

Take e-care

Digital innovations are updating healthcare in Wallonia

By Andy Furniere

The digital revolution is changing all aspects of our society, and the healthcare sector is no exception. Wallonia is already riding the digital wave through many e-health initiatives and is preparing a strategy to further streamline its policy.

A milestone in Belgium's e-health policy was the start of a national plan in 2013. It went through an important update in 2015 and lists 20 action points, among them the training of healthcare professionals and electronic prescriptions. To better organise its participation in this action plan, the Walloon government is preparing a comprehensive regional e-health strategy.

The principal responsible organisations are the government's new healthcare agency, AViQ and the Digital Wallonia platform, which is making the region better connected and smarter.

"It's essential to improve the relationships between the various players in Wallonia's e-health field, like hospitals and companies," says André Vandenberghe about the new strategy. "We need more structured meetings and working groups, to clearly define the priorities in the region and set up concrete actions."

Vandenberghe, chief information officer at the CHU de Charleroi hospital, knows the advantages of cooperation very well. He's the driving force behind the Réseau Santé Wallon

(RSW), a network coordinating the exchange of electronic medical records between all general hospitals in Wallonia. Gradually, psychiatric hospitals are also being integrated into the network.

The RSW is one of many players in the Walloon e-health ecosystem, which has been developing since the start of the new millennium. One of the region's most recent projects is that of the Wallonia e-health Living Lab (WeLL), based at the Liège science park, started by a consortium – including the RSW – with government support at the start of 2015. By involving various parties, the WeLL encourages the development of healthcare technology adjusted to specific needs.

"We aim to stimulate the economy, encourage knowledge development and improve our society," explains WeLL's coordinator, Lara Vigneron. The WeLL accepts proposals for e-health innovation from all sectors. If an idea is promising, the living lab organises workshops with potential users like patients or elderly people, healthcare professionals and digital experts. Through this co-creation process, a prototype is created. The WeLL also provides more customised services.

Over the course of two years, this approach has resulted in nine prototypes. Among them are a website and voucher system for mothers suffering from post-natal depression (see Q&A with Justine Slomian, p19). The living lab also helped to create an app that im-





CSP Stephane Kapi - creative.belgaimage.be

“

We aim to stimulate the economy, encourage knowledge development and improve our society

Lara Vigneron





proves the communication of mental health patients with healthcare professionals and the people around them.

To inspire youngsters, the WeLL set up the Cocktail Challenge, a contest in which masters students from various backgrounds – engineering, web development, industrial design – work together to develop e-health innovations tailored to the needs of potential users.

The first edition, held in April last year, focused on innovations for people with a disability. The winning team, called Banana's, developed a concept for an app that helps people to do their shopping (see Q&A with Vincent Fonsny, p20).

While the WeLL is relatively new, there are also Walloon players with considerable experience in e-health, including Cetic applied ICT research centre at the Aéroполе science park in Charleroi. Cetic was established in 2001 by the universities of Namur, Louvain-la-Neuve and Mons with financial support from the European Regional Development Fund.

“We help companies, especially SMEs, to develop innovations by providing ICT support or by setting up a wide research project with a consortium,” says Damien Hubaux, Cetic's general manager. The centre's projects can rely on up to 50% government subsidies.

The e-health innovation spurred on by Cetic is based on the general philosophy of the ‘four Ps’: meaning that technology should be increasingly participatory, personalised, preventive and predictive. E-health tools should empower patients to manage their own health, provide help tailored to specific needs, prevent diseases and predict health risks. Cetic's main target groups are the elderly and patients with chronic diseases.

Cetic's first e-health project, started in 2007, was the Oldes EU project to ease the life of the elderly at home through remote assistance and e-services at home. To help people with chronic diseases take their medication correctly, the consortium behind the Seampat project is creating an app allowing patients to tick off which pills they have taken and en-

HAPPY FAMILIES

With the help of WeLL, midwife Justine Slomian (pictured) is developing a website and voucher system to support women with postnatal depression. The project is part of her PhD at the University of Liège.



Why have you focused on post-natal depression?

In my work as a midwife, it was hard to notice much about how new mothers were feeling, as they only stay in hospital for about three days. But studies show that many mothers feel down after childbirth and that this feeling can develop into depression. I wanted to know more about this psychological problem, which is still a taboo subject. New mothers are expected to always be happy about their baby.

What are the main needs of new mothers?

