

Case study by enovacom

Vaudois University Hospital: IoMT helping patients and physicians



The Vaudois University Hospital (CHUV) has been focusing on efficiency, innovation and the Internet of Medical Things (IoMT) with Enovacom by using hospital gowns with integrated vital data readers which feed directly into biomedical devices. This interview is with Frédéric André, IT Project Manager, and Nathalie SERVAT, Head Care Unit Nurse (ICUS) at the Continuing Cardiology Care Unit & Cardiovascular Surgery Unit at the CHUV.

How the project got started

In 2016, the CHUV, a hospital in Lausanne with over 1,500 beds, took an interest in the ENOVACOM Patient Connect solution – the first interoperability platform for biomedical devices. Frédéric André tells us why he thought this solution would benefit the hospital: "Electronic patient records (EPRs) need to be documented and are updated with ever-growing content.

Physicians regularly have to read vital signs from monitors and manually type them into EPRs. The whole point of installing the ENOVACOM Patient Connect solution was to get rid of this unnecessary task and update information into EPRs faster, more accurately and more reliably, all the while keeping it the physicians' responsibility."

Project successfully implemented

André continues: "We started in 2016 with a technical POC* to make sure Enovacom's solution

properly integrated into our application and technical architecture. We tested the various modules and checked they were working well with the hospital's IT system (HL7 ADT standards, contextual calls from our Soarian EPR, etc.). Then we got hospital staff involved to make it easier for them to use. Once the POC was validated a year later, we placed a specific order with Enovacom for the Continuing Cardiology Care Unit to allow us to automatically upload vital signs taken from patients' beds from the Philips monitors into our patient records.

The total number of connected devices we have is 10 Philips monitors - each one having its own bed. Each monitor comes with modules to measure different vital signs (temperature, HR, RR, Spo2, NIBP, etc.). The solution samples, filters, converts and applies management rules to the vital signs transmitted by the Philips monitors but it is still up to the physicians to validate them before they are transferred into the patient records."



Nathalie Servat adds: "For 3 months between September and November 2017, the Continuing Cardiology Care Unit and the electronic health records (EHR) team regularly compared notes about the POC and, in January 2018, staff on the unit received specific training about how to use it.

The load increase was faster than we expected: 10 beds were covered right from day 4! By mid-February, after the POC had been in operation for 2 weeks (under the watchful eye of the EHR team), staff asked for it to become a permanent solution without being changed at all! To date, 26 workers from this unit are using the solution."

Transplanting the solution into other care units

In light of its success, the project team has presented this solution to two other departments in the CHUV which are potentially interested: Infectious Diseases and Immunoncology. Last April, the CHUV planned to set up the solution in all 13 of its Continuing Care Units (Thoracic surgery, Neurosurgery, Orthopaedics, in the Children's Hospital, etc.). Servat tells us that, "the goal is to transfer the solution being used in the Continuing Cardiology Care Unit into other units. Next October, we will begin implementing it in the Vascular Cardiac Surgery Unit."

Physicians convinced

If staff who use an IT implementation project are not totally convinced by it, it will never get off the ground. This is why it must be relevant, ergonomic and reliable.

Servat highlights the solution's speed, efficiency and how much time it saves (TDL monitoring/patient discharge/emergency transfers/fast printing). Physicians especially like that it is impossible to make a mistake when copying data and how much it has improved identity vigilance. "It's an intuitive tool that gives workers different ways of managing data, visualising trends and automatically collecting resuscitation data as well as saving staff valuable time. We have estimated that about 12 hours are saved every day for all 10 beds in the unit. Physicians can focus on higher value-added tasks and spend more time with patients", she reports.

The IoMT helping patient care: how can hospital gowns become intelligent?

Enovacom is able to manage projects for large healthcare provider organisations and, as it specialises in interoperability, it can offer solutions which work alongside those already in place. Today, anything is possible thanks to the IOT. Every single medical device in the entire hospital is interconnectable. Last April, the CHUV

once again turned to Enovacom to handle a very specific need using innovative technology in the Infectious Diseases and Immunoncology departments: connected hospital gowns. The goal was to automatically update vital signs measured by Bluetooth readers (T°, HR, RR, SpO2, NIBP, etc.) integrated into patients' hospital gowns into Soarian.

"Enovacom Patient Connect will directly transfer data into WinMedical, but it will still be up to the physicians to validate which vital signs have been chosen before they are transferred into the EPR. The point is to minimise contact with contagious or immunodeficient patients and reduce interaction with carers to limit the risk of infection and allow patients to move freely around their room". The plan is to starting using it in October 2018 and the IoMT** has not stopped talking about it...

*POC : Proof of concept

**IoMT : Internet of Medical Things

About Enovacom - Innovation developing the health sector

As a software editor dedicated to health IT systems, Enovacom was founded in 2002 to enable exchanging and sharing patient data easier and more reliable.

Enovacom has established and matured a unique software suite on interoperability and security dedicated to healthcare, with the focus to enable:

- Exchanging and sharing health data between establishments
- Medical information confidentiality
- Using Healthcare Big Data

On February 2018 Enovacom is being integrated into Orange Business Services. Enovacom has chosen to join the international Orange group alongside Orange Healthcare, a healthcare subsidiary, and work collaboratively to enable digitally transformation in healthcare.