis, a 24-hour lab handling most of the tests, and a special analysis and research section (handling, for example, DNA tests, special immunology tests and many trials for all lab departments). The clinical chemistry lab is also a reference lab for HbA1c tests.

"As CyberLab is linked to our EPR", says Kirstin, "the user can start up CyberLab directly from the EPR, and the correct patient and ordering physician are thus automatically selected, so there's no risk of human error causing mix ups of patients or physicians."

"All orders for blood transfusions are now being handled electronically, through CyberLab, except for emergency and surgery. As they need their blood bags immediately, we set up a workflow in which they telephone their orders, send us a form afterwards, and we then manually enter them in GLIMS."

TAILORED TO FIT

Raymond continues: "Now we are rolling out CyberLab for all clinical chemistry tests and for ordering radiology and nuclear medicine exams, both for inpatients and outpatients. Internal medicine is already partly using CyberLab, cardiology and gynaecology will be added next. Our goal is to finalise roll-out by the beginning of 2017. We have an excellent relationship with MIPS – both with their project manager and the help desk – who make collaboration easy."

"And we are continuing to fine tune our GLIMS and CyberLab to our needs," concludes Kirstin. "For example, before, physicians could make a mistake in the date of an order, so that the order was for a past date. Then we couldn't issue the blood bag. We closed that loophole, enhancing the efficiency and speed of the blood transfusion ordering process. We are very pleased to have a solution that we can customise to our specific needs." •

Quality accreditation Joint Commission International (JCI)

Joint Commission International (JCI) aims to identify, measure and share best practices in quality and patient safety with the world. Accreditation from the JCI is based on a stringent audit process that verifies the healthcare provider meets JCI's strict clinical quality requirements. Only about 5% of hospitals globally have successfully completed the rigorous conditions. Rather than checking whether processes are documented, JCI instead controls whether and how processes are embedded in daily practice. Founded in 1994 by The Joint Commission, JCI is now active in more than 90 countries.

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