I identified four major needs: they want information, practical help, psychological support and to share experiences. With the Happy Mum team, we are working on creating an information website and a gift voucher system to meet these needs.

How can the website help prevent postnatal depression?

There are all sorts of blogs and websites providing information, but as yet no central website that assembles reliable advice. The website will also include testimonies, to show that postnatal depression is not rare. And we will provide links to refer people to healthcare professionals.

How does the gift voucher system work?

We are developing a website and app that allows family and friends to offer practical support as a gift to new mothers. It will facilitate mothers to receive help with things such as cooking or picking up other children. People offering support will receive reminders via email or SMS and a thank you message afterwards. This kind of service is necessary as mothers can't necessarily rely on family support in the same way as in the past.

ables their doctors to check this info. Through the e-Patch project, companies are developing a patch that can be worn on the arm and sends out an alert if patients have fallen.

An especially ambitious project, started recently, is the mHealth initiative. The goal of the project, supported by the EU, is to create an intelligent platform that unites and analyses data from various sources such as medical records, sensors and devices. By interpreting this mass of data, the platform should be able to provide personalised care and predict complications.

Initiatives such as mHealth can profit from the wealth of data amassed by the RSW. Previously, Vandenberghe carried out pioneering work in electronic medical records at the CHU de Charleroi. "All records and notes were created on paper when I started in 2000," he says. "By 2018, all departments should be able to work completely digitally."

Vandenberghe is also focusing on improving the quality of electronic records. Through the Sumehr project, for example, doctors are encouraged to create summaries of medical records with all the essential information. "This will help doctors to quickly find an adjusted treatment when a patient is hospitalised, for example by avoiding medicine that could trigger an allergic reaction or which takes into account their psychological condition," explains Vandenberghe.

Patients will also increasingly be enabled to monitor and contribute to their records. "They can for example keep a journal about their condition and limit the access of certain doctors to their records," says Vandenberghe. "The patient's role is changing, which will transform the relationship they have with doctors."

Doctors have to be trained for this digital revolution as their academic education doesn't usually prepare them for the e-health revolution. Apart from internal training in hospitals, doctors can also get training through the E-santé Wallonie platform set up by the Belgian medical insurance agency Inami and the Walloon government. The national e-health plan stipulates that universities should integrate e-health in their education programmes, which is now gradually being done.

Healthcare professionals and ICT specialists who want to understand the healthcare sector can also register for training at the specialised EM2C institute, an education centre providing 18-month executive masters programmes. EM2C brings professionals up to date with the latest digital innovations in healthcare, teaches them about organisational aspects and promotes leadership and entrepreneurship.

The programme director of the EM2C is Thierry Vermeeren, who is also a professor at the

University of Namur and managing director of e-health consultancy firm OZ Consulting. "The government and hospitals should invest more in e-health training, but also in infrastructure and governance," he says.

To improve the exchange of experiences and knowhow between those involved in healthcare, Vermeeren founded the Patient Numérique network, which covers Belgium, Luxembourg and France. Patient Numérique organises regular seminars and masterclasses with high-profile speakers.

"In the coming years, e-health innovations will radically change our healthcare sector," Vermeeren says. He believes tele-monitoring will help more patients and elderly people to live at home longer; that prediction tools will use DNA and lifestyle factors to prevent diseases; and that robots will become real players in hospitals and nursing homes. OZ Consulting is involved in a large-scale project preparing a robot called Pepper to help patients and healthcare professionals.

reseauantewallon.be
well-livinglab.be
aviq.be
cetic.be

SUPERMARKET SWEEP

Vincent Fonsny, a masters student in aerospace engineering at the University of Liège, won the WeLL Cocktail Challenge with the Banana's team. The team is developing an app that helps people with a mental or audiovisual disability to do their shopping more independently.

How will you help people to shop?

Our app will provide information about a product when you scan the barcode on the package. It can, among other things, tell whether a product contains gluten, substances a person is allergic to or additives they want to avoid. It can also advise them on other products that are more suitable. This can be useful for people with difficulty reading the information on packaging or with understanding or remembering certain information. It will also help people without a disability, as they will no longer have to concentrate on the small letters in which this information tends to be printed.

What phase are you in now?

We are developing the app at the VentureLab incubator in Liège. I am focusing mainly on the programming part while my other three team members deal with the design, web development and management. The app, called Let's Shop Banana's, should be available by the summer.

facebook.com/letsshopbananas